



Horizontal and Vertical Inequalities in India

**Reeve Vanneman
Amaresh Dubey**

**India Human Development Survey
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IHDS



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Reeve Vanneman
Department of Sociology
University of Maryland
reeve@umd.edu

Amaresh Dubey
Jawaharlal Nehru University and
National Council of Applied Economic Research
Amaresh.dubey@gmail.com

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ABSTRACT

Indian income inequality (Gini = 48) reflects the high values typical of most low- and middle-income economies, well above those observed for the high-income LIS countries. This discontinuity between high-income countries versus India and other middle-income LIS countries will profoundly affect the nature of research with the expanded set of LIS countries. There is also substantial variation in income levels and income inequality across Indian states – comparable to the variations across LIS high-income countries. The highest income Indian states have three times the income as the low-income states. Gini inequality indices vary by 17 points. Moreover, across Indian states, inequality at the top between middle-income and affluent households is almost uncorrelated with inequality at the bottom between middle-income and poor households. Nevertheless, as interesting as these within-India regional differences are, in a global perspective they are overwhelmed by the differences between India and the high-income countries.

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The first nationally-representative detailed income data for India from the India Human Development Survey, 2005 (IHDS) reported Indian income inequality to have the high levels typical for developing economies (Desai et al. 2010, 21). The IHDS Gini of 52 puts India at a similar level as Brazil (49) and well above the levels observed even in the most unequal high-income LIS countries such as the United States at 37(LIS 2011).

This high a level of inequality may have come as a surprise for researchers accustomed to the moderate levels often reported for India. Dreze and Sen (2002, 409) report Ginis for rural areas hovering around 30 and for urban areas around the mid 30s in the last decades of the twentieth century. Concern has been raised as those coefficients rose recently. Datt and Ravallion (2009), for instance, reported urban Ginis rising to the high 30s by the end of the first decade of the century. Compared to those changes, a coefficient above 50 is startling.

The main international data bases have also included Ginis for India in the low to mid-30s. Deininger and Squire (1996) report a mean Gini of 32.6 for 31 annual observations between 1951 and 1992. The World Inequality Data Base updates this for India in 2004 to 36.8. But all these earlier calculations depended on expenditure-based data that usually provide results well below those for income. Deininger and Squire suggest adding 6.6 points to expenditure-based Ginis to provide better comparability with income-based measures. But Atkinson and

Brandolini (2001) are skeptical that a uniform additive fix will suffice – as the IHDS results confirm. Galbraith and Kum (2005) adjust for the downward bias of expenditure surveys and re-estimate Indian Ginis based on projections from consistent UN data on industrial wage inequality. Their mean estimate of 48.4 is thus much closer to the IHDS estimate of 52.

Whatever the reason for the discrepancies among the estimates, the lack of income data for India has prevented useful cross-national comparisons. The IHDS data, therefore, come as a welcome addition to available sources. This chapter reports a more detailed examination of Indian income inequality as revealed by the IHDS income data.

India is a widely diverse country of over a billion people, in many ways more comparable to the diversity of Europe than to any single nation within Europe. Many Indian states have larger populations than the typical LIS country, and one, Uttar Pradesh, would have the second largest population in the LIS sample if it were an independent country. In this chapter we focus on this regional diversity in Indian incomes. State-level variation in incomes is one example of what we call horizontal inequalities that can be distinguished from the vertical inequalities observed within state economies. Like national differences across LIS high-income countries, these horizontal inequalities within India are substantial and have attracted widespread interest. The IHDS data confirm that the states of India vary widely in levels of development and in levels of income inequality. The range of inequality indices lie well within what is usual for low- and middle-income economies, but all Indian states have more inequality than any high-income LIS country. The wide differences

in average incomes across states are not correlated with inequality, nor do state differences in average incomes account for much of the total income inequality in India. Most inequality is found within states. But there are two distinct types of inequality: large gaps between the middle and the bottom and between the middle and the top. Across Indian states, the two types are virtually uncorrelated.

Data

Sample

In 2005, the University of Maryland and the National Council of Applied Economic Research in Delhi fielded a survey of 41,554 households in 1503 villages and 971 urban neighborhoods across India (Desai et al. 2010). These households included 215,754 people. The sample encompasses 33 states and union territories of India excluding only the small populations living in the island states of Andaman & Nicobar and Lakshadweep. One male and one female interviewer administered two questionnaires in 13 local languages in face-to-face interviews. The respondents included a knowledgeable person regarding the household economic situation (typically but not always the male head of the household). Besides income, the interview included modules on household employment, consumption expenditure, social networks, education, gender relations, marriage, health, and fertility.

Income

Obtaining accurate household income data in a developing economy such as India's entails well-known difficulties. The IHDS household income measure is derived from over fifty separate survey questions. Incomes from sources such as monthly salaries are relatively easy to collect. Incomes from self-employment, either in agriculture or family businesses, are more difficult to measure and yet are quite common in India, far more so than in LIS high-income countries. The IHDS reported that the majority (53%) of Indian households received some agricultural income and 20% received income from non-farm businesses and self-employment. Most Indian households receive income from more than one source. Farm households often supplement their incomes with wage labor, both in agriculture and non-agricultural employment. Even non-agricultural households often will keep some animals in rural areas. The variety of income sources and household economic strategies presents a much greater challenge for income measurement in India than is typical in other LIS data. Nevertheless, we believe that these difficulties can be addressed with careful survey methods and the resulting data, while perhaps not as precise as those for high-income countries, more than justify the additional effort. Moreover, as this chapter will demonstrate, the expansion of LIS data to countries such as India so expands the range of possible comparisons that not only will our research conclusions change, so will our research questions.

