Spatial Disparities in Household Earnings in India: Role of Urbanization, Sectoral Inequalities, and Rural-Urban Differences

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Abstract

This paper focuses on spatial disparities in household earnings in rural and urban India. A point of departure from the existing literature on inequality in India is that we focus on household earnings rather than consumption expenditure. We analyse data from the nationally representative Periodic Labour Force Survey 2018-19. We provide a rich description of distribution of rural and urban monthly per capita household earning at the national and sub-national level and estimates of earnings inequality. While there are a multitude of factors that affect the evolution of income inequality, we focus on the salience of urbanization in explaining differences in inequality at the sub-national level vis a vis India. The results of the decomposition exercise help identify the proximate factors behind inequality differentials across various states. We situate our findings within the Kuznets framework and the stylized facts in the extant literature.

Keywords: Households Earnings, Inequality, Urbanization, India, Decomposition

JEL Code: D31, D63, R1

Spatial Disparities in Household Earnings in India:

Role of Urbanization, Sectoral Inequalities, and Rural-Urban Differences

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1. Introduction

In the recent decades of 1990-2010, while income inequality between countries steadily declined (Lakner and Milanovic 2016, Bourguignon 2015), one also observed a divergence in the living standards within countries. Within Asia, in 11 countries accounting for nearly 80 percent of the continent's population, there was a widening of income disparities (Asian Development Bank 2012). More recently, United Nations World Social Report 2020 highlighted the fact that, in the last three decades, income inequality increased in countries accounting for 71 percent of the world's population (United Nations 2020). Consequently, the increase in inequality within countries and the reasons thereof, are a recurring theme of research.

In this paper we focus on India, a country characterized, in recent decades, by geographical concentration of poverty, an increase in consumption inequality, a steady increase in the ratio of average urban to rural consumption, and lack of convergence of incomes at sub-national level[1]. Unlike other developing countries and China, since regional disparities continue to persist in India, Lamba and Subramanian (2020) suggest that India is an outlier. They posit this persistence as a puzzle. Towards an explanation they hypothesize that the divergence could be due to differences in level of urbanization across Indian states. The urbanization rate varies substantially at the sub-national level from less than 10 percent in the eastern state of Bihar to over 45 percent in the southern state of Kerala. That India is less urbanized (Chauvin et al. 2016) and that the urbanization process in India is far from complete, leads to the conjecture that, in the future, richer and urbanized regions will benefit more than the poorer regions and this will exacerbate regional differences (Lamba and Subramanian 2020).

The contribution of our paper, which is situated within the Kuznets framework, is that we unpack the relative importance of urbanization in explaining differences in inequality in household earnings at the sub-national level. Our work complements the large emerging cross-country literature on sub-national differences in well-being and inequality (Huang, Morgan, and Yoshino (2009), Wu and Rao (2017), Azam and Bhatt (2018), Kanbur, Wang, Zhang (2020)). Recent literature on India has also sought to understand inequality, regional disparities and convergence using night lights as a proxy for well-being (Chanda and Kabiraj (2020), Mukhopadhyay and Urzainqui (2018)).

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[1] Studies have documented regional divergence at the sub-national level within India during the period of economic liberalization beginning 1990s (Deaton and Dreze 2002). That there is no evidence of convergence in per capita net state domestic product across Indian states is well established (World Bank 2011).

In a notable departure from the existing literature on inequality in India, we focus on household earnings rather than on consumption or wage inequality. The analysis is based on India's Periodic Labour Force Survey (PLFS) 2018-19, conducted by the National Statistical Office. We provide a rich description of distribution of rural and urban monthly per capita household earning (MPCHE) at the national and sub-national level, estimates of earnings inequality and undertake a decomposition analysis.

While we acknowledge that there are a multitude of factors that affect the evolution of income inequality, we focus on the salience of urbanization. The importance of urbanization in the interaction between development and inequality has a long and venerable tradition in development economics starting with the classic paper by Simon Kuznets in 1955. At the heart of various mechanisms that could underlie Kuznets' hypothesized inverted-U relationship between inequality and development, is the impact of an increase in the share of urban population on total inequality. As part of what is referred to as "Kuznets Process", with development, the share of urban population increases and to the extent that urban inequality is expected to be higher than rural inequality, an increase in the rate of urbanization should increase total inequality within a country (Anand and Kanbur, 1993). Moreover, the relative difference in per capita incomes between rural and urban population is also expected to either stay constant or widen with economic growth since "per capita productivity in urban pursuits increases more rapidly than in agriculture" (Kuznets (1955, pp. 7-8)).

The empirical literature that subsequently developed sought to understand trends and patterns in inequality across countries using this framework. Among the recent contributions is the one by Kanbur & Zhuang (2013) who quantify the drivers of change in inequality in China, Indonesia, and India in the period beginning 1990s. They found that the relative importance of four factors, viz. widening urban-rural gap, rising inequality within rural and urban sectors, and increase in the urban share of population, varied across the three countries.

Unlike Kanbur and Zhuang (2013) who focus on cross country comparisons, we are interested in explaining sub-national or inter-state differences in inequality. Our starting point is the idea that if regional differences in living standards across India were to be driven by urbanization and the associated benefits from agglomeration (Lamba and Subramanian 2020) conforming to a Kuznets' Process, then this should be reflected in the underlying drivers of inequality within the richer and poorer regions vis-à-vis the national average.

We adapt a decomposition method developed by Mookherjee and Shorrocks (1982) to answer three questions. How much of the difference in state and all India inequality is because of difference in urbanization rate between a state and India? How much of it is attributable to the difference in the relative urban–rural earnings? And how much difference is due to differences in inequality within rural and urban areas? As we will point out later, the relative importance of these factors varies across Indian states.

Our main findings are as follows. Using the Pen's Parade (Pen, 1971), a graphical tool, we establish large differences in median MPCHE at the sub-national level. Not surprisingly, the median earnings are the lowest in the eight states with a concentration of India's consumption poor (Government of India 2014). Contrary to the conjecture in World Development Report 2009 that rural-urban gaps in income begin to narrow over time, in India whether it be consumption or income, these gaps have continued to persist over successive decades. Following Milanovic (2012), who assesses the income distribution of different countries vis-à-vis the world income distribution, we benchmark the distribution of household in rural and urban areas of each state against the all-India distribution. The graphical exposition helps identify lagging regions within India.

For the year 2018-19, we estimate the inequality as measured by Gini coefficient for India to be 0.446. This is lower than that of Brazil, China and South Africa, three countries with which India is typically benchmarked. We estimate inequality in rural and urban MPCHE, to be 0.366 and 0.456 respectively. The large difference between rural and urban inequality is consistent with the findings of Datt et al. (2020) who found that inequality in consumption expenditure had risen steadily over time and that the difference between rural and urban inequality was highest in 2010. For India, inequality as measured by mean log deviation is 0.341, and when we decompose this by rural and urban, we find that the between-group component accounts for 20.6 percent of inequality. Shorrocks and Wan (2005), who review the cross-country studies on decomposition of earnings inequality by rural-urban, find that the average share of the between-group to be 19.6 percent. Thus, while India as a whole is no different in this respect, we show that there are large differences in the between group component at the sub-national level.

A pattern conforming to the Kuznets process would imply that poorer and less urbanized states should not be more unequal than all-India. This is both because rural areas, where most of their

population is concentrated, are expected to be less unequal than urban areas, and also because the rural-urban differential in productivity is expected to be lower in poorer states than all-India. However, we find that earnings inequality in the poorer regions is not only substantially higher than consumption inequality, but the levels are similar to that of more urbanized states. We also find that the average MPCHE in the bottom ventiles is lower when inequality is high. While the evidence is not causal, it suggests that we need to understand the consequences of inequality for the growth of income of poorer households. The results of the decomposition reveal that the relative importance of differences in within group inequality, urbanization and in rural-urban mean MPCHE varies when we undertake pairwise comparison between a state and India. In particular, contrary to what one would expect from a Kuznets' Process, we find that rural-urban mean MPCHE differential in some of the poorest states (viz., Chhattisgarh, Jharkhand, and Odisha) is larger than that for other poor states as well as for richer and more industrialized states and largely accounts for relatively higher inequality in these states. Similarly, we find that in some of the more urbanized states (viz., Kerala, Tamil Nadu, and Gujarat) inequality is lower than all-India driven by lower within sector inequality as well lower rural-urban disparities, though there are exceptions to this phenomenon among richer states too. Thus, we do not have a single narrative on what explains differences in inequality between a state vis a vis India.

This paper is structured as follows. In the next section we describe the key features of PLFS 2018-19 and its advantages over earlier surveys of employment and unemployment in capturing household earnings. Section 3 and 4 constitute the core of the paper. In Section 3, we present analysis based on distribution of earnings and estimates of earnings inequality while the focus of Section 4 is on decomposition analysis. Section 5 concludes.

