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Udaya Shankar Mishra and Pradeep Salve



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Gauging the improvement in Economic Status of Indian Households: Evidence based on National Family Health Surveys

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Gauging the improvement in Economic Status of Indian Households: Evidence based on National Family Health Surveys

U.S Mishra¹, Pradeep Salve²

“What is the meaning of growth if it is not translated into the lives of people?”

– United Nations Development Programme, Human Development Report,

Abstract: This is a simple and modest attempt at verifying change in economic status based on a comprehensive wealth score. A comprehensive and comparable median indexed value of quintile markers was computed, based on the distribution of wealth score, which shows the upward/downward shift in economic status. This exercise informs about the rural disparities being widened against a narrowing down of the gap in urban areas. Except for Muslims, differences between the rich and the poor seem to be narrowing across all other religious groups. It helps in the identification of the excluded towards targeting policies and programs to realize convergence.

Keywords: Caste; Inequality; Distribution of Wealth factor score index; Region; Religion

Introduction

At a time when growth and inequality are at the center stage of the development debate, there has been rising concern regarding growing inequality across the nations (Alvaredo et al. 2018). It is understood that socio-economic growth in its initial stages is supposed to generate some inequality that might be disturbing and raise apprehension regarding the growth not being inclusive (United Nation 2020; Alvaredo et al. 2018). Understanding poverty, inclusive growth, inequality, and its temporal and regional transition is frequent in Indian literature (Basu 2018; Cain et al. 2010; Chauhan et al. 2015; Dhongde 2017; Kim, Mohanty, and Subramanian 2016; Mishra, Kumar, and Sinha 2019). Apart from these, such inquiries have also engaged with varied aspects of economic status including definition, measurement, estimation methods, and data availability (Mishra and Joe 2020; Mohanty 2009; Alkire and Foster 2011; Anand and Sen 1997; Dehury and Mohanty 2015). The most common basis of gauging the changing economic status of households in India is

the consumption expenditure source of information that is obtained in the national sample survey (NSS) data. This data offers a magnitude of poverty based on a fixed poverty line as well as the scale of consumption expenditure distribution in its quintile split (NSSO 2013). Relying on this information, a lot has been spoken about the rising inequality, non-inclusive growth, and above all, the poor becoming poorer and the rich becoming richer (Awaworyi Churchill and Smyth 2017; Chauhan et al. 2015; Subramanian 2009; Anand and Sen 1997). However, the said observation, based on empirical assessment of consumption expenditure data does not have a consensus which calls for an alternative mode of inspection. Such an inspection should involve gauging the changing economic status of Indian households in terms of characteristic features.

Considering the availability of alternative large-scale surveys like National Health Family Surveys (NFHS), India Human Development Surveys (IHDS), and many others, there is a possibility of contrasting assessment of changing economic status as revealed by these surveys vis-à-vis the national sample surveys. For instance, a recent study using the panel data from the IHDS found that poverty in India has declined over the period 2005-12. Most of the studies on Indian households are based on income or consumption expenditure of the households, which is the key to the assessment of economic status. However, the quality of income and consumption data obtained from the household survey has many limitations including recall bias, misreporting, and other related problems. As an alternative to consumption/income, studies have considered household's assets and amenities based index (popularly known as asset index or wealth index) which serve towards comprehending the economic status of households.

Shifting focus from the domain of consumption and income to that of assets and amenities is motivated by several factors. One factor is the disagreements that surface in discussions about consumption and income. Another factor is the renewed emphasis by the United Nations on the policy front, particularly the 'Leave no one behind' principle echoed in the Sustainable Development Agenda. Reducing inequality within and among countries is emphasized in Goal 10 of the Sustainable Development Goals (SDGs) (UN, 2019).

Therefore, the description of inequality needs to be robust and without much disagreement when assessed across various domains. However, in India, the comprehension of inequality remains restricted to its consumption domain, placing it among the ten worst nations in terms of inequality (Alvaredo et al. 2018). This raises genuine concerns regarding the persistence of economic

inequality, coupled with the broader issues of poverty and various deprivations in basic standards of living.

It remains uncertain whether persistent poverty and rising inequality are linked and how these issues are understood and assessed within their respective domains. Given this context, it is ideal to explore alternative means of verifying these phenomena to gain a fresh perspective on the prevailing reality, rather than remaining fixated on the narrative of failure (Pal and Ghosh 2007).

This effort aims to gauge the temporal change in the economic status of Indian households and inherent characteristic variations therein by considering an alternative domain of household wealth scores. Using a simplistic method of indexing, it seeks to provide a fresh outlook on economic status. Despite the magnitude of the phenomenon, the findings suggest that the overall situation remains unchanged

There is universal contention regarding verification of whether Indian households' economic status have become better compared to the recent past. Such contention has its roots in the changing political regimes that promised good days (Achhe din) for one and all. To validate or reject such contention, there is every need for a temporal inspection of changing economic status either based on consumption or based on assets. One can go into a debate regarding the robustness of consumption and assets reflecting the true economic status. However, the information on assets and amenities do have a consistent bearing with the otherwise stated levels of consumption. The singular reliance on the consumption expenditure information may well be having its limitation unless otherwise revalidated with an alternative domain, like assets. The current scene of mistrust on governmental data sources on employment and consumption offers an opportunity to exploit an alternative information source like NFHS to gauge the changing economic status. Fortunately, we have at hand two rounds of these national surveys having near identical setup information on household assets that is transformed into household wealth scores for all sample households. Banking on this information, an approach can be developed towards offering an alternative reading of household economic status beyond consumption expenditure. With this background, this is an attempt at exploring the changing perspective of the transient economic status of Indian households in consideration of broad characteristic divide across caste, religion and residence

Data and methods

The data pertaining to the analysis in this paper is obtained from two latest rounds of National Family Health Surveys (NFHS) conducted in round 2005-06 and 2019-21 across the states and union territories of India. These surveys are cross-sectional in nature, provide information on maternal and child health and mortality, healthcare-seeking behavior, reproductive health behavior, and biometric information, etc. Apart from these, the survey obtains the social and economic status of each of the surveyed households. These surveys adopted a stratified two-stage sampling design with due representation of the rural and urban population in India. In rural areas, villages were selected in the first stage using the Probability Proportional to Size (PPS) scheme. In the second stage, households were selected using systematic sampling. In urban areas, census enumeration blocks (CEBs) were selected in the first stage using the PPS scheme. In the second stage, households were selected using systematic sampling. The details about the selection of the sample, design of the survey, sample weight, and the questionnaire are provided in the national report (IIPS and ICF 2019-21).