The IHDS income data used in this chapter are net, equivalenced, after tax annual incomes. Direct taxes in India are only collected from a small proportion of salaried, relatively high-income earners who typically report after-tax incomes. In addition to total household incomes, we include subtotals for

- wages, including monthly salaries or daily wages, which we further divide into agricultural and nonagricultural daily wages; bonuses and the value of meals or housing received as part of employment are added to the wage totals;
- agricultural output either marketed, consumed by the household (valued at prevailing local selling prices), or fed to animals owned by the household, less farm operating expenses;
- net non-farm business income after expenses;
- remittances from family members living outside the household;
- dividends and rents received from property (including from agricultural equipment);
- pensions;
- government transfers including school scholarships and the major programs operative in 2004-5: National Old Age Pensions, Widows' Pension Scheme, National Maternity Scheme, National Disability Pension, and Annapurna.

Not included in household income are imputed housing rents since rental homes are so uncommon in rural India that it is not possible to calculate useful estimates for imputed rents. We also do not include government subsidies for food and kerosene distributed through the Public Distribution System.

We have adjusted all incomes for the official regional price index used for calculating poverty levels across Indian states. This index varies from 0.72 to 1.62 and is particularly important for distinguishing urban and rural areas. The index

averages 1.33 for towns and cities and 0.88 for rural areas. Statewise variance is also substantial, from a low of 0.87 in Andhra Pradesh to a high of 1.46 in Delhi (although the next highest state, Maharashtra, averages only 1.19).

Income is aggregated across all household members to define total household income. Households are defined in the IHDS as all individuals who “live under the same roof and share the same kitchen for 6+ months”. Extended families are common in India. Over half of all households include at least one member who is not a spouse or child of the household head. Household sizes can therefore be quite large, with a median size of six. Ten percent of Indian households have 10 or more persons. We equivalence income across household size by dividing total income by the square root of the number of persons. It is more common in India to use per capita income so we provide equivalent results using per capita income on the internet tables.

Self-employment income will be negative when annual expenses exceed gross income. This is particularly common for farm households when crops fail in a given year. In the IHDS, 8.7% of households report negative farm incomes. These households often had positive nonfarm income as well, so only 1.3% of all households reported total income below zero for the previous year. Negative income households appear substantially better off than other low-income households on long-term measures of economic standing such as counts of household assets. Because they are so unlike other low-income households, we have omitted these negative income households from the analyses.

The IHDS also included a modified expenditure module, modeled on a short form from the Indian National Sample Survey (NSS). This module asked for monthly consumption or annual expenditures on 47 types of goods designed to cover all household expenditures and consumption. Poverty estimates derived from these data compare well with the official poverty estimates from the NSS (Desai et al. 2010, 20).

Income measures based on such consumption expenditures are often thought to be better measures of economic position because they are less volatile than true income measures and because expenditures can be more reliably measured than income. Survey measures of expenditures have their own measurement problems (for example, respondent fatigue) and volatility (marriages, debts, and health crises can create unrepresentative spikes for some households). But the advantage of the IHDS is that it includes measures of both income and expenditures.

Middle-income households.

This chapter defines middle-income households as all households whose equivalenced income falls above half and below twice the all-India median. Individuals in households below half the median are defined as poor; those in households more than twice the median are defined as affluent. In practice, this definition is close to defining middle-income as the middle 60% of households since 18% of individuals are in households with less than half the median income (i.e., are

relatively poor) and 22% are in households with more than twice the median income (i.e., are relatively affluent). When comparing inequalities across Indian states, we also repeat for each state the same method for defining poor, middle, and affluent households.

Although this is a conventional definition of relative poverty and affluence, this middle-income group is not what would be considered middle class in any global sense. Their equivalenced annual income ranges from Rs. 6,809 to 27,235; this translates to between \$518 and \$2071 using the recent (7.0) revisions of purchasing power parities (PPPs). Most of these households depend on small farms or wage labor for their living. A more recognizable “middle class” would be the households identified as “affluent” with incomes more than twice the Indian median. These households enjoy an average equivalenced income of Rs. 54,451 annually (\$4,141), hardly well-off by OECD standards, but comfortable in the Indian context. Most of these households are based on income from relatively secure, salaried positions, and most own or aspire to an array of consumer goods that make them targets for modern marketing. When commentators talk about an emerging market of the Indian middle classes, it is this “affluent” group that they are thinking of, not the group we identify as middle-income households for this chapter.

Results

Income distributions.

Table 1 reports the shares of annual equivalenced income by the three income classes and by ten deciles. As can be readily seen, incomes are quite

concentrated in India. Households with more than twice the median income, the affluent, receive 61% of income but are only 22% of all households. The middle-income group receives only 36% of household income in spite of constituting 60% of all households. The 90/50 and 50/10 ratios also confirm the high inequality in India. An individual in a household at the 90th percentile is 3.2 times better off than one in the median household. And that median individual is 2.7 times better off than one in a household at the 10th percentile.