2. Data

India's PLFS 2018-19 collected information from 55,812 rural and 45,767 urban households and the economic activity status of 239,817 and 180,940 individuals who are members of these households (Government of India 2020). This data set is representative at the national, state and national sample survey region level, as well as for rural and urban areas. The analysis in this paper is based on the first visit for both rural and urban households. Given the focus of this paper, the urbanization rate reflects the share of households living in urban areas and not the population living in urban areas.

The PLFS, conducted by India's National Statistical Office, is an improvement over the earlier survey of employment and unemployment, since it provides a complete description of household earnings. In addition to earnings of those who are wage / salaried and those engaged in casual labour, it has information on earnings of the self-employed. The information on earning of the self-employed was not collected in the earlier surveys of employment and unemployment. Hence, with PLFS data, we can calculate the total earnings of a household[2]. Also, by definition, the earnings of those working as unpaid family worker equals zero.

In the PLFS, the reference period for the self-employed and regular wage salaried is 30 day preceding the survey, while for the casual labour is week preceding the survey. The monthly income from casual labour is arrived at by multiplying the weekly income by the factor (30/7). We calculate the total monthly earnings of the household by adding the income of working members from self-employment, regular wage salaried and casual labour[3].

Since the objective of the paper is to quantify the earnings from work of households, in the analysis, we drop a total of 5,703 rural and 6,400 urban households who report zero earnings from all three sources viz. self-employment, regular wage / salary and casual labour.

While the literature using consumption survey focused on monthly per capita consumption expenditure, the PLFS permits us to calculate the MPCHE which is the ratio of total monthly earnings of the household to household size. The justification for preferring MPCHE over total household earnings or average earnings per worker in a household is provided by Datta and Meerman (1980) and Lam (1997)[4].

In the analysis that follows, we do not make any adjustment for spatial differences in prices. This is consistent with the tradition of looking at distribution of rural and urban nominal monthly per capita consumption expenditure in each state vis a vis the all India rural and urban distribution of monthly per capita consumption expenditure (Pages A1-A12, Government of India 2013). In the absence of

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[2] The survey did not seek information on transfer incomes like pensions, remittances, interest income etc.

[3] Instead of scaling up the earnings of the casual labourers to 30 days, we could have scaled down the earnings of self-employed and regular wage / salaried to 7 days and calculated the weekly household earnings. For the analysis undertaken in the paper the results are unaffected whether we calculate the earnings for 7 or 30 days.

[4] See Milanovic (2020) for a discussion on the distinction between studies that calculate inequality among wage-earners and earnings of households. He also provides a justification for examining per capita household income as follows, "it is total household income, adjusted for the number of individuals, that makes families rich, poor, or middle class and imparts them corresponding values". Source: http://glineq.blogspot.com/2020/12/basic-difference-between-wage.html

appropriate spatial price deflators, we opt not to make ad-hoc price adjustments. Also, it is a fairly standard practice not to adjust for spatial price differences (Shorrocks and Wan 2005). Moreover, studies from other contexts that adjust for regional differences in prices also find the between group component to be a sizable component of regional inequality (Gbohoui et al 2019).

3. Distribution of MPCHE and Inequality in Earnings

We start with a graphical exposition of differences in median MPCHE at the sub-national level. We present differences in median MPCHE of states that account for at least 0.5 percent of India's household's in the form of a Pen's Parade. We focus on the median rather than the mean since the latter is more sensitive to the presence of extreme values.

In Figures 1R and 1U, the width of the bar graph is the share of each state in total number of households in India while the height of the bar is the median MPCHE. Among the salient features are the following. The MPCHE of half the rural households in Chhattisgarh, Jharkhand, Uttar Pradesh, Bihar, Odisha, Madhya Pradesh, is less than Rs 2,000 (Figure 1R)[5]. While the rural gradient steadily increases from the level of Rs 2,000, the urban gradient is more in the nature of a step diagram. The MPCHE of at least half the urban households in Bihar, Uttar Pradesh, Madhya Pradesh, Jharkhand, West Bengal and Chhattisgarh is less than Rs 3,250 (Figure 1U). The rural-urban gap in median and mean earnings is lowest in case of Kerala. The above findings are broadly consistent with the literature on consumption poverty.

[Figures 1R and 1U here]

[Table 1 here]

The difference in mean earnings of rural and urban households is important when we undertake the decomposition analysis[6].

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[5] For those interested in converting to dollars, the PPP conversion factor as per the 2017 International Comparison Program is US $ 1 = Indian Rupees 21.073

[6] Azam (2019) establishes that the urban-rural differences in consumption steadily increased over the period 1983-2011.

Based on the estimates for more than 75 countries, a stylized fact is that the rural-urban gap in per capita consumption decline with higher levels of urbanization (p.65, World Bank 2008). While we do not address the issue of where India and the Indian states are in the process of urban transition, we find stark variations at the sub-national level. On the one hand, we have Kerala a relatively more prosperous and urbanized state with lowest rural-urban gaps. On the other hand, we find that the ratio of average urban to rural MPCHE is low in relatively less urbanized state of Bihar but high in the other less urbanized states of Jharkhand, Odisha, and Chhattisgarh (Table 1).

Instead of undertaking pairwise comparison of distribution of MPCHE in rural and urban areas of states, we opt to benchmark each state against the all India distribution[7]. For ease of exposition, we identify the position of rural and urban households in the 25th, 50th and 75th percentile of a particular state in the corresponding all India distribution of MPCHE (Figures 2R and 2U for rural and urban respectively). The 75:25 ratios for rural and urban India are 2.3 and 3.0 respectively while the 90:10 ratios are 5.0 and 7.4 respectively (Appendix Tables 1R and 1U).

[Figures 2R 2U here]

Our key findings are the following. First, clearly some states are better off. In four out of the five states from southern India viz. Andhra Pradesh, Kerala, Tamil Nadu, and Telangana, their rural 25th percentile is above the median MPCHE of India's rural distribution. In addition to these states, this pattern is also seen in the relatively prosperous north Indian states of Jammu and Kashmir, Punjab, and Haryana. Second, unlike rural, in urban areas, there are no states whose 25th percentile is above the India median. Third, when we combine rural and urban regions, the eight states with the lowest average (i.e. mean) MPCHE are Bihar, Chhattisgarh, Jharkhand, Madhya Pradesh, Odisha, Rajasthan, Uttar Pradesh and West Bengal. What do these eight states have in common? In 2004-05 these states accounted for 65 percent and 48 percent of the rural and urban poor respectively. In 2011-12, the share of these states in India's rural and urban poor went up to 71 and 58 percent respectively. Recall, these states are at bottom of the rankings when we arranged states in increasing order of median MPCHE (Figure 1R, 1U). The per capita net state domestic product (PCSDP) of these states continues to diverge from Haryana which

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[7] The utility of this approach is best illustrated with an example. Unlike in rural Uttar Pradesh, one is less likely to find Indians with the lowest MPCHE in rural Kerala. Such analysis provides useful insights as compared to pairwise comparisons of cumulative distribution function of earnings of states.

historically has the highest PCSDP among the major states[8]. Fourth, since the focus of the paper is on the rural and urban we do not delve into the issue of disparities observed at other scales like National Sample Survey (NSS) region, a geographical construct larger than a district but smaller than a state. However, for completeness we would like to mention that when we arrange NSS regions in increasing order of median MPCHE, the bulk of regions at the bottom are from these eight states. Large disparities also exist not only within Uttar Pradesh, India's most populace state and a lagging state but also the urbanized and industrialized states of Maharashtra and Karnataka.

Large divergence in earnings across regions can be destabilizing or result in instability (Kanbur et al (2006), Kim 2008). In some Indian states, disparities have indeed led to conflict and agitations. Using a provision in Constitution of India, state governments in Uttar Pradesh, Maharashtra and Karnataka have made concerted efforts to narrow down intra-state disparities. However these efforts have not borne fruit[9]. This is consistent with evidence from other contexts that backward regions do not necessarily catch up. With 70 percent probability, a lagging region within the OECD countries continues to remain a laggard the next year too (Gbohoui et al. 2019).

Having focused on quartiles, we next consider the entire distribution of MPCHE and estimate inequality as measured by the Gini Coefficient. In rural and urban India, in 2018-19, inequality in MPCHE as measured by Gini is 0.366 and 0.456 respectively (Table 2). In contrast, inequality in monthly per capita consumption expenditure for rural and urban India is lower at 0.291 and 0.356. While there is a tradition of measuring consumption inequality, we argue that such estimates lead to the misleading conclusion that India is a low inequality country. Our estimate of inequality is not

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[8] In India, there is lack of convergence across states when viewed from the lens of PCSDP. The tradition in India is to benchmark a state against that of Haryana which has the highest PCSDP amongst all major states. The PCSDP of Haryana was 3.8 times that of Bihar in 1996-97 and it was 5.6 times in 2017-18. Similarly, the gap between Haryana and Uttar Pradesh, the latter being India's most populace state, too grew substantially. The standard deviation of PCSDP of states has continued to increase over time suggesting the absence of convergence.

