Reflections on Wealth Quintile Distribution and Health Outcomes

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This study focuses on the method the National Family Health Survey-3 adopts to compute national wealth quintiles using the wealth index score of households as a basis. It argues that the survey's national wealth quintile classification does not account for interstate variations in wealth possession as well as rural-urban differences within states, which could lead to biased outcomes when applied to health indicators. It suggests that working out state-specific wealth quintiles that allow for the differentials would be more appropriate.

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In the absence of information on income and expenditure in demographic and health surveys, alternatives like the wealth index are employed to comprehend the economic status of households. Such yardsticks are also used for understanding poor-rich inequalities in demographic and health outcomes.

Introduction

The index of economic status of households, called the wealth index in the third National Family Health Survey (NFHS-3), is based on household asset holdings and housing characteristics.[1] This is an indicator of level of wealth widely used in Demographic and Health Surveys (DHS) statistics across the world and is reported to be consistent with the expenditure level of households (Rutstein and Johnson 2004). In the survey, an enquiry was made on the absence or presence of 33 characteristics in all the households in the sample. According to the NFHS-3 report, each household asset was assigned a weight generated through principal component analysis, and the resulting scores were standardised in relation to the normal distribution with a mean of zero and standard deviation of one (IIPS and Macro International 2007; Gwatkin et al 2000). Each household was then assigned a score for each asset owned, and they were summed up to obtain its wealth index factor score (WIFS). Individuals in the sample were assigned the WIFS of the household in which they resided. Based on the wealth score distribution, the sample population in the NFHS-3 was divided into five groups, or quintiles, each with an equal number of individuals.

The DHS wealth index is stated to have several advantages over the standard of living index classification used in the earlier rounds of the NFHS (IIPS and ORC Macro 2000). Such an alternative for comprehending household economic status is used primarily because of the absence of information on household incomes and expenditures in the NFHS. There is also universal agreement on the use of wealth quintile variables available in the NFHS-3 data for describing a household's relative economic status while analysing inequalities in health outcomes and other health indicators.

However, we do have certain reservations regarding the procedure adopted for classifying the surveyed population into different quintiles, particularly in the Indian context. These do not have to do with the assignment of a wealth quintile score for each household based on a set of 33 variables pertaining to the availability of household assets and characteristics. There can be obvious reasons for disagreement among researchers if one is attempting the economic classification of a population based on

Table 1: Variation in Median Value of Household Wealth Index Factor Score, Rural-Urban Divide in Wealth and Wealth Concentration, across Indian States, 2005-06

| State	Median Wealth Index Factor Score (WIFS)			Rank WIFS	Urban-Rural Diff in WIFS	Rank in Rural-Urban Divide
	Urban	Rural	Combined			
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Delhi	1.252	0.489	1.186	1	0.763	4
Goa	1.121	0.288	0.816	2	0.833	5
Kerala	0.797	0.433	0.555	3	0.364	1
Punjab	1.090	0.195	0.529	4	0.895	7
Mizoram	0.814	-0.142	0.385	5	0.956	10
Himachal Pradesh	1.216	0.157	0.295	6	1.059	13
Sikkim	1.024	0.014	0.265	7	1.010	11
Gujarat	0.793	-0.427	0.132	8	1.220	16
Haryana	0.925	-0.260	0.051	9	1.185	15
Maharashtra	0.846	-0.719	0.023	10	1.565	26
Uttaranchal	1.179	-0.314	0.023	11	1.493	23
Jammu and Kashmir	0.928	-0.304	-0.010	12	1.232	18
Manipur	0.207	-0.359	-0.231	13	0.566	2
Tamil Nadu	0.251	-0.615	-0.334	14	0.866	6
Andhra Pradesh	0.338	-0.573	-0.361	15	0.911	8
Nagaland	0.393	-0.558	-0.372	16	0.951	9
Meghalaya	0.483	-0.639	-0.376	17	1.122	14
Karnataka	0.512	-0.754	-0.386	18	1.266	19
Rajasthan	0.826	-0.914	-0.552	19	1.739	28
Tripura	0.001	-0.643	-0.569	20	0.644	3
Arunachal Pradesh	0.207	-0.849	-0.605	21	1.055	12
West Bengal	0.410	-1.055	-0.727	22	1.465	22
Assam	0.345	-0.885	-0.758	23	1.229	17
Uttar Pradesh	0.480	-1.030	-0.811	24	1.509	25
Bihar	0.359	-1.035	-0.934	25	1.394	21
Madhya Pradesh	0.397	-1.216	-1.027	26	1.613	27
Orissa	0.198	-1.180	-1.062	27	1.379	20
Chhattisgarh	0.274	-1.225	-1.128	28	1.499	24
Jharkhand	0.452	-1.361	-1.243	29	1.814	29
All India	0.581	-0.855	-0.491	–	–	–