----- Table 1 about here -----

The Gini coefficient for these income data is 48. This is about average for other LIS income data from low-income countries. It is slightly below Peru (51) and Colombia (51), about the same as Brazil (49), and slightly above Mexico (46). But these small differences among middle-income countries are minor compared to the gap between them and the high-income LIS countries where the Gini ranges from a low of 24 for Sweden only up to 37 for the United States. What is striking in the international comparisons is the stark discontinuity in inequality between the high-income and middle-income countries. The differences among all high-income countries or among all middle-income countries, while interesting, are not nearly as large as the gap between the most unequal high-income country and the most equal middle-income country. Only Russia and Uruguay, officially middle-income countries but with European heritages, have Ginis of 43 which partially bridge the gap between the two clusters of inequality statistics. Nevertheless, even with these somewhat more equal middle-income countries included, there is still no overlap with the greater equality observed in every high-income country. While differences

in inequality among high-income countries – or changes over time within these countries – has generated an enormous literature, those differences seem rather constricted compared to the large gap between the equality of the rich countries and the inequality of poor and low-income countries such as India.

This discontinuity in income inequality across the world has been observed before. Korzeniewicz and Moran (2010) have highlighted it to call for more attention to how between country levels of income inequality are linked to between country levels of income and to histories of linkages among countries in the global system. Galbraith and Kum (2005) have used this discontinuity to validate their new calculations of household inequalities based on more internationally comparable UN wage data. Below, we will show it is also consistent with variation in inequality across Indian states.

While high by OECD standards, our calculated Gini of 48 is below the IHDS estimate of 52 reported at the start of this chapter. The difference between our calculation and the IHDS report derives from our adjustments for the regional price index that reduces the Gini by 2.7 points and our use of equivalenced rather than per capita income that reduces the index by another 1.3 points. Moreover, including the negative income households would have increased the Gini a further 1.5 points. So, a Gini of 48 is a lower bound of alternative options for calculating Indian income inequality.

We have also calculated Gini indexes from the expenditure module of the IHDS. These expenditure data are equivalenced and adjusted for price differences

as were the income measures. As expected, this expenditure Gini index is considerably lower, 35, and is comparable to the estimates of Indian income inequality available from most earlier sources based on expenditure data from the National Sample Survey. The large difference between the IHDS income and expenditure Ginis derived from the same sample suggests that income and expenditure Ginis may be even less comparable for developing countries than for high-income countries, perhaps because of the greater volatility of farm, self-employment, and daily wage incomes that predominate in low and middle-income economies. Results from the second wave of the IHDS, fielded in 2011-12, may be able to better estimate some of this volatility.

Income by source.

The widely disbursed structure of income sources in India is described in Table 2. While almost three quarters of Indian households have some employment on a daily wage or monthly basis, half of all households have some agricultural income and another fifth of households derive income from their own family business.

----- Table 2 about here -----

Not surprisingly, poor households are over-represented in income sources that typically contribute less income and affluent households are well represented in income sources that are more generous. Fifty seven percent of affluent households but only ten percent of the poor have some monthly salary income; the

median salary income for households with any salary income is Rs. 37,920. In contrast, forty two percent of poor families have income from agricultural wages while only seven percent of the affluent do, but the average household with such income earns only Rs. 10,577.

Government assistance is primarily useful for the poor, as it should be; seventeen percent of poor households receive some form of direct government assistance. Nevertheless some middle-income (13%) and even affluent households (8%) also benefit from government payments. These are typically quite modest however; the average recipient gets only Rs. 814.

Not all income sources show such large differences between the poor and the affluent. Farm incomes are more common among the poor (64% of poor households) although not uncommon even among the affluent (45%) even though farm incomes are typically quite low (Rs. 7108). And incomes from businesses are more common among the affluent (27%) but still significant among the poor (12%) even though they typically pay quite well (Rs. 25,135).

Private transfers from other family members, while received by only five percent of all households, benefit Indians at all income levels. Seven percent of the affluent receive remittances as do five percent of the poor and the middle-income households. Although uncommon, when present, private transfers can be substantial. The average household that receives any remittance, receives Rs. 11,372.

For the most part, middle-income households fall somewhere between the poor and the affluent in their income sources. They are better represented than the poor in high-income sources (e.g., salaries and own businesses) and more common than the affluent among low-income sources (e.g., agricultural wages and farm incomes).

Non-agricultural wages are the one interesting exception to this linear pattern of steadily rising or falling proportions of income sources by income levels. Thirty-four percent of middle-income households have some non-agricultural wages, more than for either the poor (28%) or the affluent (10%). Accordingly, non-agricultural work pays typically moderate levels of income (Rs. 10,557), more than farm incomes and agricultural wages, but less than own businesses and salaries.

This association of non-agricultural wages with middle-income households is consistent with the usual perception of the skilled working-class becoming the foundation for large concentrations of middle-income earners. In higher income economies, a broad middle-income cluster is often based on well-paid steel- and autoworkers, on the skilled construction trades, and on white-collar administrative and clerical work. This process is only beginning in India, but as more workers move out of farming and agricultural labor into non-agricultural labor, one possible consequence is an expansion of the middle-income groups and an eventual decline in overall inequality. Because most recent trends in Indian inequality statistics, albeit expenditure-based statistics, show increasing not decreasing inequality, the

growth of the middle-income working class must have been offset by other forces that are creating greater inequality.

Income by states.

Income varies widely across India. Figure 1 shows this range at the district level. IHDS samples are quite small at the district level, and districts without data were estimated by interpolation, so caution must be used in interpreting any individual district estimate.¹ But the general pattern is clear and the results are familiar: high income in the northwest (Punjab, Haryana, Delhi, and Himachal Pradesh) and along the west coast (Gujarat, coastal Maharashtra, Goa, and Kerala). Perhaps somewhat more surprising are the high incomes in the Northeast, but this is consistent with the high levels of education and government employment there. Lower incomes characterize central India: eastern Uttar Pradesh, Bihar, Orissa, and much of Madhya Pradesh.