[9] In extreme cases, long simmering discontents have led to renewed demand for bifurcation of a state. With the objective of holding together the state, in Karnataka, Maharashtra, and Uttar Pradesh, the governments have constituted development boards for their lagging regions using the provisions available in Constitution of India. However, the evidence suggests that intra state disparities have persisted rather than declined over time (Annigeri and Hanagodimath 2018, Government of Maharashtra 2014).

comparable with studies that use alternate data sets like India Human Development Survey[10] or Situation Assessment of Agricultural Households[11].

Consistent with the framework of the Kuznets process, in nearly all states, rural inequality is lower than urban inequality. We find large differences within and across the two groups of states: the eight states with a large concentration of poor and the remaining states. Within the eight poorer states, inequality as measured by the Gini coefficient varies from 0.316 in Bihar to 0.476 in Chhattisgarh and when we consider all states it is the highest in Himachal Pradesh (0.503). Among the remaining states include the five states with an urbanization rate of more than 40 percent, viz. Delhi, Gujarat, Kerala, Maharashtra and Tamil Nadu. The estimate of Gini varies from 0.378 in Tamil Nadu to 0.468 in Maharashtra.

[Table 2 here]

To summarize, we find large differences in average earnings at sub-national level and also by rural and urban. The regions with a concentration of poor in 2011-12 continue to lag behind in 2018-19 suggesting that not only have some households been left behind, certain regions continue to lag. We also find large state-wide differences in the extent of inequality. It would be important to flag emerging concerns in the context of eight states with concentration of India's poor. Bihar is a state with low median MPCHE and low inequality while states such as Chhattisgarh, Jharkhand (Gini coefficient of 0.453), and Odisha (0.449) also have low average MPCHE but are characterized by high inequality of a magnitude that is similar to more urbanized and richer states. Thus, the standard of living in these three states is not just constrained by a smaller average MPCHE but also through a high degree of inequity in its distribution. This leads to the question on importance of distribution of MPCHE for the earnings of an individual, given a size of the pie. In other words, how are the earnings across the distribution influenced by its average as well as its distribution?

Milanovic (2015) sought to assess this question by looking at the extent to which place of residence, the prosperity of the region and income distribution explained the income of households. This approach has also been used by Gbohoui et al. (2019) in their analysis of OECD countries and by Balasubramanian et al (2020) who focus on geographical differences in consumption expenditure in

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[10] Azam and Bhatt (2018) estimate the Gini for India to be 0.543 in 2011-12.
[11] For Indian agricultural households Chakravorty et al (2019) estimate the Gini coefficient of per capita income and consumption to be 0.58 and 0.28 respectively.

India. In the literature, place of residence, general prosperity of place of residence and income distribution of the region are deemed to be exogenous to the individuals and referred to as circumstance variables. Borrowing from this literature, we estimate the following parsimonious equation.

$$ln(MPCHE_{in}) = \alpha + \beta log(PCNDP_{in}) + \gamma Gini_n + \varepsilon_{in} \qquad (1a)$$

where $ln(MPCHE_{in})$ is the logarithm of average MPCHE of households in i[th] ventile (there are 20 ventiles) from the nth NSS-region, PCNDP is the Per Capita Net Domestic Product of the region and Gini is the estimate of inequality of the nth NSS-region. In the absence of estimates of PCNDP at the NSS region level we use nighttime lights as a proxy. We get a R^2 of 0.186. The coefficients on night lights and Gini are positive and negative respectively and statistically significant at 1 percent. A one percentage point increase in Gini is associated with a 3.7 percent decrease in MPCHE.

While the previous regression pooled the ventile-level observations across all the twenty ventiles, in the next model, we estimate the above model separately for each ventile, i.e. a total of 20 regressions, each with the following specification:

$$ln(MPCHE_{in}) = \alpha_i + \beta_i log(PCNSDP_{in}) + \gamma_i Gini_n + \varepsilon_{in} \qquad (1b)$$

[Table 3 here]

The value of R^2 is the highest for the first and 20th ventile, 0.30 and 0.35 respectively (Table 3). What this means is that 30 percent of the differences in earnings of those in the first ventile are explained by night lights and Gini coefficients of the NSS regions where households reside. We find that the coefficient on night lights to be positive and significant for all ventiles. We do not see difference in size of the coefficient on night lights across ventiles. The coefficient on Gini is negative and significant for the first 12 ventiles, insignificant for the next 6 ventiles and positive and significant for the last two ventiles. A one percentage point increase in Gini is associated with a 4.2 percent decrease in MPCHE in the first ventile while, on the contrary, a one percentage point increase in Gini is associated with a 3.1 percent increase in MPCHE in the top ventile. The basic finding is that the average MPCHE in the bottom ventiles is lower when inequality is high.

Our results, in particular the estimates of coefficients on Gini, are similar to that found in studies that pool data from different countries (Gbohoui et al. (2019), Milanovic (2015)). While our result is not causal, they should be seen in the light of evidence from other contexts that inequality is bad for the income growth of the poor (van der Weide and Milanovic 2018). This is a concern that needs to be especially recognized in the context of Indian states with a concentration of poor and high inequality.

4. Between-Group Inequality

Decomposition of earnings inequality by rural and urban is of interest because it is a central piece in the framework of a Kuznets Process. In order to decompose inequality by sub-groups (rural and urban), we use the mean log deviation (henceforth referred to as GE(0))[12]. Shorrocks and Wan (2005) outline the advantage of using GE(0), which is also a sub-group decomposable measure.

In terms of notation,

$$GE(0) = \frac{1}{n}\sum_i ln\left(\frac{\mu}{Y_i}\right) \tag{2}$$

where μ is the mean MPCHE of the population and Y_i is the MPCHE of the ith household of the state or all India.

For a state or all India, this can be decomposed into between and within group components

$$GE(0) = GE(0)_{Between} + GE(0)_{Within} \tag{3}$$

$$GE(0) = \sum_g v_g\, GE(0)_g + \sum_g v_g ln\left(\frac{1}{\lambda_g}\right) \tag{4}$$

where $\lambda_g = \left(\frac{\mu_g}{\mu}\right)$ and $v_g = \left(\frac{n_g}{n}\right)$ and μ_g is mean income of location g (rural, urban) and n_g is its size and n is overall number of households. As is evident, the first term is weighted sum of inequality within the location and the second term is inequality due to differences in the mean income of locations.

[Table 4 here]

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[12] Estimates of inequality based on GE(1) and GE(2) are available on request.

When viewed from the rural-urban lens, for a cross section of countries, the average of the share of the between group component in total inequality is 19.6 percent (Shorrocks and Wan 2005) while for India we estimate at 20.6 percent, i.e. in the same ball park as other studies. While, one-fifth of the inequality in MPCHE at the all-India level can be attributed to differences in the mean earnings between rural and urban, there are variations across states (Table 4).

For ease of interpretation of results, it would be useful to also refer to Table 1 where we presented the ratio of average urban to rural MPCHE for each state and also the urbanization rate. In Kerala, the average MPCHE is higher than all India, the ratio of average urban to rural MPCHE is lower than all India, and the urbanization rate is 45 percent. So it not surprising that the contribution of between group component (rural-urban) is the smallest in Kerala, at 1.9 percent. In contrast to Kerala, the average MPCHE of Bihar is much lower, barely 9 percent of the households are urban and the share of the between group component is also low relative to the all-India level, at 9.8 percent. Unlike Kerala, the urbanization process is slow or absent in Bihar. These two states are at opposite ends of the spectrum of urbanization, and the level of inequality in Bihar is lower than that of Kerala. It is also not the case that other states with high urbanization levels like Kerala have lower rural-urban inequalities. In Gujarat, Karnataka, Maharashtra, Tamil Nadu, four relatively industrialized states and having an urbanization rate of more than 40 percent, the share of between group component is between 26-30 percent in the first three but lower at 14 percent in the fourth i.e. Tamil Nadu. The effect of resource endowment on regional inequality is an empirical question with little by way of guidance from theory (Lessmann and Seidel 2017). Unlike Bihar, in the other poor states viz, Jharkhand, Chhattisgarh, and Odisha, which are endowed with coal, iron ore and bauxite, not only is inequality higher than the national average, the between group (rural-urban) component in each state is higher than the national average. The between group component in these poorer states is in the same ball park as the three relatively industrialized states mentioned above.

In order to understand the drivers of differences in inequality across states in a coherent manner, we unpack the contribution of between-group (rural-urban) component of each state and explain the difference in the share of the between-group component (and total inequality) at the state level vis-a-vis India. Toward this we use a decomposition technique developed by Mookherjee and Shorrocks (1982). This decomposition method is fairly standard and has also been recently used by Brewer and Wren-

Lewis (2016). The method is amenable for undertaking inequality comparisons over time or for comparing across space at a point in time.