The unit of analysis of this study is the household and the information used is regarding household assets and amenities in every round of NFHS. The survey collected the common information for 33 assets and amenities from the selected households. However, the recent survey collected information about ownership of the internet, washing machines, and air conditioners. This information on assets and amenities was aggregated to describe household economic status in terms of wealth score that is prepared using the most standard and popular method of principal component analysis¹

¹ Wealth index: Households are given scores based on the number and kinds of consumer goods they own, ranging from a television to a bicycle or car, and housing characteristics such as the source of drinking water, toilet facilities, and flooring materials. These scores are derived using principal component analysis. National wealth quintiles are compiled by assigning the household score to each usual (de jure) household member, ranking each person in the household population by their score, and then dividing the distribution into five equal categories, each with 20 percent of the population

Methodology

The analysis proposed here is entirely based on the wealth index factor score (WIFS) variable. First and foremost, to enable a valid comparison, we calculated the WIFS for the same set of variables in both rounds of surveys using the DHS approach. As the range of WIFS has changed over time, we made a comparison of its dissection in terms of quintile classifications rather than considering the absolute values. We standardized all measures against median wealth score values. The quintile markers (cut off value) are indexed against the median wealth score to enable temporal comparison. We used this index value for various characteristics to understand the aspect of changing inequality over a decade.

Let C_{ijk} be the quintile cut off of the wealth index factor score of a particular group for a particular period and M_{ijk} represent the median value of the wealth index factor score distribution of the same group for the same period. So the index value for a particular group for a particular period will be as follows.

$$q_{ijk} = \frac{C_{ijk}}{M_{jk}}$$

Here i represents the wealth quintile and varies from the poorest, poorer, middle, richer and richest, j represents the particular background characteristics i.e. either rural/urban, caste or religion or for states, etc., k represents the time i.e. 2005-06 and 2019-20

Alternatively, we have compared the indexed value within groups, as well as across groups to interpret performance or betterment in economic status in terms of numeric illustration of these indexed values which lie around the value 1 (less than 1 and greater than 1). Apart from these index values, we also have considered the distance between the highest(q_4) and lowest indexed value (q_1) to imagine an implied change in a positive or adverse term.

Results

Overall Change in Wealth Score

In Figure 1, the pace of changing economic status of Indian households is illustrated. It was observed that there was no change in the economic status for the bottom 80% of the households, while the highest changes were observed in the top 20% of the quintiles. This exercise was based on the fact that the bottom 80% of the households, in terms of the hierarchy of wealth score, moved in tandem as opposed to the top 20% over time. Based on the type of residence (Figure 2 & 3) these disparities were more pronounced, with the rural-urban divide showing greater temporal improvement in rural areas than in their urban counterparts. Furthermore, it was also observed that the pace of change for the bottom 80% of the households was slow, while drastic improvements were seen in the top 20% of the households

Regional differential in household wealth Score

Given that the residence divide in this temporal assessment offers an advantage to the rural households, a further split of the same across caste, residence and religion depicts interesting features. The urban-rural split and the temporal comparison make it apparent that economic betterment among rural households has been distinct beyond the bottom 60% of the households but such gain is marginal among the urban households (See Figure 2). Based on the difference between the quintile 80% to 20% (q_4-q_1), it is apparent that the highest difference was observed in rural areas between NFHS-3 and NFHS-5. However, in relation to caste, greater homogeneity among SC and ST households was observed as against other caste groups (See Figure 4). For instance, among the SC households, the index of quintile marker varied by 1.80 units in urban areas which was 1.81 units during the earlier period. Based on this width, it can be concluded that the convergence was greater for SC households compared with ST households, followed by other caste groups in urban India. However, in rural areas there seemed to be a divergence in economic status given that this width had widened. Besides the interpretation of this width, it is also pertinent to mention that the divergence visible in rural areas was consistent at every quintile marker level. Such an inspection across caste groups disaggregated by residence criteria indicates that inequality had widened more in rural areas than in urban ones. Further, such inequality was more intense among the SC and ST groups compared to Others. Although the measure used is an indexed

derivative of the quintile cut-off values, they are simplistic in conveying the distributional facet of the wealth score against a well-accepted yardstick of the median level of the wealth score.

Religion based Differentials in household Wealth Score

Religion and caste are common attributes of marginalization and there is always an argument made with regard to minorities being at a disadvantage in benefitting from the changing course of economic betterment. On this count, a religion specific analysis was attempted here with a rural urban divide (See Figure 5). While differences in the pattern between rural and urban households remained more or less uniform across religions indicating a wider divide in urban areas than in rural areas, the temporal compression in this divide was also more or less consistent across religious groups. Moreover, the pattern observed in the present study informs that urban inequalities reduced as rural inequality intensified. Among Hindus, it was observed that the gap in quintile index value was reasonably low when compared with Muslims and Christians. Considering the urban space alone, it was the Muslim household that converged better (difference between q4-q1 move from 1.80 to 1.12). Such transition, though in a similar direction, was marginal for Christians and Hindus. Among the rural households, divergence, as depicted by a rise in such values, intensified more among Muslim households when compared with households of other religions. The convergence among Muslim households in urban space was a welcome trend and the divergence (with greater values of q4-q1) in rural space was reflected among all religions. However, given the minority presence being more in urban areas, within group inequalities improved for minorities and at the same time, the worsening of inequality in the rural scene made the majority (i.e. the Hindus) face adversity.

One thing that is apparent and comes out clearly is the urban convergence and rural divergence when comparison is made between NFHS-3 and NFHS-5. Apart from understanding convergence/divergence based on this grand difference in the indexed value of q4 and q1, it may be worthwhile to examine the extreme q4 alone. In evaluating these index values, they need to be contrasted against their ideal (0.4, 0.6, 1.2, and 1.6) which is to elaborate the quintile divides by median value. It is apparent that there is greater conformity with this ideal overtime in the first three quintile markers. However, the fourth marker departs from the ideal during NFHS-3 but is moderated down in NFHS-5. These findings, based on a temporal verification in India, agree very much with the phenomenal change in the urban-rural gap in terms of population growth and wealth

shares. The wealth shares of rural areas declined at a much faster rate than in urban areas. Thus, wealth has increasingly become concentrated in urban areas.