Source: Computed using the NFHS-3 data set.

the possession of household assets and amenities. Such disagreement is not specific to the NFHS data (Gwatkin et al 2000). These could range from the need for including a particular asset or amenity to the insignificance of a particular amenity subject to location (for example, owning a mobile phone in an area where mobile networks are not available, or owning an animal-driven cart or tractor in an urban area). The first NFHS data based attempt at classifying the Indian population into quintiles was for studying the effect of wealth on education, where the authors themselves cautioned against rural-urban comparisons using a national quintile distribution (Filmer and Pritchett 2001). An agreement on the selection of variables in computing wealth quintiles is near impossible given the diversity of regional development in India.

Therefore our primary concern in this paper does not relate to the selection of variables for arriving at a proxy wealth status of the population or households, or on the procedure adopted for arriving at the WIFS in the NFHS-3 data. The issue is the manner in which wealth quintiles have been designated for comparison on outcome indicators, using the derived WIFS. This arises from an inappropriate wealth quintile classification that does not account for (1) the inter-state variations in wealth possession, and (2) to the intra-state rural-urban divide in wealth possession. The wealth quintile classification adopted in the NFHS-3 data is based

on a simple all-India cut-off point for demarcating the proportion of population in each quintile. This ignores the existence of state or regional patterns, and rural-urban divides within each state or region in relation to most of the health indicators under study (Bhat and Zavier 1999; IIPS and Macro International 2007). Besides, we know there are inter-state variations in the proportion of people below the poverty line (Planning Commission 2007), and differences in consumption expenditure patterns across states (NSSO 2006). By discounting such disparities, the wealth quintiles computed in the NFHS-3 mask real wealth-related inequalities in the indicators under study. The level of masking depends on inter-state variations in the indicator under study and the rural-urban divide in a state. While analysing wealth or income-related inequalities in any indicator at the national and state level, one has to account for inter-state and rural-urban wealth differences to bring the desired robustness to the assessment.

Second, the WIFS is a household variable, and households should have been split into different quintiles using it. Following which, individuals residing in a particular household should have been assigned to its quintile. Instead of this, in the NFHS-3, the sample population was ranked according to the WIFS of the households in which they resided, and divided into five equal groups for demarcating the wealth score of each quintile. In preparing poverty estimates, the Planning Commission adopts the former procedure where it provides separate estimates of the proportion of households below the poverty line and the proportion of population below the poverty line (Planning Commission 1993). Since the cut-off line is determined on the basis of a household-level value or score, the classification of an individual is on the basis of the relative position of the household in which he or

Chart 1: Mean Wealth Index Factor Score across Indian States as in NFHS-3, 2005-06
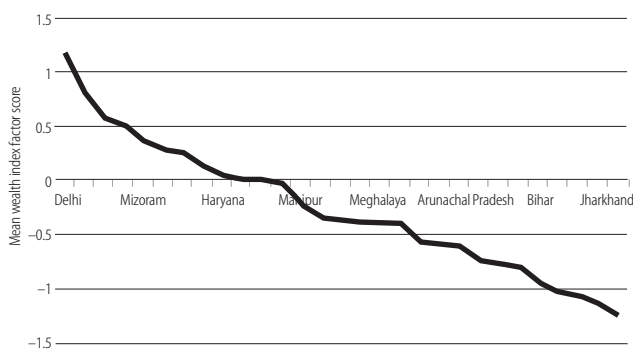
she resides. Otherwise errors could creep in because of household size differentials across wealth or income status and across different Indian states. It is well known that the average household size is larger among the poor than among the rich. There are also considerable variations in household size across Indian states, depending on fertility transition and the existence of the joint family system.