The difference in inequality between India ($GE(0)_{India}$) and a state ($GE(0)_{State}$) can be written as follows:

$$GE(0)_{India} - GE(0)_{State} = \Delta GE(0) \approx$$

$$\sum_g \bar{v}_g \Delta GE(0)_g + \sum_g \overline{GE(0)_g} \Delta v_g + \sum_g \left[\bar{\lambda}_g - \overline{ln(\lambda_g)}\right] \Delta v_g + \sum_g (\bar{\theta}_g - \bar{v}_g)\Delta ln(\mu_g) \qquad (5)$$

Where λ_g, v_g, and μ_g is mean income of group g (which are rural and urban here) in a state/all-India; Δ denotes the difference between the corresponding values of the state and all-India; θ_g denotes the income share of a group, v_g denotes the share of households from group 'g'; and a bar over the variable indicates an average of the India and state value[13].

The first term on the right-hand side of (5) is the difference in inequality attributable to differences in within group inequality between the state and all-India. The second and third term quantify the difference in inequality due to difference in the national and state urbanization rate on within group and between group inequalities respectively. The fourth term quantifies the contribution of relative differences in rural-urban mean MPCHE of a state vis-à-vis all-India.

Before proceeding further, it would be useful to provide a context to our findings by recapping the key findings of studies that analyzed all India data at two points. For India as a whole between 1993 and 2008, Kanbur & Zhuang (2013) found that widening of the urban-rural gap contributed to half the increase in consumption inequality, the rising inequality within rural and urban India contributed to 23 percent and increase in the urban share of population contributed 13 percent. If Kanbur and Zhuang (2013) are interested in what explains the change in inequality over time, we are interested in what explains difference in inequality between a state and India.

[Table 5a and 5b here]

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[13] Datt et al. (2020) point out that "In the development literature, the Kuznets effect refers to the impact on overall inequality of population urbanization holding the levels distribution constant within both the urban and rural sectors" (p.17). In any decomposition analysis with data at two points of time, some authors prefer to use the estimate from the initial period. However, Mookherjee and Shorrocks provide the justification for using the average of the two time periods. Hence, we take the average of the estimates of state and all India.

In Table 5a, for each state we report the value of the four components in the right had side of Equation 5[14]. A negative sign for a component in Table 5 implies that the component's difference is going in the opposite direction of the total difference with India's inequality. For illustration, in Kerala's case, total inequality is lower as compared to all-India, however components (2) and (3) are higher. Taken together, if the other two components (i.e. (1) and (4)) would have been same as all-India, urbanization would have increased Kerala's inequality vis-à-vis India's by about 5.2 percent.

As an alternative, instead of focusing on absolute difference in GE (0) reported in Table 5a, we can calculate the percentage difference in the estimate of inequality of the state and India. For example, Bihar's inequality is about 50 percent lower than all-India; whereas Odisha's is only about two percent lower. So if one is interested in understanding the relative importance of each of the four components across states, it follows that the magnitude of the components needs to be appropriately normalized. Hence in Table 5b, we calculate the share of each of the four components in the overall difference in inequality between the state and all India. This way, the four components add up to 100 percent in each case. In terms of interpretation of the numbers presented in Table 5b, let us go back to the case of Kerala. Other things constant, Kerala's higher urbanization rate will increase inequality by about 5.2 percent compared to India (Table 5a) and this accounts for 26 percent of the difference between inequality in Kerala and India (i.e. 5.2/19.7 = 0.26) (Table 5b).

We discuss the salient aspects of the results for a group of states. First, consider West Bengal and Andhra Pradesh, two states where inequality is lower than India by a magnitude of more than twenty percent (Table 4). Since the level of urbanization of these two states is similar to all-India (Table 1), the second and third components of equation 5 have negligible influence in explaining the relatively lower inequality in these states. On the other hand, it is lower inequality within urban and to a greater degree in rural areas in both these states that is leading to lower overall inequality vis-à-vis all-India (Table 5b). Second, consider Bihar and Kerala, which are at the opposite ends of the urbanization spectrum (Table 1) and their inequality, is substantially lower than all-India (Table 4). In Bihar, almost 50 percent of low inequality is due to lower within-sector (in particular rural) inequality; whereas in Kerala, inequality is lower almost entirely due to lower rural-urban productivity differences (as proxied by ratio of urban to rural average MPCHE, the fourth component of eq. (5)). Being a highly urbanized state, components 2

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[14] As shown in equation (5), since the Mookherjee-Shorrocks' method is an approximate decomposition, the difference in inequality arising from (5) is going to be slightly different from the actual difference. However, this discrepancy is small and the same can be verified by comparing the last columns of Tables 4 and 5.a.

& 3 in Kerala's case are inequality increasing, but the equally strong counter-balancing tendencies of lower within urban inequality nullifies this effect (Table 5b). The case of Tamil Nadu is similar to that of Kerala in that the state's inequality is substantially lower than all-India (by about 28 percent) and the reasons are also similar: lower rural-urban productivity differences in Tamil Nadu contributed to about 42 percent of the total difference, but the greatest contribution is due to lower within sector inequality in Tamil Nadu (83 percent), whose rural and urban distributions are both more egalitarian than all-India. Both Karnataka and Maharashtra are more urbanized than India and hence the second and third components are positive (Table 5a). In the case of Karnataka, substantially lower rural inequality is largely responsible for the state's total inequality being lower than all-India by about 5 percent. However in Maharashtra the higher urban-rural productivity differential in the state implies that inequality is higher in the state vis a vis India. Recall, that the three resources rich states of Chhattisgarh, Jharkhand, and Odisha are not only less urbanized but the ratio of urban to rural MPCHE is the highest among all states. The markedly higher rural-urban productivity differentials than all-India are predominantly inequality increasing.

To summarize, the decomposition exercise helps us understand the proximate factors behind inequality differentials across various states and to also explore the extent to which these differentials conform or contradict the predictions from the framework of a Kuznets Process. When viewed through the framework of a Kuznets' Process, Kerala and Tamil Nadu are noteworthy since these states are highly urbanized, with relatively high average MPCHE, yet their rural-urban productivity differences are much lower than all-India. The three mineral-rich states stand out by exhibiting the highest sectoral productivity differentials across all states while being at the bottom of the total productivity ranking, thus contradicting a cross-sectional extrapolation of the Kuznets Process framework.

5. Conclusion

Geographic concentration of the consumption poor has received substantial attention in the literature on India. This paper opens another flank in the literature by focusing on household earnings. While existing studies have sought to understand factors driving consumption inequality over time, we focus on regional disparities in household earnings. Earnings reflect livelihood opportunities and hence are a better indicator of standard of living. Based on cross-sectional data for 2018-19, we present a composite

picture on household earnings at different spatial scales. The survey we analyze, conducted by India's National Statistical Office, has the entire earnings profile of the household, is representative for each state and also by rural and urban. We estimate earnings inequality as measured by Gini for India to be 0.446 and this is lower than the widely reported estimates for Brazil, China and South Africa.

Using a decomposition tool, we also sought to understand the extent to which differences in level of urbanization can explain the observed disparities. In this respect, our work is similar in spirit to Datt et al. (2020) who provide a compelling narrative on evolution of poverty at the national level situated within the Kuznets framework. The decomposition exercise we undertake helps identify the proximate factors behind inequality differentials across various states and assess the extent to which these differentials conform or contradict the predictions from the framework of a Kuznets Process. For India, we find that a fifth of the total inequality can be attributed to differences between the rural and urban means. However, there are large differences not only in the between group component across Indian states but also the relative contribution of within group inequality, urbanization rates, and urban-rural gap in earnings in explaining differences in inequality at the state and national level.

In some Indian states, the higher average earnings in urban vis a vis rural contributes to higher inequality. This harks back to the point made by Datt and Ravallion (2002). When viewed from the sectoral axis, the low rural living standards relative to urban areas is an important factor constraining the ability of the India's poor to benefit from the growth process. The high urban-rural gap in average earnings also fuels concerns on whether the urbanization process will further lead to divergence between leading and lagging regions resulting in an increase in inequality. In short, India appears to conform to the hypothesis advanced in the World Development Report 2009 that convergence in income across regions is at best a slow process. A policy prescription that follows directly from our findings is that in addition to inter-state disparities, intra-state disparities and implications of future urbanization ought to be also factored into policy making.