Considering the differences in the quintile index score of the extremes between time points, convergence/divergence features are adjudged (See Figure 6). While this difference increased across all the states. Such comparisons may not necessarily convey the kind of positional shift occurring in specific quintiles. This difference conveyed the width which ideally should be 1.2 and does not sufficiently enable a comparison since they might not have changed much in lower quintile indexed values but might have shifted in the upper ones. Hence, an analysis of quintile specific indexed markers is desirable which is made in the following section. There emerged a mixed pattern, which could be a rough depiction of the kind of divergence between the rich and the poor. This showed a marginal increase at the national level but varied widely across the states with most of the states qualifying for the divergence of varying degrees. States like Maharashtra, Karnataka, Tamil Nadu, Uttarakhand, and West Bengal depicted a difference in quintile indexed value increasing over time. Convergence/divergence in the economic status of Indian Households based on (q4-q1) values across the wealth quintile presents a different story (see Figure 6). For instance, this value increased in a large number of cases and reduced in a few of the states where this difference had narrowed i.e., in Punjab, Delhi, Kerala and Gujarat. Although these states qualified the convergence in economic status based on shrinking values q4-q1, the magnitude of such convergence was marginal in Bihar and Gujarat as against the same being substantial in Punjab, Haryana, and Delhi. Most of the states qualified for divergence based on this difference because, at the national level, the values increased from 0.7 to 1.2. Such a decrease was perhaps the largest in Jharkhand (2.9 to 1.1) followed by Chhattisgarh (2.3 to 1.0) and Madhya Pradesh and Odisha (1.8 to 0.9 and 1.3 to 0.9).

Conclusion

Verification of changing economic status is a common concern that is difficult to assess owing to the difficulty in temporal comparison on one hand and identifying an acceptable domain like income or wealth or asset on the other. All these years the assessment, if any, was limited to the consumption domain in India. This attempt of considering the household wealth score as an alternative domain to gauge changing economic status might serve as an ideal alternative. While wealth scores are in no way remote from consumption levels, they undoubtedly differentiate households with degrees of affluence. This score is an aggregation of a range of assets and household amenities that serves as a marker of the quality of life with a bearing on economic capacity. The distribution of such a numeric score undoubtedly differentiates a household's economic status and is justifiably explored here to represent economic status to gauge the temporal change based on this indicator. The observation reveals a definite improvement in economic status in general however, such improvement is largely exclusive to the top twenty percent of the households in the economic hierarchy, in particular. This is not to say that there was a deterioration in the economic status of the bottom eighty percent of the households which maintained status quo. The characterization analysis of this phenomenon according to region, residence, caste, and religion did unfold a pattern that confirmed that disparities were larger among the minorities and betterment is more among the rural residents. This proposed exercise undoubtedly paints a picture of changing economic status that is very much in contention with the prevailing observation of rising inequality and exclusion of the poor.

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Availability of data and materials

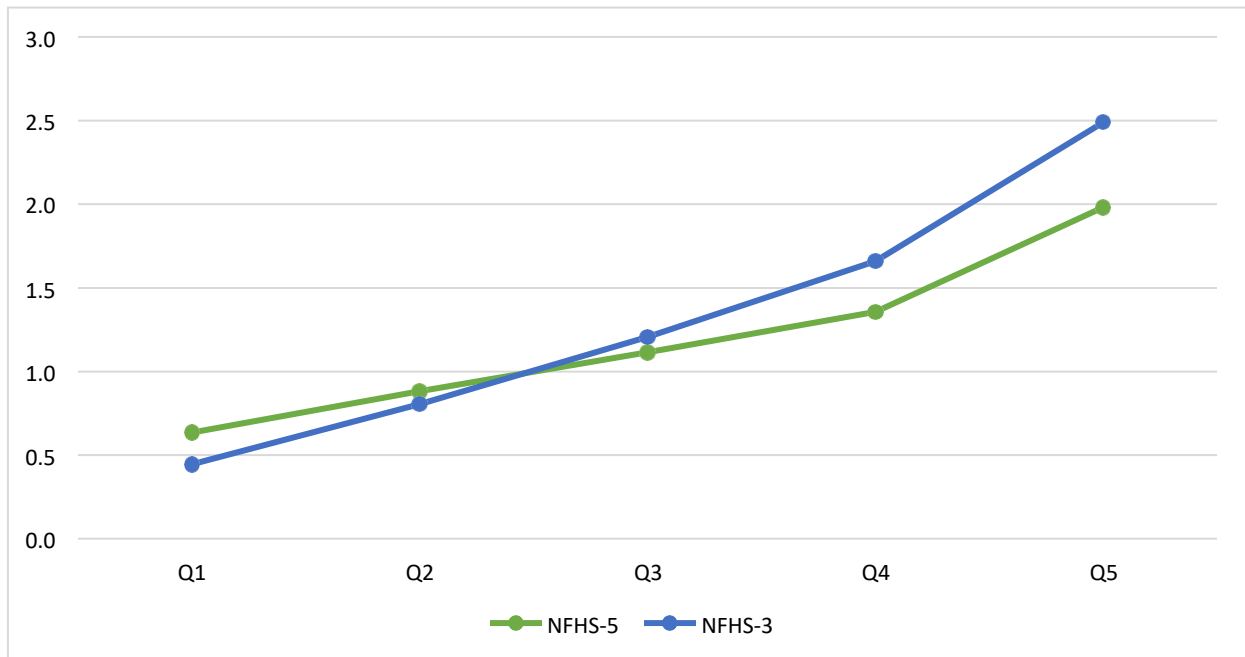
The unit-level data is available from the Demographic Health Survey (DHS) data repository through https://dhsprogram.com/data/dataset/India_Standard-DHS_2015.cfm?flag=0/ and could be accessed upon a data request subject to non-profit and academic interest only. In another case, the corresponding author of the paper may be contacted.