Interstate Wealth Inequalities

Variations in the possession of household assets and better housing characteristics is analysed here, both among states and between rural and urban areas. This is based on the

Table 2: Likelihood Position of a Household as Per National Wealth Quintile and State-Specific Wealth Quintile Distribution Patterns

National Wealth Quintile (N)	State-Specific Wealth Quintile (S)					
	Lowest (1)	Second (2)	Middle (3)	Fourth (4)	Highest (5)	Total
Lowest (1)	IN1S1	IN1S2	IN1S3	IN1S4	IN1S5	N1
Second (2)	IN2S1	IN2S2	IN2S3	IN2S4	IN2S5	N2
Middle (3)	IN3S1	IN3S2	IN3S3	IN3S4	IN3S5	N3
Fourth (4)	IN4S1	IN4S2	IN4S3	IN4S4	IN4S5	N4
Highest (5)	IN5S1	IN5S2	IN5S3	IN5S4	IN5S5	N5
Total	S1	S2	S3	S4	S5	TH

average WIFS for each household available in the NFHS-3 data. State-wise median values for the WIFS demonstrate the variation in possession of wealth in India. The median value of the WIFS varied from 1.186 in Delhi to -1.243 in Jharkhand. Households in Delhi, Goa, Kerala, Punjab and Mizoram are wealthier than those in other states. A lower median value of the WIFS indicates that households in Uttar Pradesh, Bihar, Madhya Pradesh, Orissa, Chhattisgarh and Jharkhand are lower down the scale, or worse in terms of possession of certain household assets and in terms of housing conditions. In the case of major states, their position as per the median WIFS is close to their position in terms of the proportion of population below the state-specific 2004-05 poverty line (Planning Commission 2007). This close correspondence between the wealth index and the economic index based on National Sample Survey (NSS) data indicates the effectiveness of the WIFS in assessing the economic status of households.

Rural-urban differences are striking at the all-India level as well at the state level, indicating that households in urban areas possess more wealth-determining household assets and have better housing than their rural counterparts. The rural-urban divide exists in all states but the extent of the divide varies from state to state. The rural-urban divide is least in Kerala, Manipur, Tripura, Delhi and Goa. The highest rural-urban differential in possession of wealth is seen in Jharkhand, Rajasthan, Madhya Pradesh, Maharashtra and Uttar Pradesh.

State-Specific, Rural-Urban Adjusted Wealth Quintiles

The variation noted above in the median WIFS demonstrates the need to account for rural-urban and state-wise variations while creating wealth quintile groups. This will give us a state-specific wealth quintile classification, which will be ideal for national-level comparisons of the various NFHS-3 indicators on the economic background of households.

To arrive at this in each state we have to rank and arrange each household according to the WIFS, separately for rural and urban areas. The sample of households surveyed in each state must then be divided into quintiles, again separately for rural and urban areas. In this way, we identify wealth quintile cut-off points at the household level and create wealth quintile groups for rural and urban areas of each state. Each individual in the sample is then assigned the wealth quintile level of the household in which he or she resides. This gives a quintile classification that take interstate and the intra-state rural-urban wealth differentials into account, hereafter termed as state-specific wealth quintiles.

Now, we have a national wealth quintile (N), which is the one in the NFHS-3 report, and a state-specific wealth quintile (S) obtained using the above procedure. The national wealth quintile is based on ranking all individuals in the NFHS-3 sample on the basis of their household WIFS and then dividing them into five equal groups. At the national level, 20% of the household population is in each quintile, but the same is not true across states (Table 2). This is due to interstate variations in the possession of wealth among households and differences in household size. In the case of state-specific wealth quintiles, the proportion of households in each quintile is 20% in each state, and so it also turns out to be 20% of households in each quintile at the national level.

When we compare the national wealth quintile and state-specific wealth quintiles, there can be three situations: (1) households which are in same quintile as per both, (2) households which are in a lower quintile as per the national wealth quintile but in a higher quintile as per the state-specific wealth quintile, and (3) households which are in a higher quintile as per the national wealth quintile but in a lower quintile as per the state-specific wealth quintile. Table 2 demonstrates these three situations. Situations (2) and (3) may affect the national and state-level estimates of wealth inequalities using indicators from the NFHS survey. The households in the same national wealth quintile and state-specific wealth quintile are on the right diagonal in Table 2. Cases above this diagonal represent households which are in a lower quintile as per the national wealth quintile but in a higher quintile as per the state-specific wealth quintile. This situation is largely seen in states that are relatively poor in terms of wealth possession of its households and also in states where there are severe household-level inequalities in possession of wealth. Conversely, cases below the diagonal represent households which are in a higher quintile as per the national wealth quintile but in a lower quintile as per the state-specific wealth quintile classification. They occur in states that are comparatively better off in terms of the wealth possession of households.