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**Table 1: Mean Monthly Per Capita Household Earnings (MPCHE),
Ratio of Urban-Rural MPCE and Urbanization Rate**

	Rural	Urban	Combined	Ratio U/R	Urbanization Rate
Jammu & Kashmir	4821	7079	5311	1.47	21.71
Himachal Pradesh	4292	8994	4829	2.10	11.43
Punjab	4338	6364	5176	1.47	41.35
Uttaranchal	3648	6808	4560	1.87	28.87
Haryana	4398	8084	5704	1.84	35.42
Delhi	4219	8671	8501	2.06	96.18
Rajasthan	2790	5809	3564	2.08	25.63
Uttar Pradesh	2149	4760	2757	2.21	23.30
Bihar	2420	4346	2589	1.80	8.78
Sikkim	5607	10139	7065	1.81	32.17
Arunachal Pradesh	4679	7283	5118	1.56	16.83
Nagaland	3365	5789	4016	1.72	26.87
Manipur	4512	5476	4802	1.21	30.09
Mizoram	3765	6992	5270	1.86	46.63
Tripura	3877	6334	4327	1.63	18.32
Meghalaya	3574	6751	4029	1.89	14.32
Assam	3569	6239	3848	1.75	10.42
West Bengal	2632	4646	3273	1.77	31.79
Jharkhand	2069	5557	2819	2.69	21.52
Odisha	2522	7086	3253	2.81	16.01
Chhattisgarh	2037	6139	2854	3.01	19.92
Madhya Pradesh	2520	4997	3149	1.98	25.40
Gujarat	3200	7046	4935	2.20	45.11
Maharashtra	3060	7852	5139	2.57	43.39
Andhra Pradesh	4275	6820	5135	1.60	33.78
Karnataka	3724	8576	5677	2.30	40.26
Goa	6172	9056	8044	1.47	64.90
Kerala	6317	7749	6965	1.23	45.24
Tamil Nadu	4152	6983	5483	1.68	47.01
Telangana	3903	6399	4905	1.64	40.14
India	**3067**	**6660**	**4209**	**2.17**	**31.80**

Source: Authors Calculations
We have not reported estimates for the smaller sub-national units, viz. Andaman & Nicobar
Islands, Chandigarh, Daman & Diu, Dadra & Nagar Haveli, Lakshadweep, and Puducherry
Urbanization rate is measured as proportion of households living in urban area

Table 2: Estimate of Inequality - Gini			
	Rural	Urban	Combined
Jammu & Kashmir	0.366	0.42	0.39
Himachal Pradesh	0.493	0.437	0.503
Punjab	0.357	0.448	0.412
Uttaranchal	0.368	0.452	0.428
Haryana	0.324	0.439	0.407
Delhi	0.376	0.465	0.466
Rajasthan	0.357	0.427	0.419
Uttar Pradesh	0.347	0.481	0.43
Bihar	0.284	0.45	0.316
Sikkim	0.434	0.425	0.455
Arunachal Pradesh	0.34	0.372	0.357
Nagaland	0.356	0.369	0.389
Manipur	0.342	0.359	0.351
Mizoram	0.375	0.354	0.397
Tripura	0.334	0.408	0.366
Meghalaya	0.349	0.419	0.383
Assam	0.327	0.399	0.351
West Bengal	0.315	0.429	0.385
Jharkhand	0.344	0.497	0.453
Odisha	0.355	0.515	0.449
Chhattisgarh	0.354	0.536	0.476
Madhya Pradesh	0.349	0.476	0.422
Gujarat	0.321	0.368	0.406
Maharashtra	0.321	0.467	0.468
Andhra Pradesh	0.328	0.45	0.393
Karnataka	0.309	0.459	0.442
Goa	0.245	0.353	0.336
Kerala	0.363	0.412	0.39
Tamil Nadu	0.293	0.403	0.378
Telangana	0.3	0.383	0.362
India	**0.366**	**0.456**	**0.446**

Source: Authors Calculations
We have not reported estimates for the smaller sub-national units,
viz. Andaman & Nicobar Islands, Chandigarh, Daman & Diu,
Dadra & Nagar Haveli, Lakshadweep, and Puducherry

Table 3: Circumstance Variables & their Association with Monthly Per Capita Household Earnings (MPCHE)

Dependent Variable Logarithm of Average MPHCE of Ventile in Each Region

	Night Lights	Gini (%)	No of Observations	R-square
Ventile 1	0.0348***	-0.0421***	73	0.296
Ventile 2	0.0335***	-0.0345***	73	0.29
Ventile 3	0.0310***	-0.0308***	72	0.25
Ventile 4	0.0329***	-0.0285***	72	0.241
Ventile 5	0.0311***	-0.0238***	70	0.188
Ventile 6	0.0322***	-0.0240***	68	0.19
Ventile 7	0.0311***	-0.0201**	68	0.153
Ventile 8	0.0302***	-0.0189**	71	0.143
Ventile 9	0.0322***	-0.0171*	70	0.124
Ventile 10	0.0323***	-0.0163*	71	0.123
Ventile 11	0.0335***	-0.0144*	67	0.124
Ventile 12	0.0362***	-0.0143*	73	0.124
Ventile 13	0.0368***	-0.0118	72	0.115
Ventile 14	0.0370***	-0.0083	71	0.107
Ventile 15	0.0377***	-0.00631	66	0.108
Ventile 16	0.0359***	-0.00443	72	0.09
Ventile 17	0.0339***	0.00142	72	0.077
Ventile 18	0.0345***	0.00524	73	0.09
Ventile 19	0.0311***	0.0162*	73	0.146
Ventile 20	0.0313***	0.0311***	73	0.351

***, **, * significant at 1, 5 and 10 percent

Source: Authors Calculations

Table 4: Estimate of Rural and Urban Inequality as Measured by GE(0) and Decomposition of Inequality by Rural-Urban

	Rural	Urban	Combined	W.G (%)	B.G (%)	WG	BG	Percentage Difference between State and India Inequality (Rural-Urban Combined)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Jammu & Kashmir	0.232	0.305	0.262	95.0	5.0	0.248	0.013	-23.1
Himachal Pradesh	0.438	0.337	0.46	92.8	7.2	0.426	0.033	34.9
Punjab	0.211	0.346	0.285	93.7	6.3	0.267	0.018	-16.4
Uttaranchal	0.235	0.349	0.311	86.2	13.8	0.268	0.043	-8.8
Haryana	0.187	0.327	0.281	84.3	15.7	0.237	0.044	-17.6
Delhi	0.253	0.366	0.369	97.8	2.2	0.362	0.008	8.2
Rajasthan	0.221	0.304	0.299	80.9	19.1	0.242	0.057	-12.3
Uttar Pradesh	0.225	0.393	0.328	80.5	19.5	0.264	0.064	-3.8
Bihar	0.131	0.332	0.165	90.3	9.7	0.149	0.016	-51.6
Sikkim	0.314	0.304	0.352	88.4	11.6	0.311	0.041	3.3
Arunachal Pradesh	0.2	0.237	0.221	93.2	6.8	0.206	0.015	-35.2
Nagaland	0.208	0.239	0.248	87.4	12.6	0.216	0.031	-27.2
Manipur	0.191	0.212	0.201	98.0	2.0	0.197	0.004	-41.0
Mizoram	0.243	0.222	0.281	82.9	17.1	0.233	0.048	-17.6
Tripura	0.182	0.271	0.218	90.8	9.2	0.198	0.02	-36.0
Meghalaya	0.204	0.293	0.246	88.2	11.8	0.217	0.029	-27.8
Assam	0.174	0.262	0.2	91.5	8.5	0.183	0.017	-41.3
West Bengal	0.175	0.315	0.257	85.6	14.4	0.22	0.037	-24.6
Jharkhand	0.205	0.427	0.35	72.3	27.7	0.253	0.097	2.7
Odisha	0.211	0.463	0.34	73.8	26.2	0.251	0.089	-0.3
Chhattisgarh	0.215	0.494	0.388	69.7	30.3	0.271	0.118	13.8
Madhya Pradesh	0.208	0.385	0.302	83.8	16.2	0.253	0.049	-11.4
Gujarat	0.173	0.23	0.276	72.1	27.9	0.199	0.077	-19.0
Maharashtra	0.175	0.375	0.372	70.4	29.6	0.262	0.11	9.1
Andhra Pradesh	0.192	0.34	0.267	90.6	9.4	0.242	0.025	-21.7
Karnataka	0.159	0.355	0.324	73.5	26.5	0.238	0.086	-5.0
Goa	0.099	0.209	0.187	91.4	8.6	0.171	0.016	-45.1
Kerala	0.239	0.298	0.271	98.2	1.8	0.266	0.005	-20.5
Tamil Nadu	0.155	0.274	0.244	86.1	13.9	0.211	0.034	-28.4
Telangana	0.152	0.242	0.218	86.2	13.8	0.188	0.03	-36.0
India	**0.231**	**0.356**	**0.341**	**79.4**	**20.6**	**0.2708**	**0.0701**	

Source: Authors Calculations
W.G and B.G: Within Group and Between Group
Note: Column 6+ Column 7 = Column 3
Column 4+ Column 5 = 100

Table 5a: Explaining difference in State and National Inequality: Results of Decomposition Analysis (Mookherjee and Shorrocks Methodology)