References

- Adams AM, Evans TG, Mohammed R, and Farnsworth J. 1997. "Socioeconomic Stratification by Wealth Ranking: Is it Valid?" Review of. *World Development* 25 (7):1165-72. doi: SO305750X(97)00024-7.
- Alkire, Sabina, and James Foster. 2011. "Counting and multidimensional poverty measurement." Review of. *Journal of Public Economics* 95 (7-8):476-87. doi: 10.1016/j.jpubeco.2010.11.006.
- Alvaredo, Facundo, Lucas Chancel, Thomas Piketty, Emmanuel Saez, and Gabriel Zucman. 2018. *World inequality report 2018*: Belknap Press.
- Anand, Sudhir, and Amartya Sen. 1997. "Concepts of human development and poverty! A multidimensional perspective." Review of. *United Nations Development Programme, Poverty and human development: Human development papers*:1-20.
- Awaworyi Churchill, Sefa, and Russell Smyth. 2017. "Ethnic Diversity and Poverty." Review of. *World Development* 95:285-302. doi: 10.1016/j.worlddev.2017.02.032.
- Basu, Kaushik. 2018. "A short history of India's economy: A chapter in the Asian drama." In.: WIDER Working Paper.
- Booyesen, Frikkie, Servaas van der Berg, Ronelle Burger, Michael von Maltitz, and Gideon du Rand. 2008. "Using an Asset Index to Assess Trends in Poverty in Seven Sub-Saharan African Countries." Review of. *World Development* 36 (6):1113-30. doi: 10.1016/j.worlddev.2007.10.008.
- Cain, J. Salcedo, Rana Hasan, Rhoda Magsombol, and Ajay Tandon. 2010. "Accounting for Inequality in India: Evidence from Household Expenditures." Review of. *World Development* 38 (3):282-97. doi: 10.1016/j.worlddev.2009.11.014.
- Chauhan, Rajesh K., Sanjay K. Mohanty, S. V. Subramanian, Jajati K. Parida, and Balakrushna Padhi. 2015. "Regional Estimates of Poverty and Inequality in India, 1993–2012." Review of. *Social Indicators Research* 127 (3):1249-96. doi: 10.1007/s11205-015-1006-6.
- Dehury, Bidyadhar, and Sanjay K. Mohanty. 2015. "Regional Estimates of Multidimensional Poverty in India." Review of. *Economics* (Economics Discussion Papers, No 2015-34, Kiel Institute for the World Economy. <http://www.economics-ejournal.org/economics/discussionpapers/2015-34>).
- Dhongde, Shatakshee. 2017. "Measuring Segregation of the Poor: Evidence from India." Review of. *World Development* 89:111-23. doi: 10.1016/j.worlddev.2016.08.004.
- Filmer, Deon, and Lant H Pritchett. 2001. "Estimating wealth effects without expenditure data—or tears: an application to educational enrollments in states of India." Review of. *Demography* 38 (1):115-32.
- Harttgen, Kenneth, and Sebastian Vollmer. 2013. "Using an asset index to simulate household income." Review of. *Economics Letters* 121 (2):257-62.
- Hruschka, D. J., D. Gerkey, and C. Hadley. 2015. "Estimating the absolute wealth of households." Review of. *Bull World Health Organ* 93 (7):483-90. doi: 10.2471/BLT.14.147082.

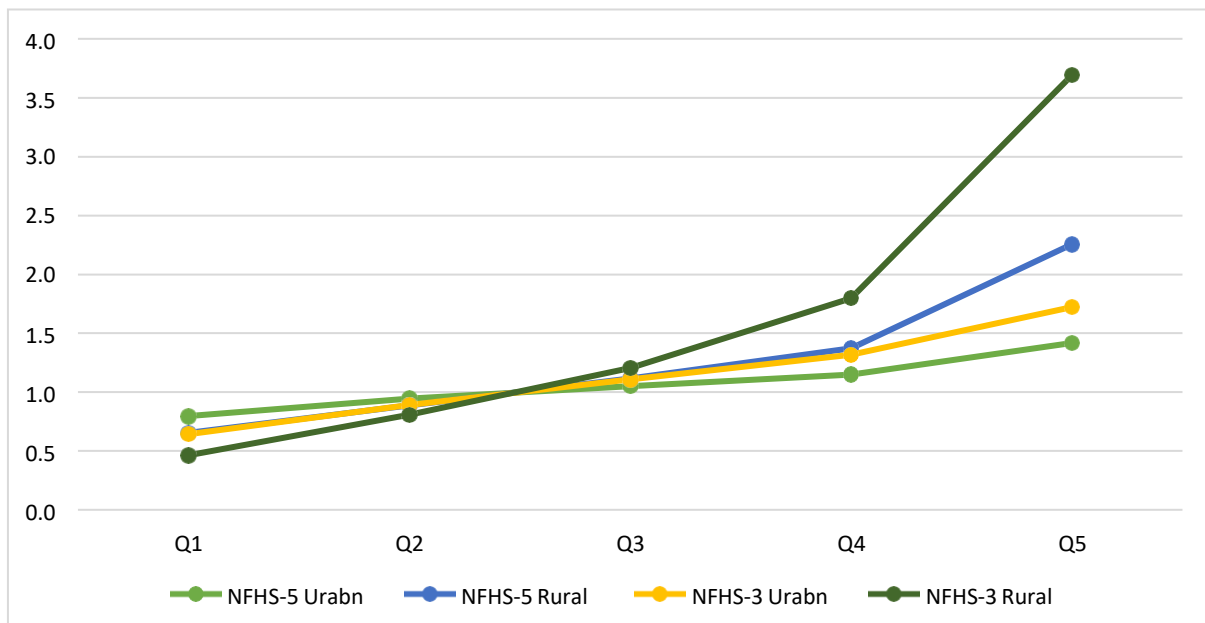
- International Institute of Population Sciences, and ICF International. 2017. "National Family Health Survey (NFHS-4), 2015-16 : India." In. Government of India, Mumbai ; <http://rchiips.org/NFHS/NFHS-4Reports/India.pdf>.
- Kabudula, C. W., B. Houle, M. A. Collinson, K. Kahn, S. Tollman, and S. Clark. 2017. "Assessing Changes in Household Socioeconomic Status in Rural South Africa, 2001-2013: A Distributional Analysis Using Household Asset Indicators." Review of. *Soc Indic Res* 133 (3):1047-73. doi: 10.1007/s11205-016-1397-z.
- Kim, Rockli, Sanjay K. Mohanty, and S. V. Subramanian. 2016. "Multilevel Geographies of Poverty in India." Review of. *World Development* 87:349-59. doi: 10.1016/j.worlddev.2016.07.001.
- Krishna, Anirudh, and Abusaleh Shariff. 2011. "The Irrelevance of National Strategies? Rural Poverty Dynamics in States and Regions of India, 1993–2005." Review of. *World Development* 39 (4):533-49. doi: 10.1016/j.worlddev.2010.08.011.
- Mishra, Aswini Kumar, Anil Kumar, and Abhishek Sinha. 2019. "The shape of income distribution and decomposition of the changes in income inequality in India." Review of. *Journal of Economic Studies* 46 (3):760-76. doi: 10.1108/jes-09-2017-0253.
- Mishra, Udaya Shankar, and William Joe. 2020. "Household Assets and Wealth Quintiles, India 2006–16." Review of. *Economic & Political Weekly* 55 (6):77.
- Mohanty, Sanjay K. 2009. "Alternative wealth indices and health estimates in India." Review of. *Genus* 65 (3).
- NSSO. 2013. "Key Indicators of Household Consumer Expenditure in India." In. Ministry of statistics and programme Implementation, Government of India, New Delhi.
- Pal, Parthapratim, and Jayati Ghosh. 2007. "Inequality in India: A survey of recent trends." Review of.
- Subramanian, S. 2009. "Reckoning Inter-Group Poverty Differentials in the Measurement of Aggregate Poverty." Review of. *Pacific Economic Review* 14 (1):46-55. doi: 10.1111/j.1468-0106.2009.00434.x.
- Thorat, A., R. Vanneman, S. Desai, and A. Dubey. 2017. "Escaping and Falling into Poverty in India Today." Review of. *World Dev* 93:413-26. doi: 10.1016/j.worlddev.2017.01.004.
- United Nation. 2020. "World Social Report2020." In. Department of Economic and Social Affairs, United Nations publication, ISBN 978-92-1-130392-6.
- Zacharias, Ajit, and Vamsi Vakulabharanam. 2011. "Caste Stratification and Wealth Inequality in India." Review of. *World Development* 39 (10):1820-33. doi: 10.1016/j.worlddev.2011.04.026