Table 3 (p 80) presents the proportion of population in the same wealth quintile as per the national wealth quintile in the NFHS-3 report and the state-specific wealth quintile. The remaining proportion comprises individuals in a national wealth quintile either lower or higher than the state-specific wealth quintile. On the whole, only 35% of the sample is in the same quintile as per the two classifications. This indicates the extent of bias likely to creep in while computing quintile-wise wealth inequalities using the national wealth quintile. The estimates of urban areas are more

Table 3: Population Distribution Across National Wealth Quintiles and Proportion of Cases Where National and State-Specific Quintiles Are Same (2005-06)

	Population Distribution Across National Level Wealth Quintile (%)[1]						% Cases Where National and State-Specific Wealth Quintiles Are Same[2]					
	Lowest	Second	Middle	Fourth	Highest	Total	Lowest	Second	Middle	Fourth	Highest	Total
India	20	20	20	20	20	100	35.9	27.4	18.5	12.3	50.3	34.2
Urban	3	6.4	13.8	28.9	47.9	100	15.5	1	0.2	4.8	100	24.2
Rural	27.7	26.1	22.8	16	7.4	100	87.1	39.9	27	15.8	29.8	37.7
North												
Delhi	0.2	2.7	8.6	18.9	69.6	100	1.0	0.0	0.0	100.0	0.0	21.9
Haryana	4.1	12.6	24.6	27.8	31.0	100	21.6	13.1	49.2	28.9	11.2	50.5
Himachal Pradesh	1.2	8.8	24.1	30.8	35.1	100	6.0	0.0	0.0	53.4	0.0	31.1
Jammu and Kashmir	2.8	12.3	29.8	29.5	25.6	100	14.8	4.5	66.0	26.5	23.9	47.5
Punjab	1.4	6.3	15.3	28.8	48.1	100	7.9	0.0	0.0	76.9	0.0	28.5
Rajasthan	24.2	17.7	21.8	17.3	19.1	100	73.7	20.0	7.4	27.3	58.6	28.5
Uttaranchal	6	15.3	22.1	23.8	32.8	100	33.1	34.1	57.5	25.4	3.9	59.5
Central												
Chhattisgarh	39.6	26.9	14.7	8.7	10.2	100	85.2	2.5	0.0	21.7	76.3	21.3
Madhya Pradesh	36.9	24.2	13.1	12.7	13.1	100	80.4	0.0	0.0	25.2	65.3	22.9
Uttar Pradesh	25.3	24.9	19.4	16.8	13.6	100	78.8	16.0	0.0	23.6	65.0	25.1
East												
Bihar	28.2	29.2	18.7	14.6	9.4	100	90.5	22.7	0.0	12.7	70.2	28.1
Jharkhand	49.6	15.5	11.1	11.9	11.9	100	80.7	0.0	0.0	26.0	72.8	20.5
Orissa	39.5	19.9	17.3	13.4	9.9	100	94.1	4.7	1.1	16.2	69.9	25.0
West Bengal	25.2	24.4	18.7	17.8	13.9	100	72.5	12.9	0.0	28.8	62.7	24.3
North-East												
Arunachal Pradesh	21.1	25.6	20.8	16.1	16.4	100	83.4	52.5	21.9	22.7	34.2	48.1
Assam	19.8	30.7	22.6	15	11.8	100	86.4	65.2	5.4	14.9	56.9	39.5
Manipur	2.4	15.7	33.4	31.8	16.7	100	13.0	17.8	68.3	16.6	38.9	47.7
Meghalaya	11.3	21.8	26.5	24	16.4	100	61.8	77.4	62.2	22.3	42.4	57.4
Mizoram	2.5	6.1	19.2	33.4	38.8	100	13.1	0.0	22.6	52.9	14.3	35.5
Nagaland	7.8	22.6	28.9	25.7	15	100	37.7	64.9	73.4	19.9	45.6	53.6
Sikkim	1.9	10.6	22.9	31.7	32.8	100	9.1	0.0	5.1	30.9	0.0	35.7
Tripura	11	24.4	42	15	7.6	100	57.7	84.0	84.0	5.1	66.0	54.3
West												
Goa	2.2	5.3	14.2	22.9	55.3	100	11.6	0.0	0.0	99.1	0.0	21.7
Gujarat	7.2	14.2	19.1	27.6	31.9	100	37.3	44.0	58.8	41.0	14.5	56.5
Maharashtra	10.9	14.9	17.4	24.3	32.5	100	53.4	45.7	30.1	47.5	30.1	43.0
South												
Andhra Pradesh	10.8	17.6	29.2	25.4	17.1	100	58.1	63.6	67.1	27.6	44.7	54.3
Karnataka	10.8	22.2	24	23.2	19.8	100	56.8	59.3	29.9	37.2	47.6	40.4
Kerala	1	4.1	12.2	37.8	44.8	100	5.5	0.0	0.0	98.9	0.0	20.4
Tamil Nadu	10.6	15.6	29.9	24.4	19.5	100	58.2	52.7	50.8	31.3	37.0	49.9