----- Figure 1 about here -----

More reliable income estimates can be calculated at the state level. In 2005, India had 35 states and territories, but many of these are quite small as are the IHDS samples. For the purposes of these analyses, we merge small states with larger neighboring states to calculate incomes across 22 “state-like” regions.² The range is in median incomes is substantial: from Orissa with a median equivalenced income of Rs. 9,315 per year to the Northeast states at Rs. 31,812 per year, over three times Orissa’s level. The rankings of average state incomes have been reasonably stable

for decades with a substantial research literature devoted to their explanation.

There are some notable exceptions such as the impressive rise of Himachal Pradesh over the last half century (Dreze and Sen 2002, 101), but the relative positions of most states has changed little since Independence.

In spite of this threefold variation in average incomes across Indian states, there is no overlap with median incomes from other LIS middle-income countries much less with high-income LIS countries. Figure 2 illustrates this consistent gap between India and other LIS middle-income countries. While the addition of middle-income Latin American countries has dramatically extended the range of average incomes in the LIS data, all Indian states are at notably lower levels than any other LIS country.

While Figure 2 clearly illustrates how the discontinuities in average incomes extend the range of income comparisons now available in LIS, it also demonstrates substantial variability within India and even within middle-income countries. The income variation across Indian states is almost as great as across LIS high-income countries, only at a much lower level. The difference between a household in Poland and in Luxembourg is very great, but so is the difference between a household in Orissa and one in the Northeast of India. Nevertheless, both of these differences seem relatively minor in comparison to the difference between India as a whole and the LIS high-income countries as a whole.

Inequalities by state.

Our main interest, however, is in the levels of income inequality across Indian states. There is again significant variation comparable to the variation among high-income LIS countries. Those comparisons are illustrated in Figure 3 where Indian states and LIS countries are organized from low to high incomes as in Figure 2. Within India, Gini coefficients extend from Chhattisgarh (38) and Delhi (39) to Karnataka (52) and Kerala (54). This range is even greater than for the differences between Sweden (24) and the United States (37). But again, what is most obvious in Figure 3 is that while the range of inequality across Indian states may be comparable to the range of inequality across high-income LIS countries, the entire range for high-income countries is at such a lower level of inequality. Thus, there is variation in inequality within the Indian states (and within high-income LIS countries), but this variation is dwarfed by the variation between the rich countries as a group and the Indian states as a group (and indeed between high-income and middle-income countries in general).

----- Figure 3 about here -----

Despite the dramatic association between a low income level and high income inequality when comparing India with high-income countries, within India or within high-income countries, there is almost no relationship. Within India, higher income states have almost the same average levels of inequality as lower income states ($r = -0.04$). This is even weaker than the slightly negative correlation found among high-income countries ($r = -0.19$). But if we were to combine all the Indian states with all the LIS middle-income and high-income countries, the relationship between median incomes and income inequality jumps to -0.83 !

Figure 4 illustrates the problems of investigating variation within India or within high-income LIS countries. The dramatic difference between the two groups of observations and the lack of any discernible difference within each group demonstrate how discontinuous the relationship is between average levels and inequality. And the figure also illustrates how different a perspective there is now that the LIS samples have expanded to middle-income countries.

----- Figure 4 about here -----

The proportion of middle-income households across states

Within India, more unequal states with higher Ginis have, by definition, fewer middle-income households and more poor and affluent households. Across the 22 states, the correlation of the Gini index and the proportion of households that fall in the middle-income group is predictably negative ($r = -0.62$). But a larger middle-income group can arise from either fewer poor or fewer affluent households. Interestingly, there is almost no relationship between concentrations at the two ends of the income spectrum. States with many poor households may or may not have many affluent households. The correlation is weak ($r = +0.20$). A similar conclusion is drawn by comparing 90/50 ratios with 50/10 ratios across Indian states; that correlation is a negligible ($r = -0.03$). States with a large gap at the top of the income distribution (between the middle and the affluent above them) may or may not show a large gap between the middle and the poor below them. The low correlation suggests that the social and economic processes that generate inequality

at the top seem to be different from the processes that generate inequality at the bottom.

In fact, a small proportion of *relatively* poor households is not always a blessing. For example, in states where a majority of households engage in landless labor, that concentration of low paid labor reduces even median incomes because even “average” households must depend on this low-income source. But a lower median income means fewer households will fall below half the median, our definition of relatively “poor”. If half of all households are landless, the average (median) household is not doing very well, even though there are smaller differences among the bottom half. This is exactly what happens across Indian states: the correlation of how many households have agricultural wage income with the proportion of relatively poor households is strongly *negative*: -0.73 . The 50/10 income gap is also *lower* in these states with much landless labor ($r = -0.59$) because the 50th percentile income level is pulled down even more than the 10th percentile income when the majority of households perform low paid agricultural labor.

A similar process works at the top of the income spectrum with contrasting results. In states where many households earn secure well-paid monthly salaries, those household incomes raise the median level making it less common for households to earn more than double this higher median, our definition of relatively affluent. So, the proportion of salaried households in a state is somewhat negatively

correlated with the proportion affluent ($r = -0.15$) and with the 90/50 ratio ($r = -.48$).

Thus, what drives up inequality at the top is a *small* proportion of relatively well off households earning good salaries from steady public and private sector jobs while almost everybody else has to make do with low paid daily wages or low-income farm production. What drives up inequality at the bottom is a *small* proportion of landless laborers concentrated at the bottom of the income spectrum, most of whom earn less than half the median income. As the proportion of landless labor increases, their low absolute income levels become relatively more common so there is less inequality.