Figure 1: Variation in Median index quintile markers of household Wealth Index Factor scores, NFHS-3 and NFHS-5



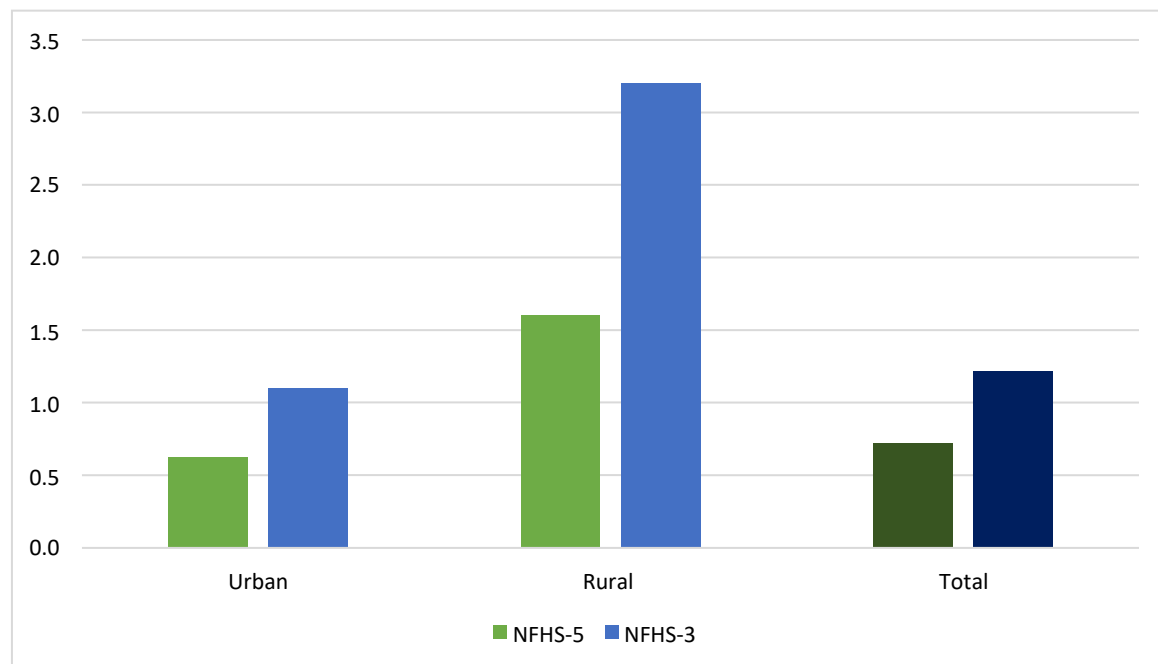
Source: Authors' calculation from NFHS-3 & NFHS-5

Figure 2: Variation in Median index quintile markers of household Wealth Index Factor scores between Urban and Rural, NFHS-3 and NFHS-5



Source: Authors' Calculation from NFHS-3 & NFHS-5

Figure 3: Wealth index factor score difference (q4-q1) by place of residence in India in NFHS-3 and NFHS-5



Source: Authors' Calculation from NFHS-3 & NFHS-5

Figure 4: Wealth index factor score quintile marker difference (q4-q1) by caste in India, NFHS-3 and NFHS-5

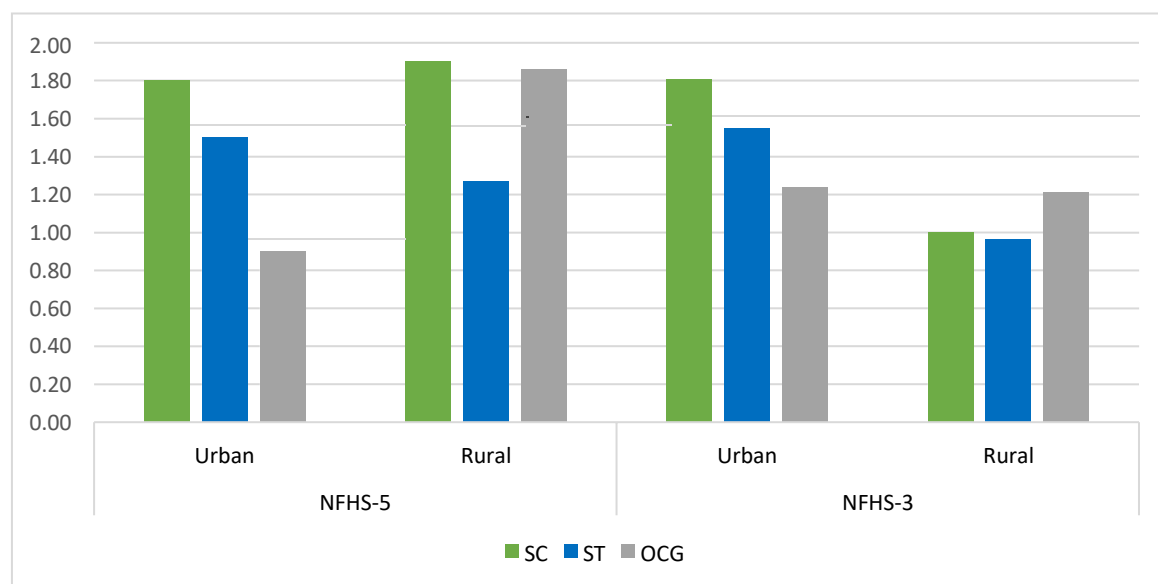


Figure 5: Wealth index factor score quintile marker difference (q4-q1) by caste in India, NFHS-3 and NFHS-5