	Percentage difference in Inequality between State and India due to				
	Differences in within group inequality	Impact of differences in urbanization rates on within group inequality	Impact of differences in urbanization on between group inequality	Impact of relative differences in rural-urban means	Difference in State and India Inequality (%)
	5(i)	5(ii)	5(iii)	5(iv)	
Jammu & Kashmir	-3.7	-2.9	-1.8	-14.8	-23.2
Himachal Pradesh	46.3	-0.8	-9.3	-1.5	34.8
Punjab	-4.8	3.6	1.2	-16.1	-16.0
Uttaranchal	0.2	-1.0	-0.6	-7.3	-8.7
Haryana	-11.4	1.4	0.6	-8.1	-17.5
Delhi	4.1	22.5	-11.2	-1.6	13.8
Rajasthan	-6.5	-1.9	-1.7	-2.1	-12.2
Uttar Pradesh	1.8	-3.7	-2.9	1.0	-3.7
Bihar	-24.7	-11.0	-8.0	-6.8	-50.6
Sikkim	11.7	0.1	0.1	-8.7	3.1
Arunachal Pradesh	-15.4	-3.6	-3.2	-12.5	-34.7
Nagaland	-14.8	-1.1	-1.0	-10.4	-27.3
Manipur	-21.2	-0.4	-0.2	-19.4	-41.1
Mizoram	-13.3	2.3	1.6	-7.7	-17.2
Tripura	-17.1	-4.2	-3.1	-11.3	-35.7
Meghalaya	-10.3	-5.5	-5.9	-5.8	-27.5
Assam	-19.0	-6.7	-6.7	-8.0	-40.3
West Bengal	-15.0	0.0	0.0	-9.7	-24.7
Jharkhand	0.0	-5.2	-4.9	12.3	2.1
Odisha	2.9	-8.7	-10.4	14.1	-2.1
Chhattisgarh	7.0	-7.0	-7.2	19.9	12.7
Madhya Pradesh	-2.4	-2.8	-1.7	-4.5	-11.4
Gujarat	-24.7	3.6	1.3	0.8	-19.0
Maharashtra	-8.2	5.5	1.2	10.1	8.7
Andhra Pradesh	-9.2	0.8	0.3	-13.4	-21.5
Karnataka	-13.7	4.0	1.2	3.4	-5.1
Goa	-40.8	11.4	2.6	-15.3	-42.1
Kerala	-5.1	3.6	1.6	-19.8	-19.7
Tamil Nadu	-23.1	5.5	1.7	-11.8	-27.7
Telangana	-27.0	2.6	1.1	-12.7	-35.9

Note: 5(i), 5(ii), 5(iii), 5(iv) refer to the four components on the right hand side of equation 5
Source: Authors Calculation

Table 5b: Explaining difference in State and National Inequality:
Results of Decomposition Analysis (Mookherjee and Shorrocks Methodology)

				Urbanization on within group inequality	Urbanization on between group inequality	Relative differences in rural-urban means	Total
	Within Rural	Within Urban	Within Group				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Jammu & Kashmir	-1.4	17.5	16.1	12.6	7.6	63.7	100.0
Himachal Pradesh	136.6	-3.4	133.2	-2.2	-26.8	-4.2	100.0
Punjab	22.8	7.0	29.8	-22.7	-7.6	100.5	100.0
Uttaranchal	-9.9	7.5	-2.4	11.7	7.2	83.4	100.0
Haryana	48.9	16.3	65.1	-8.1	-3.5	46.4	100.0
Delhi	16.9	13.0	29.9	163.1	-81.1	-11.9	100.0
Rajasthan	16.7	36.2	52.9	15.4	14.2	17.5	100.0
Uttar Pradesh	31.8	-79.2	-47.4	97.9	76.9	-27.3	100.0
Bihar	46.1	2.8	48.9	21.8	15.8	13.5	100.0
Sikkim	529.1	-156.1	373.0	2.0	2.2	-277.2	100.0
Arunachal Pradesh	19.8	24.6	44.5	10.3	9.2	36.1	100.0
Nagaland	17.4	36.8	54.2	4.1	3.7	38.0	100.0
Manipur	19.7	31.7	51.4	0.9	0.5	47.1	100.0
Mizoram	-12.5	89.8	77.3	-13.2	-9.0	45.0	100.0
Tripura	30.3	17.6	48.0	11.9	8.6	31.6	100.0
Meghalaya	22.0	15.6	37.6	20.0	21.5	21.0	100.0
Assam	32.5	14.5	47.1	16.6	16.6	19.7	100.0
West Bengal	45.3	15.5	60.8	0.0	0.0	39.2	100.0
Jharkhand	-262.6	262.2	-0.4	-248.9	-235.1	584.3	100.0
Odisha	220.5	-362.6	-142.2	424.3	503.7	-685.9	100.0
Chhattisgarh	-27.0	82.3	55.3	-55.4	-56.5	156.7	100.0
Madhya Pradesh	42.6	-21.3	21.4	24.9	14.8	39.0	100.0
Gujarat	54.8	75.0	129.8	-18.7	-7.0	-4.1	100.0
Maharashtra	-118.1	24.3	-93.8	63.8	13.4	116.7	100.0
Andhra Pradesh	35.8	7.1	43.0	-3.7	-1.4	62.2	100.0
Karnataka	268.2	1.8	270.1	-79.1	-24.2	-66.7	100.0
Goa	47.4	49.5	96.9	-27.2	-6.1	36.4	100.0
Kerala	-7.3	33.4	26.1	-18.5	-8.0	100.3	100.0
Tamil Nadu	48.9	34.4	83.3	-19.7	-6.0	42.4	100.0
Telangana	41.5	33.7	75.2	-7.3	-3.2	35.3	100.0

Note: Col (3) = Col (1) + Col (2), Col (7) = Col (3) + Col (4)+ Col (5) + Col (6)

Figure 1R: Rural Median Monthly Per Capita Household Earnings (Rupees) by State and Share of State in Total Urban Households

Note: We have considered only those states that account for at least 0.5 percent of India's households.

Legend: CG: Chhattisgarh, JH: Jharkhand, UP: Uttar Pradesh, BR: Bihar, OD: Odisha, MP: Madhya Pradesh, RJ: Rajasthan, WB, West Bengal, MH: Maharashtra, GJ: Gujarat, HP: Himachal Pradesh, UK: Uttaranchal, AS: Assam, KA: Karnataka, TS: Telengana, PB: Punjab, HR: Haryana, AP: Andhra Pradesh, TN: Tamil Nadu, KL: Kerala

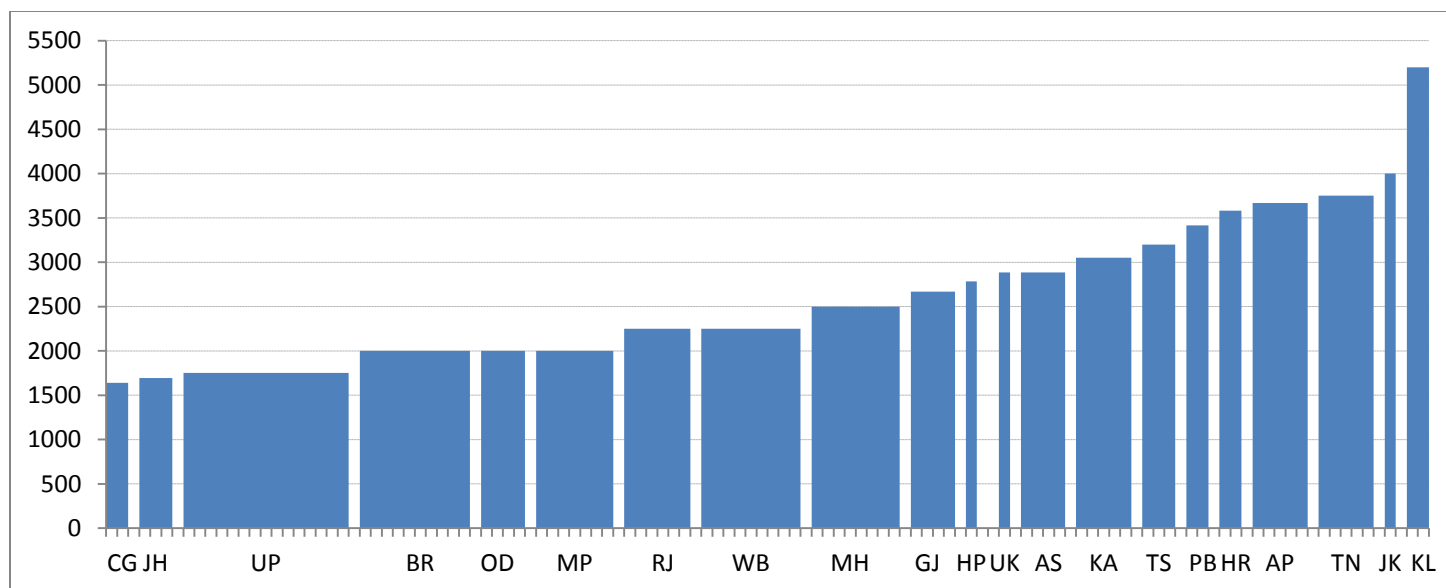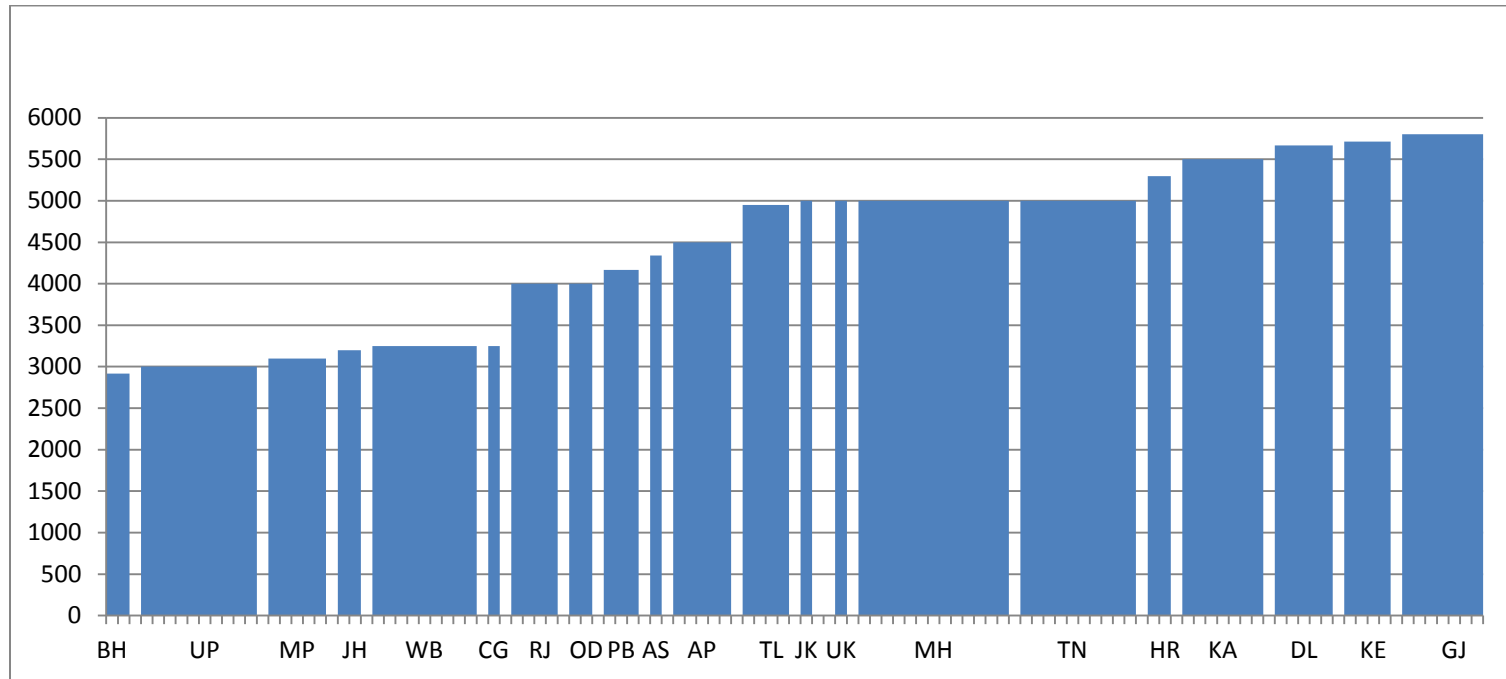**Source**: Authors Calculations