Conversely, low-income households are more common if there are either many salaried or many landless labor households. While it may be more desirable to have more salaried than more landless households, the effect on inequality is similar. Since the economic and social forces that drive up landlessness are quite different from those that increase salaried positions, there is no consistent relationship between inequality in the top half of the income distribution and inequality in the bottom half.

The practical lesson for analyses of Indian income inequality is that we must analyze inequality at the top separately from inequality at the bottom. The two are quite distinct. And, of course, we must pay attention to absolute levels of income while we are comparing relative levels.

Nevertheless, it bears repeating, that from a global perspective, all Indian states have low average incomes, and all are highly unequal. While we need to understand the differences in inequality among India's regions (as well as the changes over recent years in inequality and whether the recent increases are related to the recent growth in average levels), within the context of global inequalities, the Indian differences are relatively minor. Of course, the same can be said for analyzing the differences in inequality across high-income LIS countries. From a global perspective, such analyses are investigating only a small range of global inequalities.

Finally, given the large state differences in average incomes shown in Figure 2, one might expect that this regional inequality accounts for a substantial part of total Indian income inequality. However, the large statewide inequality indices shown in Figure 3 are about as large as the overall national income inequality, implying that most Indian inequality is within states. Decomposing inequality indices such as the Theil index confirms this. For India as a whole, the Theil index is 0.455, but the between states inequality accounts for only 5.5% of the total Indian inequality.

Discussion

The expansion of LIS to India and to more middle-income countries around the world introduces a global perspective into the data that will profoundly affect the types of questions that will be possible to ask and the kinds of answers that will

result. Indian income inequality is an order of magnitude greater than for high-income LIS countries, more similar to inequality in the LIS Latin American countries such as Brazil and Peru. There are regional variations in income inequality within India as there are within the LIS high-income countries, but the principal fact to be explained is not the inequality variations within these groups, but the enormous gap in inequality between high-income countries on the one hand and low- and middle-income countries on the other.

While from this global perspective income inequalities are fundamentally shaped by income levels (and, undoubtedly, vice-versa), within India, there is little systematic relationship between state levels of income and the extent of income inequality within the state. Some of the wealthier states have high inequality, some have low inequality. Some poor states have high inequality, some have low.

Moreover, we need to distinguish at least two distinct types of inequality across India. Some states have more inequality and a smaller middle-income cluster because of a big gap between the middle and the bottom; others have a smaller middle-income cluster because of a larger gap between the middle and the top. A large gap between the middle and the bottom implies a larger group of *relatively* poor households receiving less than half the median income. Somewhat paradoxically, these are states with relatively small proportions of households who depend on agricultural labor. As the proportion of households with agricultural wage income expands to a majority of households, the state's median income declines and there is more consistency of low incomes across the entire bottom half of the income distribution. Similarly, a smaller proportion of prosperous salaried

income households creates a large gap between them and the average household and, thus, more inequality at the top. As the proportion of salaried households increases, there is a wider spread of good incomes across the top of the spectrum and, thus, less inequality at the top. But the size of the two sectors, the landless and the salaried, are quite independent of each other so that across Indian states, inequalities at the top are uncorrelated with inequalities at the bottom.

Regional variations within India in income *levels* are also substantial. The higher income states have three times the income as the lower income states. Nevertheless, these state differences in income levels account for only a minor proportion of national income inequality. Most income inequality in India is within states. In other words, horizontal inequalities are substantial but still small relative to vertical inequalities within states. And even the threefold variation in state incomes across India covers only a small portion of the global variation in household incomes.

The expansion of LIS to India and to middle-income countries in general will force a global perspective on researchers who have been constrained in the past to investigate differences only among high-income countries. And the availability now of income data for India removes the illusion based on expenditure data that India has only moderate levels of inequality. There is literally a world of new questions waiting to be asked.

Figure 1. Income levels by Indian districts.