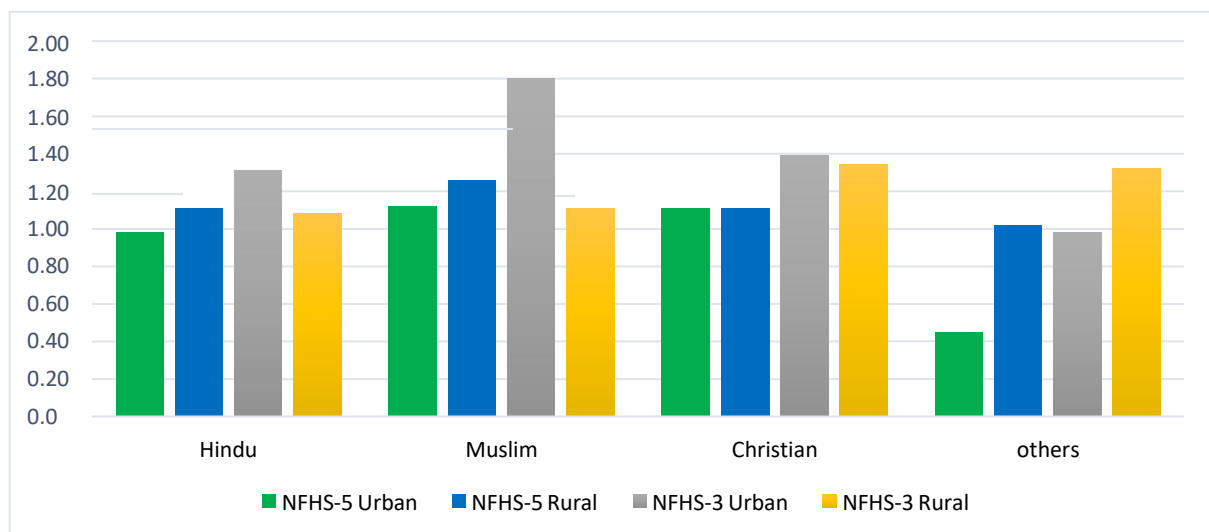
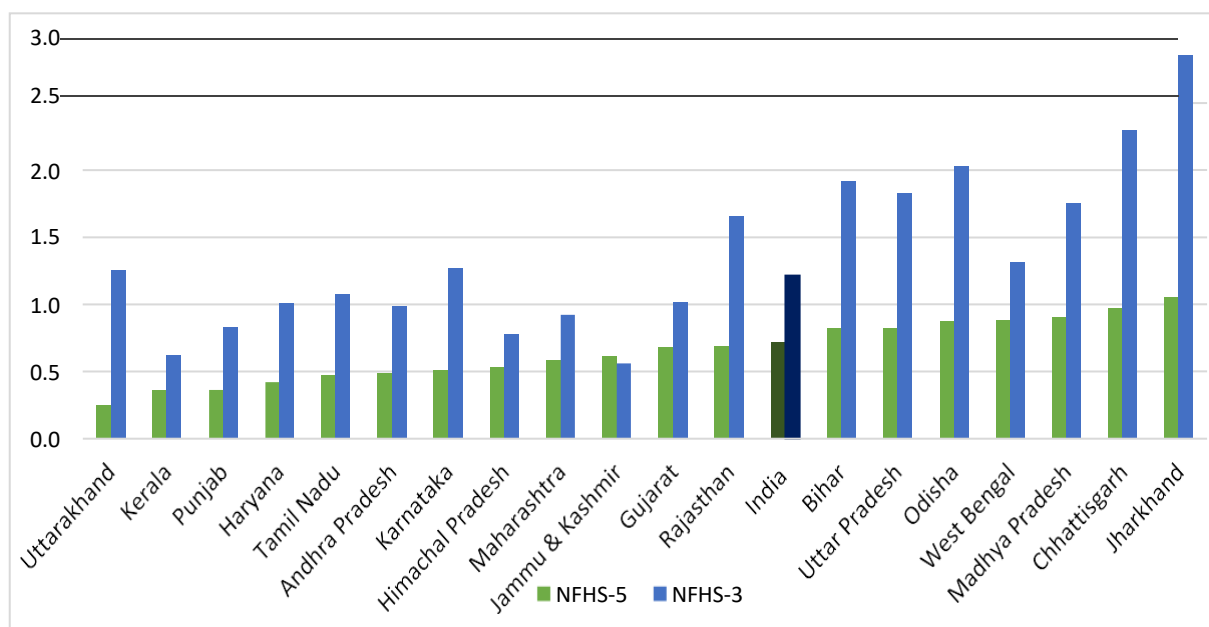


Figure 6: Wealth index factor score quintile marker difference (q4-q1) by states in India, NFHS-3 and NFHS-5



Appendix

Table 1: Variation in Median index quintile markers value of Household Wealth Index Factor score across Indian States, NFHS 2005-06 and 2015-16

States/National	NFHS-5					NFHS-3				
	Q1	Q2	Q3	Q4	Q5	Q1	Q2	Q3	Q4	Q5
India	0.63	0.88	1.11	1.36	1.98	0.45	0.80	1.21	1.66	2.49
Jammu & Kashmir	0.65	0.90	1.09	1.26	1.77	0.30	0.43	0.61	0.86	1.25
Himachal Pradesh	0.72	0.92	1.08	1.26	1.71	0.58	0.87	1.14	1.36	1.76
Punjab	0.77	0.94	1.05	1.13	1.40	0.60	0.86	1.14	1.42	1.85
Uttarakhand	0.83	0.97	1.03	1.08	1.22	0.48	0.81	1.22	1.73	2.37
Haryana	0.75	0.93	1.06	1.17	1.46	0.57	0.84	1.17	1.58	2.31
Rajasthan	0.65	0.89	1.11	1.34	1.86	0.35	0.78	1.24	2.01	3.21
Uttar Pradesh	0.63	0.88	1.14	1.46	2.13	0.37	0.74	1.37	2.19	3.49
Bihar	0.67	0.88	1.13	1.49	2.68	0.43	0.78	1.32	2.35	4.07
West Bengal	0.62	0.87	1.15	1.50	2.56	0.36	0.78	1.21	1.67	2.53
Jharkhand	0.61	0.85	1.18	1.66	2.90	0.42	0.68	1.57	3.28	6.14
Odisha	0.60	0.87	1.14	1.48	2.44	0.38	0.70	1.35	2.41	4.84
Chhattisgarh	0.58	0.86	1.16	1.56	2.61	0.48	0.78	1.31	2.78	5.68
Madhya Pradesh	0.61	0.86	1.15	1.52	2.34	0.29	0.64	1.40	2.04	3.00
Gujarat	0.54	0.78	1.00	1.22	1.74	0.48	0.83	1.17	1.50	2.12
Maharashtra	0.69	0.91	1.09	1.27	1.81	0.50	0.85	1.14	1.42	1.85
Andhra Pradesh	0.76	0.93	1.07	1.25	1.85	0.55	0.85	1.16	1.53	2.23
Karnataka	0.74	0.93	1.07	1.25	1.84	0.53	0.82	1.22	1.80	3.00
Kerala	0.81	0.95	1.05	1.16	1.50	0.69	0.90	1.11	1.31	1.79
Tamil Nadu	0.76	0.93	1.07	1.23	1.73	0.55	0.84	1.19	1.63	2.68