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Figure 1U: Urban Median Monthly Per Capita Household Earnings (Rupees) by State and Share of State in Total Urban Households

Note: We have considered only those states that account for at least 0.5 percent of India's households.

Legend: BH: Bihar, UP: Uttar Pradesh, MP: Madhya Pradesh, JH: Jharkhand, WB, West Bengal, CG: Chhattisgarh, RJ: Rajasthan, OD: Odisha, PB: Punjab, AS: Assam, AP: Andhra Pradesh, TL: Telengana, JK: Jammu and Kashmir, MH: Maharashtra, TN: Tamil Nadu, HR: Haryana, KA: Karnataka, DL: Delhi, KE: Kerala, GJ: Gujarat

Source: Authors Calculations

Figure 2R: Benchmarking the distribution of Rural Households of Each State against the all-India Distribution: Position of Rural Households in the 25th, 50th and 75th percentile of a Particular State in the all India Rural Distribution of Monthly Per Capita Household Earnings

Legend: 1: Jammu & Kashmir, 2: Himachal Pradesh, 3: Punjab, 5: Uttaranchal, 6: Haryana, 8: Rajasthan, 9: Uttar Pradesh, 10: Bihar, 18: Assam, 19: West Bengal, 20:Jharkhand, 21: Odisha, 22: Chhattisgarh, 23: Madhya Pradesh, 24: Gujarat, 27: Maharashtra, 28: Andhra Pradesh, 29: Karnataka, 32: Kerala, 33: Tamil Nadu, 36: Telangana
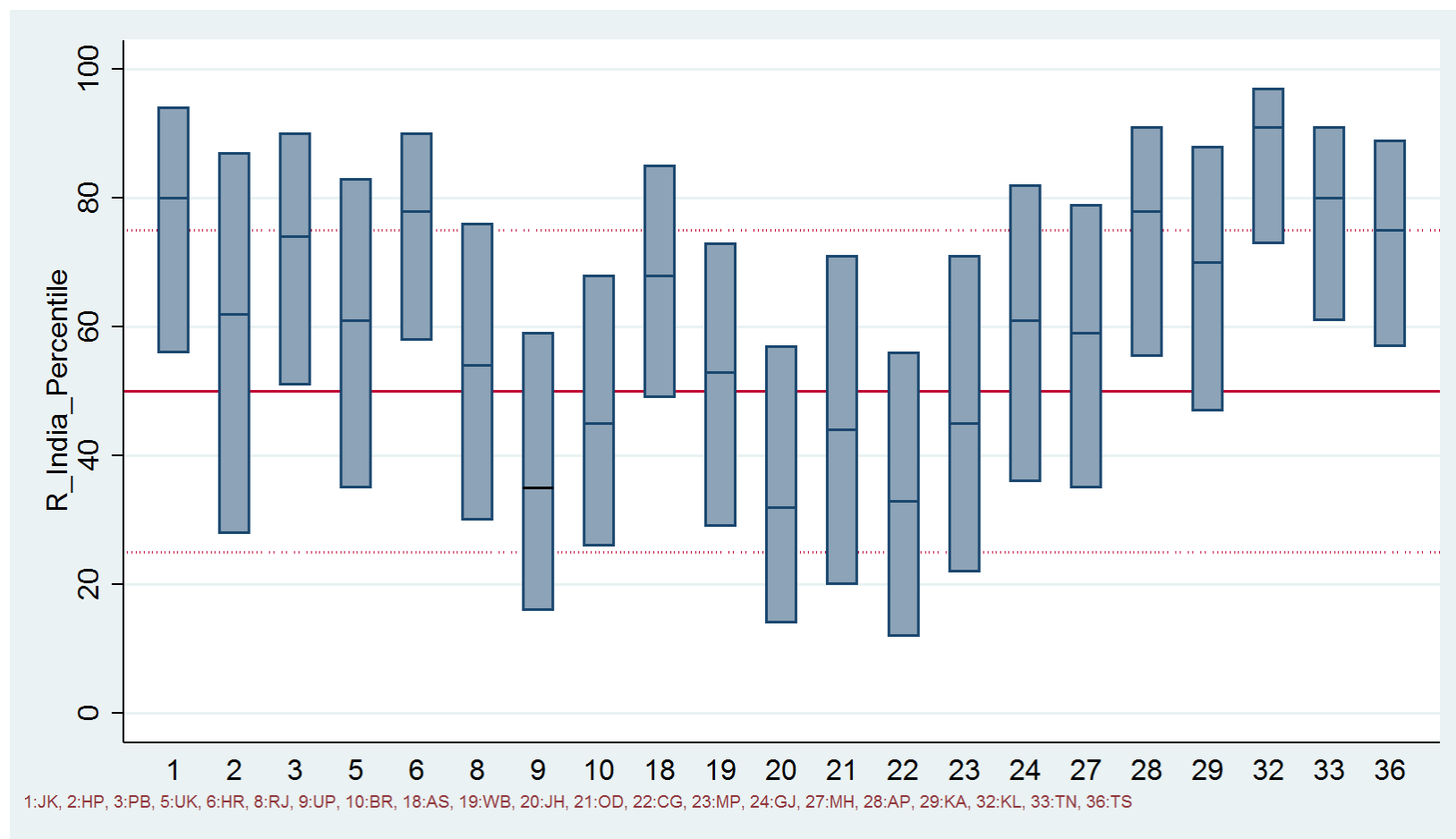
Source: Authors Calculations

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Figure 2U: Benchmarking the distribution of Urban Households of Each State against the all-India Distribution: Position of Urban Households in the 25th, 50th and 75th percentile of a Particular State in the all India Urban Distribution of Monthly Per Capita Household Earnings