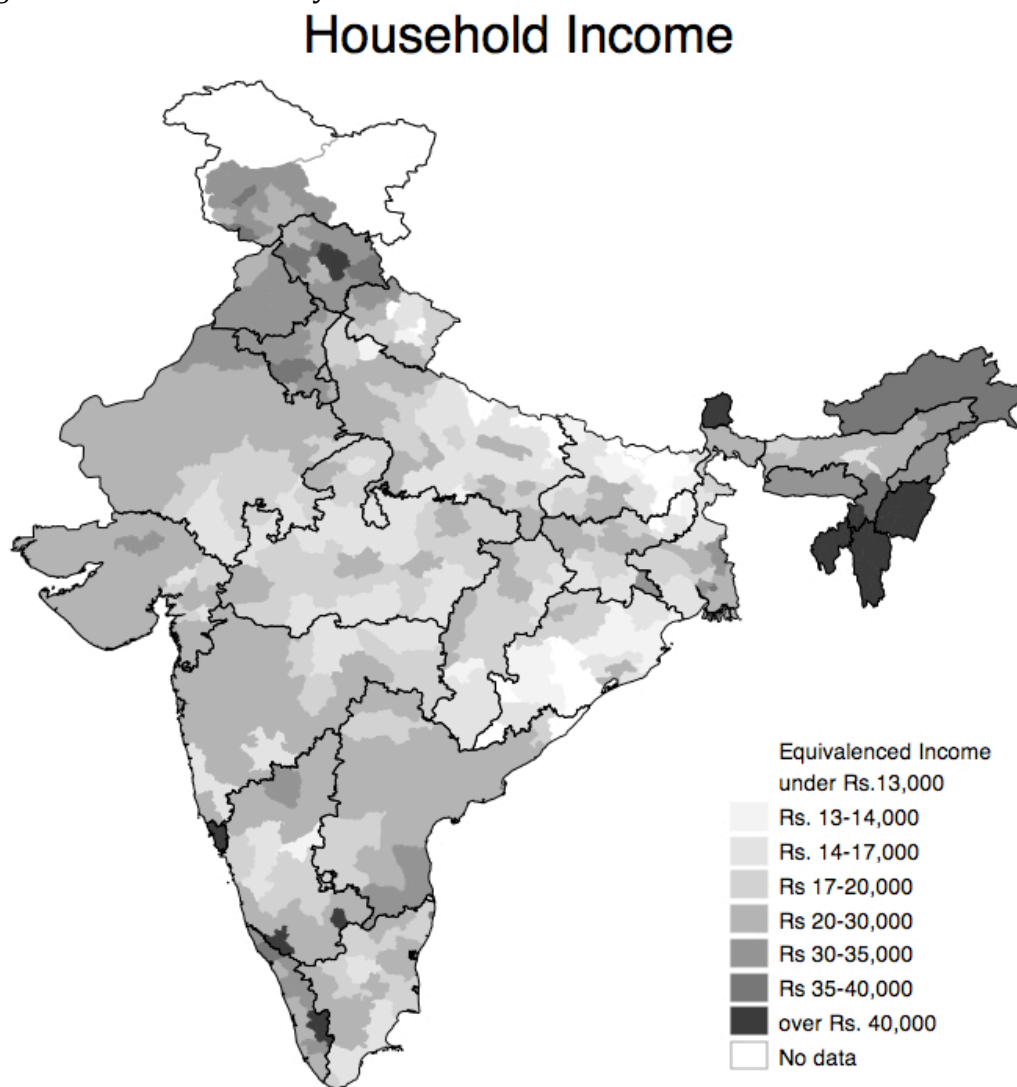


Figure 2. Income levels across Indian states and LIS countries.

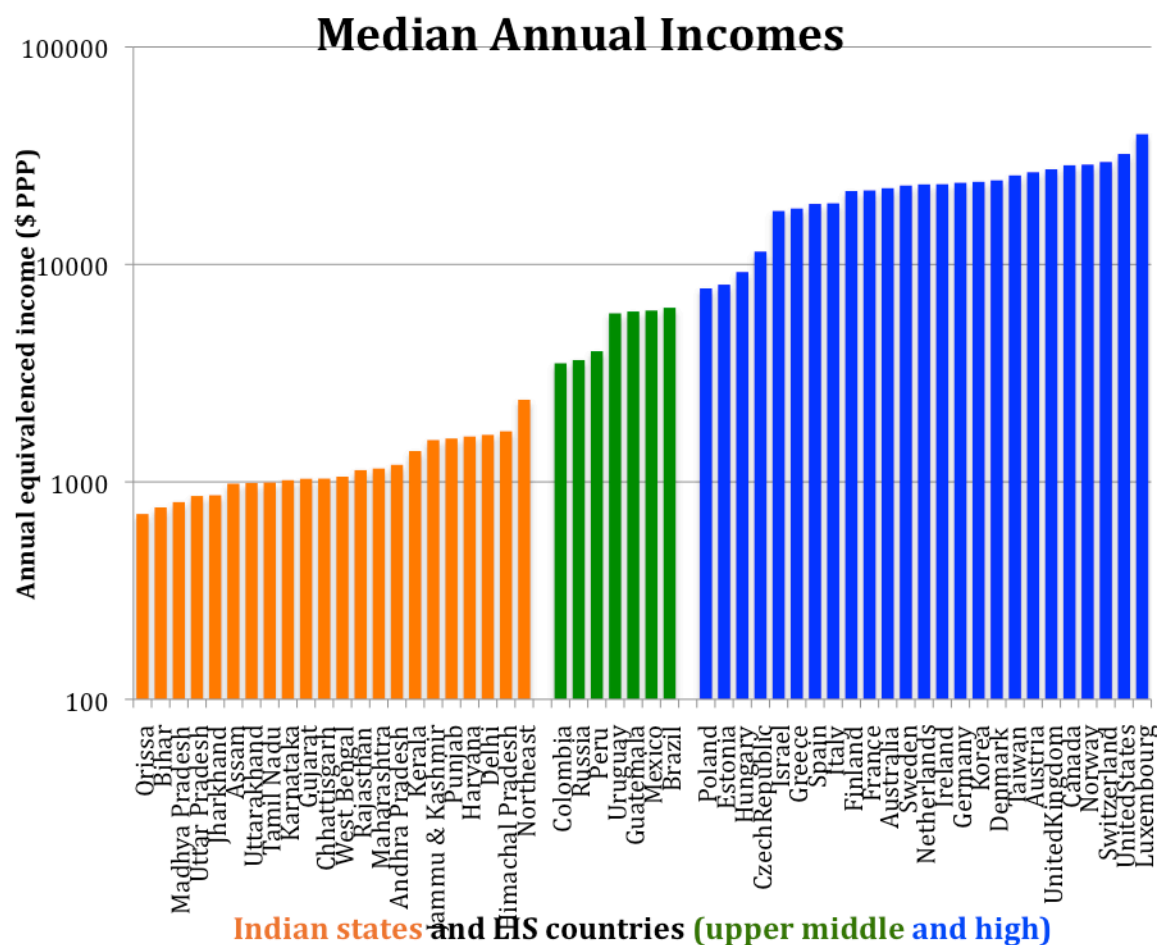


Figure 3. Income inequality across Indian states and LIS countries.