Source: 1 IIPS and Macro International (2007); 2 Computed using the NFHS-3 data set.

likely to suffer than that of rural areas. In urban areas, the match between the national and state-specific wealth quintiles occurs in 24% of the population. This is least in the lowest quintile and universal in the highest quintile. Such a pattern is because urban households are better equipped in terms of wealth status indicators than rural households.

Inter-state variations in the match between the national and state-specific wealth quintiles vary between 20% in Kerala and 60% in Uttaranchal. A higher or lower mismatch is found in states representing the extremes in terms of wealth possession of its households. All these caution on the potential biases likely to surface with the use of the national wealth quintiles in the NFHS-3 data set.

Socio-Religious Differentials in Wealth

An illustration of this bias can be seen if we examine the distribution of religious or caste groups on the basis of the two types of wealth quintiles. It is known that the social and religious composition of the population varies from state to state. Hindus are evenly distributed across wealth quintiles in the case of the national wealth quintile. But it is not so when we look at the distribution across state-specific wealth quintiles. In the case of Muslims, the wealth quintile-based distribution across quintiles is more uneven. According to the national wealth quintile distribution, 12% and 31% of Christians fall into the lowest and highest quintile respectively, while state-specific wealth quintiles show it to be 17% and 23% respectively. In the case of Sikhs, who are mostly concentrated in Punjab and three or four other states, the national wealth quintile figure suffers from a Punjab bias and the community is portrayed as wealthier than it is. Here, the proportion of population in the lowest quintile increases and that in the largest quintile declines when we adopt the state-specific wealth quintile. The same is true of Buddhists and Neo-Buddhists.

Table 4 (p 81) shows the caste/tribe-wise distribution across the national and state-specific wealth quintiles. In the case of scheduled castes, the distribution of population across the two types of wealth quintiles do not vary. However, one should note that the population under the same quintile as per the two types of classification may not necessarily be the same. Half the individuals in scheduled tribe households are in the lowest quintile as per the national wealth quintile distribution. This declines to 36% when we adopt the state-specific wealth quintile distribution. Among all the caste/tribe groups, the other backward castes are the most evenly distributed as per the national wealth quintile. This evenness increases if we adopt state-specific wealth quintiles. The other castes, which are essentially the forward castes, are better equipped in terms of wealth possessions, and more than one third of this population is in the richest quintile as per the national wealth quintile distribution. The relative advantage marginally declines when we adopt the state-specific wealth quintile classification.

Wealth Inequalities in Outcome Indicators

The analysis so far looked at the extent of interstate differentials in wealth inequalities, dissimilarities between the national and the state-specific wealth quintiles, and biases that creep in when studying wealth distribution across rural and urban areas, social groups, and religions using the national wealth quintile classification. We now demonstrate the flaws that may occur while analysing outcome indicators in accordance with the two types of wealth quintiles. Towards this, we use five selected indicators from the NFHS-3 data. Of the five, the following two indicators are positively related to the wealth index: the proportion of currently married women aged 15 to 49 years using contraception, and the proportion of children under five whose births were registered. The other three indicators are negatively related to the

wealth status: the proportion of women aged 15 to 49 years with anemia, the proportion of men aged 15 to 49 years using any kind of tobacco, and the percentage of men aged 15 to 49 years with a low body mass index.