Authors' calculation from NFHS-3 & NFHS-5

Table 2: Variation in Median index quintile markers value of Household Wealth Index Factor score by states rural and urban, NFHS-5

States/National	Urban					Rural				
	Q1	Q2	Q3	Q4	Q5	Q1	Q2	Q3	Q4	Q5
India	0.80	0.94	1.05	1.15	1.42	0.65	0.89	1.12	1.37	2.25
Jammu & Kashmir	0.80	0.95	1.05	1.15	1.39	0.64	0.89	1.10	1.30	1.90
Himachal Pradesh	0.83	0.96	1.03	1.10	1.25	0.71	0.92	1.08	1.25	1.76
Punjab	0.84	0.97	1.03	1.08	1.25	0.76	0.93	1.06	1.15	1.47
Uttarakhand	0.83	0.95	1.00	1.05	1.14	0.38	0.59	1.10	1.41	1.97
Haryana	0.81	0.95	1.04	1.11	1.27	0.73	0.92	1.06	1.18	1.55
Rajasthan	0.78	0.94	1.05	1.13	1.39	0.66	0.89	1.11	1.34	2.05
Uttar Pradesh	0.79	0.94	1.05	1.13	1.37	0.62	0.88	1.13	1.46	2.50
Bihar	0.68	0.91	1.07	1.20	1.49	0.65	0.88	1.13	1.50	3.01
West Bengal	0.76	0.94	1.06	1.19	1.57	0.64	0.88	1.12	1.44	3.13
Jharkhand	0.69	0.92	1.07	1.21	1.48	0.65	0.87	1.15	1.55	3.31
Odisha	0.69	0.92	1.08	1.22	1.53	0.61	0.87	1.14	1.46	2.65
Chhattisgarh	0.74	0.94	1.06	1.18	1.46	0.60	0.86	1.14	1.51	2.93
Madhya Pradesh	0.75	0.93	1.05	1.15	1.41	0.60	0.86	1.15	1.54	2.85
Gujarat	0.75	0.89	1.00	1.09	1.34	0.55	0.79	1.03	1.29	2.12
Maharashtra	0.81	0.95	1.05	1.14	1.39	0.69	0.91	1.09	1.27	2.06
Andhra Pradesh	0.79	0.94	1.05	1.17	1.45	0.76	0.93	1.07	1.21	1.99
Karnataka	0.81	0.95	1.05	1.15	1.43	0.74	0.93	1.07	1.21	1.98
Kerala	0.80	0.95	1.05	1.16	1.45	0.80	0.94	1.05	1.19	1.59
Tamil Nadu	0.80	0.94	1.05	1.15	1.43	0.75	0.93	1.07	1.23	1.97

Authors' calculation from NFHS-3 & NFHS-5

Table 3: Variation in Median index quintile markers value of Household Wealth Index Factor score by states rural and urban, NFHS-5

States/National	Urban					Rural				
	Q1	Q2	Q3	Q4	Q5	Q1	Q2	Q3	Q4	Q5
India	0.64	0.89	1.11	1.32	1.72	0.46	0.81	1.21	1.80	3.69
Jammu & Kashmir	0.49	0.65	0.80	0.94	1.14	0.32	0.45	0.58	0.81	1.52
Himachal Pradesh	0.76	0.95	1.05	1.16	1.37	0.62	0.85	1.14	1.44	2.09
Punjab	0.65	0.90	1.10	1.23	1.46	0.59	0.89	1.15	1.46	2.12
Uttarakhand	0.61	0.92	1.07	1.17	1.42	0.51	0.84	1.21	1.72	2.96
Haryana	0.55	0.86	1.14	1.32	1.60	0.59	0.86	1.18	1.61	2.72
Rajasthan	0.63	0.88	1.14	1.36	1.63	0.39	0.74	1.27	1.85	4.55
Uttar Pradesh	0.60	0.87	1.12	1.34	1.69	0.43	0.81	1.26	2.01	5.58
Bihar	0.42	0.83	1.13	1.36	1.86	0.50	0.81	1.24	2.00	4.99
West Bengal	0.68	0.89	1.12	1.36	1.82	0.52	0.83	1.22	1.95	5.19
Jharkhand	0.55	0.86	1.12	1.42	1.85	0.55	0.82	1.17	2.05	8.55
Odisha	0.39	0.78	1.22	1.54	2.02	0.48	0.77	1.35	2.40	6.45
Chhattisgarh	0.43	0.81	1.19	1.46	1.94	0.54	0.84	1.17	1.85	6.99
Madhya Pradesh	0.65	0.90	1.10	1.34	1.66	0.53	0.82	1.22	2.03	8.05
Gujarat	0.71	0.91	1.07	1.23	1.55	0.50	0.82	1.19	1.72	3.06
Maharashtra	0.66	0.90	1.10	1.27	1.59	0.48	0.81	1.20	1.82	3.85
Andhra Pradesh	0.68	0.90	1.12	1.36	1.78	0.52	0.86	1.14	1.56	3.14
Karnataka	0.61	0.88	1.11	1.33	1.80	0.59	0.84	1.15	1.62	3.53
Kerala	0.71	0.91	1.09	1.29	1.63	0.68	0.91	1.11	1.34	1.85
Tamil Nadu	0.63	0.89	1.11	1.41	1.99	0.49	0.85	1.13	1.54	3.29

Authors' calculation from NFHS-3 & NFHS-5

Table 4: Variation in Median index quintile difference in (q4-q1) markers value of Household Wealth Index Factor score with caste classification by states rural and urban, NFHS