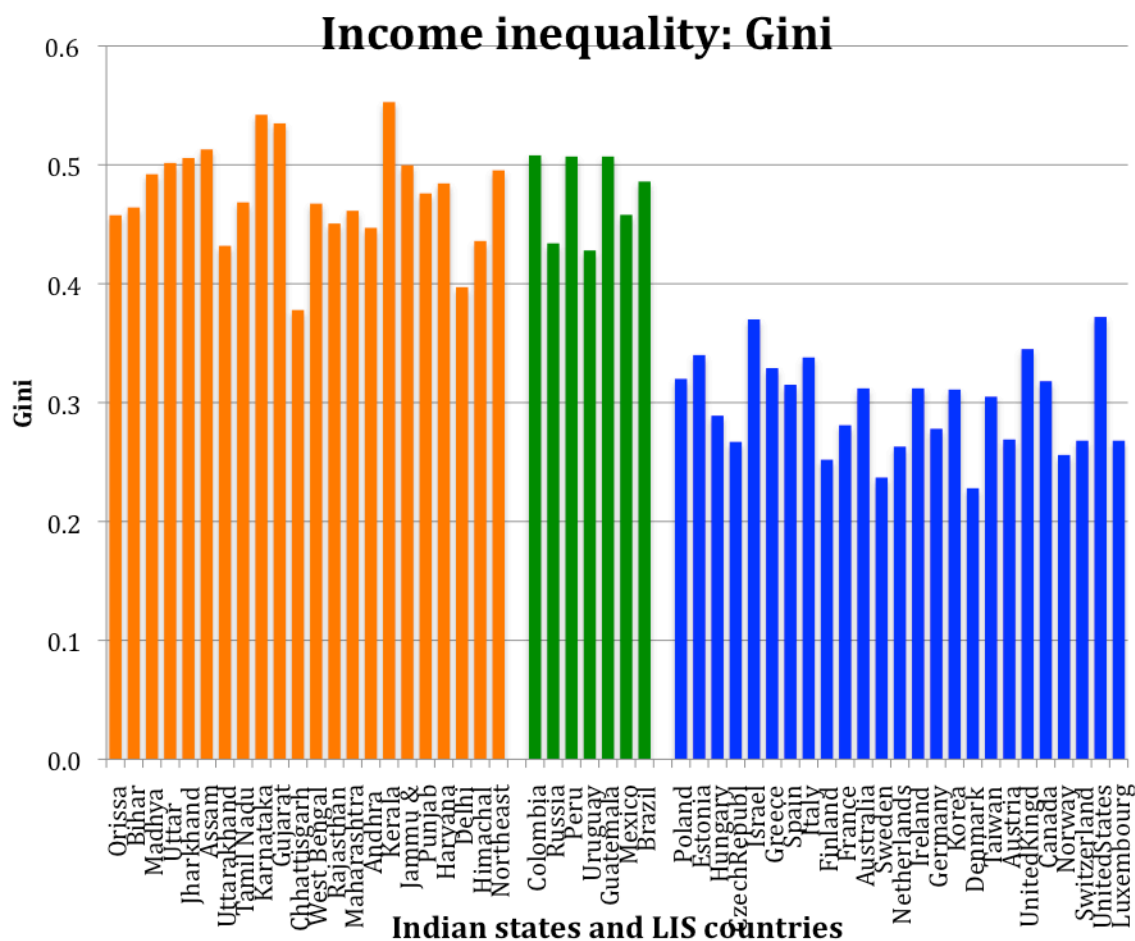


Figure 4. Income levels and income inequality across Indian states and LIS countries.