Legend: 1: Jammu & Kashmir, 2: Himachal Pradesh, 3: Punjab, 5: Uttaranchal, 6: Haryana, 7: Delhi, 8: Rajasthan, 9: Uttar Pradesh, 10: Bihar, 18: Assam, 19: West Bengal, 20:Jharkhand, 21: Odisha, 22: Chhattisgarh, 23: Madhya Pradesh, 24: Gujarat, 27: Maharashtra, 28: Andhra Pradesh, 29: Karnataka, 32: Kerala, 33: Tamil Nadu, 36: Telangana
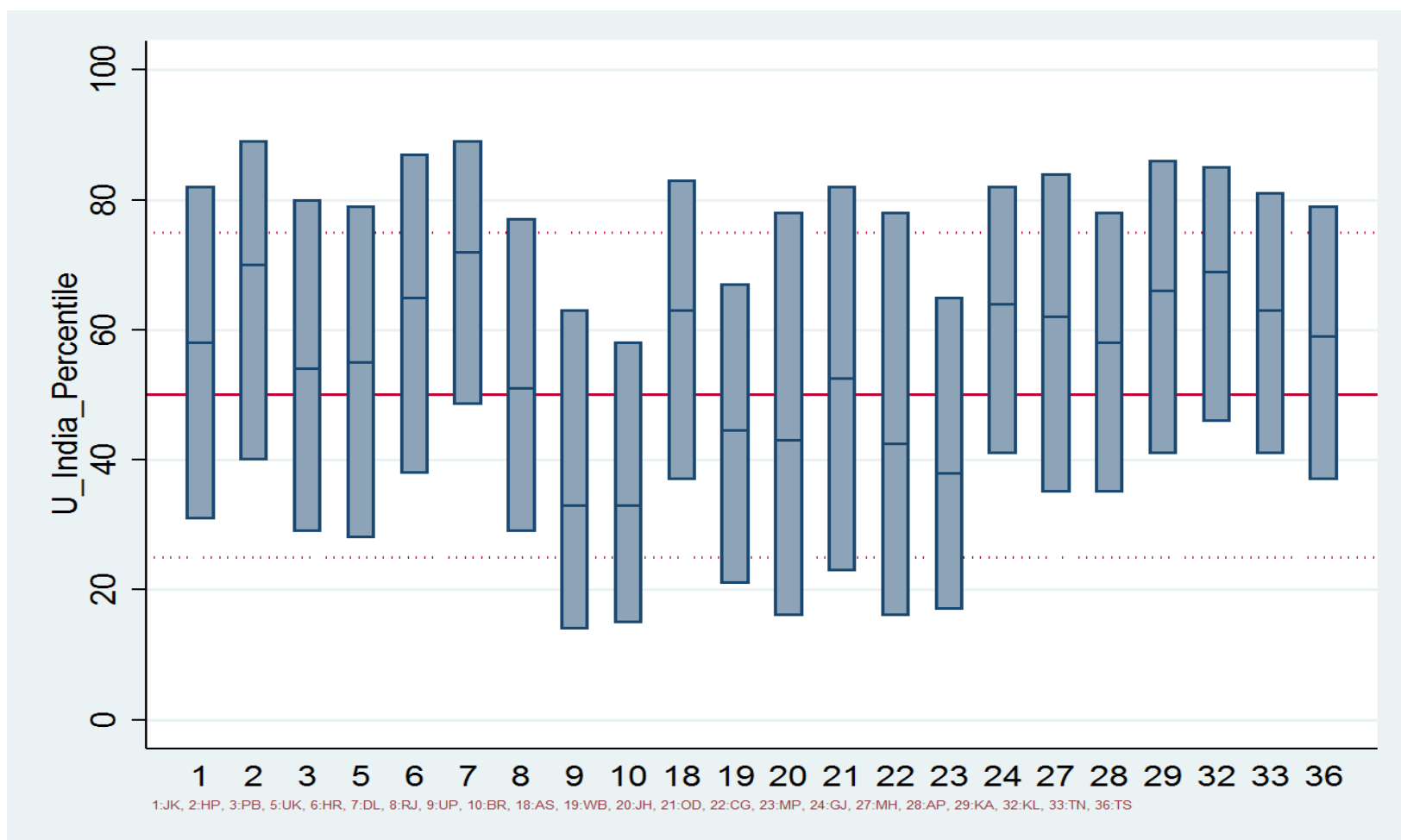
Source: Authors Calculations

Appendix Table 1R: Rural Monthly Per Capita Household Earnings in Rupees at Various Percentiles & Percentile Ratios

	P-90	P-10	P-75	P-25	P-50	90:10 Ratio	75:25 Ratio
Jammu & Kashmir	9000	1667	6000	2438	4000	5.4	2.5
Himachal Pradesh	9000	900	4900	1583	2783	10.0	3.1
Punjab	8125	1700	5125	2250	3417	4.8	2.3
Uttaranchal	6000	1400	4200	1975	2883	4.3	2.1
Haryana	7821	2000	5020	2516	3583	3.9	2.0
Delhi	8000	1429	7250	1429	3600	5.6	5.1
Rajasthan	5000	1000	3250	1500	2250	5.0	2.2
Uttar Pradesh	3750	833	2500	1250	1750	4.5	2.0
Bihar	4000	1200	3000	1500	2000	3.3	2.0
Sikkim	12000	1667	7167	2375	3750	7.2	3.0
Arunachal Pradesh	8600	1625	6547	2333	3900	5.3	2.8
Nagaland	6000	1400	4000	1800	2500	4.3	2.2
Manipur	8625	2000	5250	2500	3500	4.3	2.1
Mizoram	7000	1125	5000	1800	3000	6.2	2.8
Tripura	6667	1667	4500	2250	3000	4.0	2.0
Meghalaya	6712	1458	4333	2000	2767	4.6	2.2
Assam	6250	1600	4250	2063	2885	3.9	2.1
West Bengal	4500	1125	3033	1500	2250	4.0	2.0
Jharkhand	3333	800	2500	1200	1692	4.2	2.1
Odisha	4500	1000	3000	1350	2000	4.5	2.2
Chhattisgarh	3750	750	2400	1094	1640	5.0	2.2
Madhya Pradesh	4500	967	3000	1400	2000	4.7	2.1
Gujarat	5383	1333	4000	1800	2667	4.0	2.2
Maharashtra	5000	1250	3750	1800	2500	4.0	2.1
Andhra Pradesh	7500	1500	5163	2500	3667	5.0	2.1
Karnataka	6250	1580	4800	2160	3050	4.0	2.2
Goa	9600	3000	7125	4000	5833	3.2	1.8
Kerala	11500	2250	7944	3250	5200	5.1	2.4
Tamil Nadu	7000	1800	5000	2650	3750	3.9	1.9
Telangana	6667	1786	4833	2410	3200	3.7	2.0
India	5625	1125	3750	1600	2425	5.0	2.3

Source: Authors Calculations

Appendix Table 1U: Urban Monthly Per Capita Household Earnings in Rupees at Various Percentiles & Percentile Ratios

	P-90	P-10	P-75	P-25	P-50	90:10 Ratio	75:25 Ratio
Jammu & Kashmir	15000	2000	9000	3000	5000	7.5	3.0
Himachal Pradesh	18500	2333	11375	3400	6667	7.9	3.3
Punjab	12250	1714	8000	2600	4167	7.1	3.1
Uttaranchal	15000	1700	7571	2633	5000	8.8	2.9
Haryana	16000	2125	10500	3040	5297	7.5	3.5
Delhi	17000	2400	10000	3500	5667	7.1	2.9
Rajasthan	12500	1875	7000	2571	4000	6.7	2.7
Uttar Pradesh	10000	1250	5000	1875	3000	8.0	2.7
Bihar	9000	1333	4625	1875	2917	6.8	2.5
Sikkim	21000	3000	12000	4500	7000	7.0	2.7
Arunachal Pradesh	12500	2375	8750	3500	6205	5.3	2.5
Nagaland	11000	1667	7500	3000	5000	6.6	2.5
Manipur	10250	2167	6267	3000	4000	4.7	2.1
Mizoram	12500	2250	8333	3833	6000	5.6	2.2
Tripura	13333	2250	7333	3000	4500	5.9	2.4
Meghalaya	12500	2250	7500	3000	5000	5.6	2.5
Assam	12357	2000	8000	2833	4340	6.2	2.8
West Bengal	9000	1500	5000	2071	3250	6.0	2.4
Jharkhand	12000	1375	6667	1875	3200	8.7	3.6
Odisha	15000	1500	8000	2333	4000	10.0	3.4
Chhattisgarh	14167	1333	6600	1864	3250	10.6	3.5
Madhya Pradesh	10000	1333	5500	2000	3100	7.5	2.8
Gujarat	12500	2400	9000	3500	5800	5.2	2.6
Maharashtra	15000	2000	9333	3000	5000	7.5	3.1
Andhra Pradesh	13333	2000	7400	3000	4500	6.7	2.5
Karnataka	20000	2250	10000	3333	5500	8.9	3.0
Goa	14667	3500	11667	4500	7500	4.2	2.6
Kerala	15000	2500	9000	3750	5713	6.0	2.4
Tamil Nadu	14000	2333	8333	3250	5000	6.0	2.6
Telangana	12500	2400	7500	3000	4950	5.2	2.5
India	13333	1800	8000	2648	4420	7.4	3.0

Source: Authors Calculations