Country/ State	NFHS-5						NFHS-3					
	Urban			Rural			Urban			Rural		
	SC	ST	OCG	SC	ST	OCG	SC	ST	OCG	SC	ST	OCG
India	1.80	1.5	0.90	1.90	1.27	1.86	1.81	1.55	1.24	1.00	0.96	1.21
Andhra Pradesh	2.31	2.39	1.90	2.43	1.68	2.22	1.70	2.30	1.47	1.26	0.91	1.55
Arunachal Pradesh	2.00	1.80	1.87	1.98	1.90	1.96	1.42	1.51	1.22	1.45	0.97	1.06
Bihar	2.22	0.00	1.48	1.79	1.80	1.00	1.39	0.00	1.32	0.78	1.05	0.98
Gujarat	2.07	2.32	0.89	2.90	1.30	0.67	2.20	1.24	1.24	1.33	0.97	1.42
Haryana	1.98	1.68	0.78	1.65	1.89	0.97	1.83	0.00	1.05	1.45	1.95	1.57
Jharkhand	1.41	1.43	1.28	0.92	0.62	1.17	2.16	1.57	1.38	0.69	0.68	0.72
Karnataka	1.28	1.40	1.16	1.89	1.89	2.11	1.99	1.77	1.41	0.98	1.04	1.25
Kerala	1.22	1.67	0.70	2.0	2.18	0.96	1.89	1.14	1.28	1.88	1.85	1.45
Madhya Pradesh	1.12	1.05	0.79	1.17	0.71	1.10	2.17	1.44	1.18	0.79	0.71	0.86
Maharashtra	1.08	1.15	0.98	1.25	1.05	1.85	1.66	1.75	1.13	0.93	0.82	1.32
Delhi	0.99	0.82	0.66	1.96	0.00	0.60	1.88	1.76	0.90	1.55	0.00	1.60
Odisha	1.56	1.66	0.99	1.13	0.85	1.48	1.15	1.09	1.21	0.76	0.68	1.02
Punjab	0.88	0.54	0.19	1.58	1.22	0.58	1.56	0.00	0.88	1.77	0.00	1.38
Rajasthan	2.14	1.02	0.53	1.20	0.65	1.27	2.35	1.12	1.03	0.90	0.71	1.21
Tamil Nadu	1.88	1.82	1.27	2.19	2.91	1.10	2.16	1.05	1.65	1.28	1.00	1.39
Uttar Pradesh	1.44	1.16	0.56	0.86	0.18	1.81	1.72	1.61	1.18	0.79	0.68	0.99
Uttarakhand	1.56	1.25	0.56	1.25	1.96	1.99	1.18	0.95	0.86	1.15	1.14	1.45
West Bengal	1.85	1.53	1.53	1.92	1.21	1.25	2.10	1.14	1.46	0.85	0.77	1.01
Telangana	1.55	1.88	1.16	1.91	1.51	2.05	N.A	N.A	N.A	N.A	N.A	N.A

Authors' calculation from NFHS-3 & NFHS-5

Table 5: Variation in Median index quintile difference in (q4-q1) markers value of Household Wealth Index Factor score with caste classification by states wise rural and urban, NFHS

	NFHS-4								NFHS-3							
	Urban				Rural				Urban				Rural			
	Hindu	Muslim	Christian	others	Hindu	Muslim	Christian	others	Hindu	Muslim	Christian	others	Hindu	Muslim	Christian	others
India	0.98	1.12	1.11	0.45	1.11	1.26	1.11	1.02	1.31	1.80	1.39	0.98	1.08	1.11	1.34	1.32
Andhra Pradesh	1.11	1.21	1.10	0.00	1.14	1.96	2.42	1.78	1.45	1.87	1.09	1.24	1.39	1.66	1.28	0.00
Arunachal Pradesh	1.12	1.17	1.41	0.00	1.21	1.19	1.16	1.25	1.30	1.45	1.76	1.52	1.09	1.30	0.95	1.27
Bihar	1.53	1.12	1.20	1.22	0.44	0.99	0.16	0.98	1.33	1.44	0.00	0.00	0.91	0.88	0.00	0.00
Gujarat	0.99	1.98	0.44	0.15	1.56	1.16	1.20	1.51	1.27	2.46	0.00	0.89	1.25	2.74	1.35	0.00
Haryana	0.75	1.23	0.00	0.68	1.24	1.55	0.69	0.88	1.22	2.12	0.00	0.28	1.68	1.08	0.00	1.17
Jharkhand	1.29	1.21	1.14	1.50	0.98	1.19	0.78	0.81	1.39	1.72	0.85	1.02	0.70	0.72	0.75	0.73
Karnataka	1.40	1.27	1.18	0.97	1.05	1.08	1.92	1.23	1.41	1.96	1.37	1.02	1.13	1.45	1.69	1.30
Kerala	0.99	0.74	0.63	0.80	1.56	1.00	0.79	0.00	1.44	1.41	0.97	0.00	1.63	1.43	1.19	0.00
Madhya Pradesh	0.91	1.53	0.77	0.78	1.44	1.33	1.23	0.77	1.33	1.91	0.00	0.68	0.77	0.89	0.00	1.17
Maharashtra	0.81	1.28	0.44	1.17	1.19	1.15	1.16	1.21	1.20	1.70	0.83	1.26	1.13	1.48	1.89	0.89
Delhi	0.81	0.82	0.96	0.66	0.00	0.00	0.00	0.00	1.08	1.60	0.75	0.67	1.57	0.00	0.00	0.00
Odisha	1.26	1.77	1.51	1.25	1.19	1.50	1.29	1.16	1.15	1.21	1.43	0.00	0.80	1.02	0.92	0.00
Punjab	0.30	0.20	0.19	0.02	0.94	1.05	0.89	0.90	1.16	1.79	1.42	0.80	1.72	0.00	1.68	1.42
Rajasthan	0.49	1.80	0.60	0.18	1.51	1.60	1.18	2.10	1.10	2.22	0.00	0.70	1.03	0.71	1.11	0.00
Tamil Nadu	1.19	1.13	1.19	0.85	2.10	1.12	2.14	0.00	1.78	1.82	1.82	0.75	1.34	1.43	1.24	0.00
Uttar Pradesh	0.99	1.44	0.52	0.22	1.19	1.64	0.91	1.11	1.17	1.69	2.18	0.67	0.90	0.96	1.12	1.84
Uttarakhand	0.16	1.92	0.56	0.67	1.21	1.87	1.44	0.29	0.86	1.54	0.98	0.84	1.34	1.62	0.00	1.69
west Bengal	1.47	1.14	1.33	1.65	1.12	1.33	1.12	1.15	1.46	2.56	1.05	1.00	0.94	0.82	1.28	0.00
Telangana	1.58	1.22	1.17	0.00	1.58	2.60	1.25	1.29	N.A	N.A	N.A	N.A	N.A	N.A	N.A	N.A

Authors' calculation from NFHS-3 & NFHS-5

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