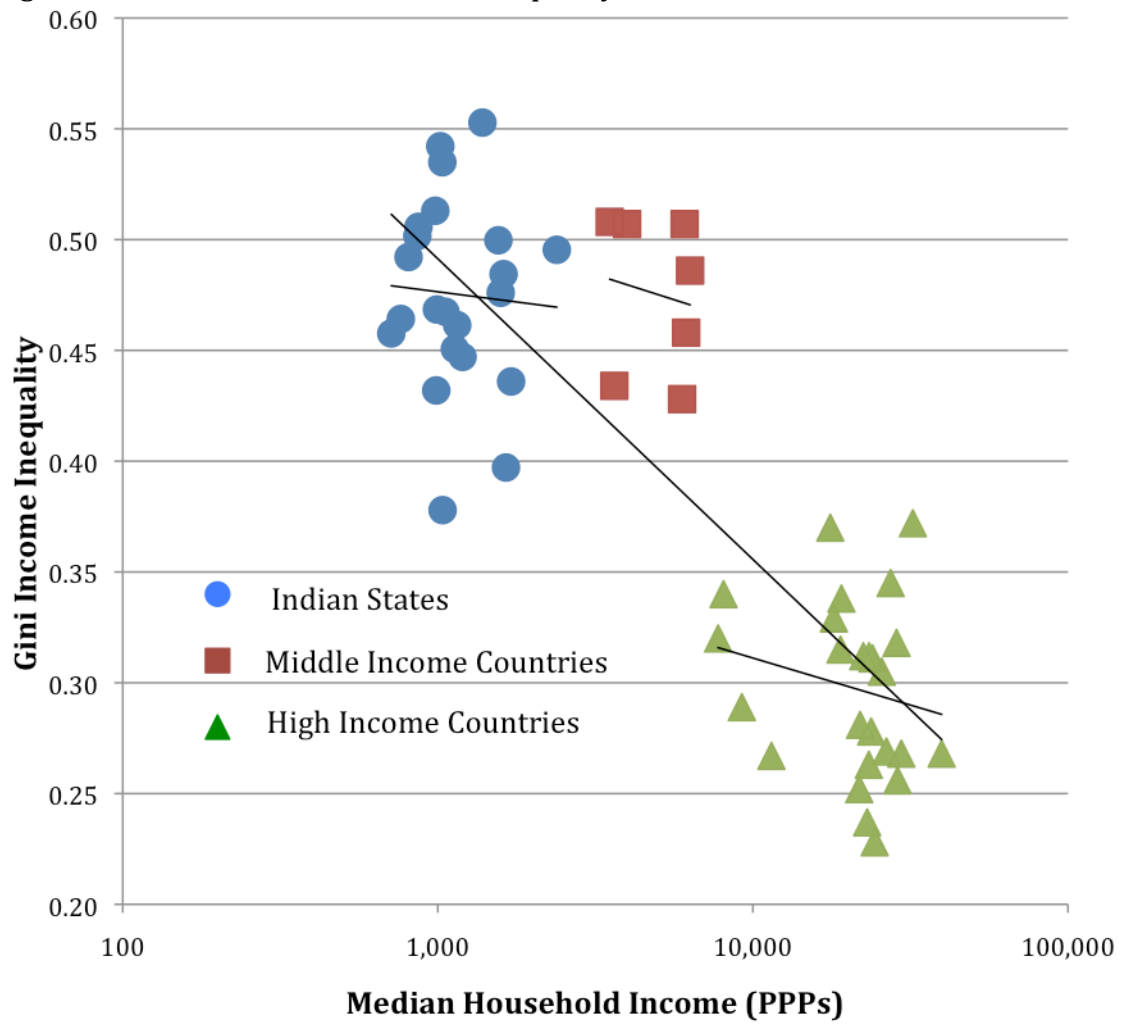


Table 1. Indian incomes by income class and deciles.

	Maximum	Percent of Population	Percent of Income
By income classes:			
poor	6,807	18%	3%
middle	27,235	60%	36%
affluent	2,168,054	22%	61%
By deciles:			
lowest	5,024	10%	1%
2nd	7,235	10%	2%
3rd	9,162	10%	3%
4th	11,187	10%	4%
5th	13,618	10%	5%
6th	16,880	10%	6%
7th	21,495	10%	8%
8th	29,016	10%	11%
9th	43,672	10%	17%
highest	2,168,054	10%	41%

Table 2. Structure of Indian Household Incomes.

	Proportion of Households Receiving Any Income				Median for households with income	Gini
	total	poor	middle	affluent		
Wages and Salaries	72	68	75	68	21,957	0.488
Salaries (monthly)	29	10	24	57	37,920	0.477
Agricultural wages	29	41	34	7	10,557	0.435
Non-agricultural wages	28	28	34	10	15,749	0.406
Businesses	20	12	21	27	25,135	0.548
Own farm	52	64	51	45	7,108	0.661
Crops	38	50	36	33	7,596	0.680
Animals	42	51	42	33	1,086	0.581
Remittances	5	5	5	7	11,372	0.555
Rents and pensions	10	5	7	23	13,362	0.583
Government benefits	13	17	13	8	814	0.627

References

- Atkinson, Anthony and Andrea Brandolini. 2001. "Promise and Pitfalls in the Use of Secondary Data-Sets: Income Inequality in OECD Countries as a Case Study." *Journal of Economic Literature* 34: 771-99.
- Datt, Gaurav and Martin Ravallion. 2009. "Has India's Economic Growth Become More Pro-Poor in the Wake of Economic Reforms?" Policy Research Working Paper, Number 5103.
- Deininger, Klaus and Lyn Squire. 1996. "A New Data Set Measuring Income Inequality." *World Bank Economic Review* 10: 65-91.
- Desai, Sonalde B, Amaresh Dubey, Brij Lal Joshi, Mitali Sen, Abusaleh Shariff, and Reeve Vanneman. 2010. *Human Development in India: Challenges for a Society in Transition*. New Delhi: Oxford University Press.
- Dreze, Jean and Amartya Sen. 2002. *India: Development and Participation*. New Delhi: Oxford University Press.
- Galbraith, James K. and Hyunsub Kum. 2005. "Estimating the Inequality of Household Incomes: A Statistical Approach to the Creation of a Dense and Consistent Global Data Set." *Review of Income and Wealth* 51: 115-143.
- Korzeniewicz, Roberto Patricio and Timothy Patrick Moran. 2009. *Unveiling Inequality: A World-Historical Perspective*. New York: Russell Sage Foundation.

Notes

¹ IHDS sampled approximately half the districts in India. Moreover, the rural and urban samples used different sampling frames. Income levels were calculated separately for urban and rural samples and estimates for districts without data were calculated by interpolating from the mean of neighboring districts. An estimate for the total district was calculated from a weighted average of the urban and rural estimates using Census 2001 urban proportions.

² Seven smaller North-Eastern states are collapsed into a single “Northeast”; Goa is included with Maharashtra; Daman and Diu as well as Dadra and Nagar Haveli with Gujarat; Chandigarh with Punjab; and Pondicherry with Tamil Nadu. Lakshadweep and the Andaman and Nicobar Islands are not included in the IHDS.