The difference between the lowest and highest quintile is very high when we use the national wealth quintile but much less when we use state-specific wealth quintiles. In other words,

Table 4: Distribution of the de jure Population by Different Wealth Quintiles According to Religion and Caste of Head of the Household

	NFHS-3 Wealth Quintile[1]						State-Specific Wealth Quintile[2]					
	Lowest	Second	Middle	Fourth	Highest	Total	Lowest	Second	Middle	Fourth	Highest	Total
Religion												
Hindu	20.7	20.6	20.2	19.2	19.2	100.0	18.5	18.8	19.8	20.7	22.1	100.0
Muslim	18.9	19.7	20.6	23.6	17.2	100.0	19.9	23.5	21.3	20.2	15.1	100.0
Christian	12.1	13.0	20.8	22.9	31.1	100.0	17.4	17.7	19.4	22.2	23.4	100.0
Sikh	1.5	6.3	12.6	26.9	52.7	100.0	12.1	13.4	18.1	23.4	32.9	100.0
Buddhist-Neo-Buddhist	18.2	21.0	18.0	20.5	22.3	100.0	28.7	22.9	22.5	15.6	10.3	100.0
Jain	1.6	1.8	1.6	8.3	86.8	100.0	1.0	3.0	8.5	24.2	63.3	100.0
Caste or Tribe												
Scheduled caste	27.9	24.6	20.8	16.6	10.2	100.0	28.7	23.0	21.9	16.3	10.2	100.0
Scheduled tribe	49.9	23.6	13.4	8.0	5.2	100.0	35.6	24.4	18.0	13.0	9.0	100.0
Other backward class	18.1	22.1	23.2	21.1	15.6	100.0	16.2	19.4	20.8	22.5	21.1	100.0
Others	9.0	12.8	17.0	24.2	37.0	100.0	10.4	15.2	17.9	23.2	33.1	100.0
Do not know	12.1	25.6	29.6	23.7	9.0	100.0	18.3	26.3	21.1	18.3	15.9	100.0
Total	20.0	20.0	20.0	20.0	20.0	100.0	18.6	19.4	20.0	20.7	21.3	100.0

Source: 1 IIPS and Macro International (2007); 2 Computed using the NFHS-3 data set.

wealth-wise inequalities in any of the NFHS-3 indicators will be high if we use the national wealth quintile classification and relatively low is we use the state-specific wealth quintile classification. While comparing values of the NFHS-3 indicators across these two types of classification, one can see that if the relationship between wealth status and an outcome indicator is positive, there will be an upward shift in the value of that indicator for the lowest quintile, and a downward shift in the value of that indicator for the highest quintile. The reverse takes place if there is a negative relationship between wealth status and an outcome indicator from the NFHS-3; that is, there will be a downward shift in the value of that indicator for the lowest quintile, and an upward shift in value of that indicator for the highest quintile.

Discussion

Having understood that there are inter-state differentials in household-level wealth inequalities and that they make a difference to the measurement of wealth-wise inequalities in health outcome indicators, one needs to be clear regarding roles of the national wealth quintile classification and the state-specific wealth quintile classification. The above analysis provides sufficient ground to argue the need for use of state-specific wealth

quintiles in state-level analyses. If not, the real wealth-wise inequalities in the NFHS-3 indicators may be misrepresented. It is to be noted that the NFHS-3 state-level reports for Rajasthan and Orissa, which were released recently, have adopted the national wealth quintile for examining state-level economic inequalities in health indicators. Such an approach masks the real inequalities in relatively wealthier states and exaggerates inequalities in relatively poorer states. We hope this observation is taken note of before the remaining state-wise NFHS-3 summary reports are released. Since information on household assets is used for arriving at the WIFS, one has to rethink the procedure of directly classifying the sample population into quintiles. For more accurate results, the households in the sample surveyed have to be classified into different quintiles, and the individuals residing in each household have to be assigned to the quintile which the household belongs to.

There can also be objections to using the national wealth quintiles in the NFHS-3 report for all-India analyses. One has to note that the Indian states were mostly formed on the basis of linguistic or other socio-cultural criteria. Due to various factors, the different states are at different stages of attainment when good health/status indicators are considered. Further, health is a state subject, and the efficiency of health interventions depends on the responsiveness of the intervention machinery in each state. So a national-level wealth quintile classification that divides the population into five equal groups will not be sensitive to analysing wealth-based inequities in health outcome indicators using the NFHS-3 data. In this context, we emphasise that using state-specific wealth quintiles in a national-level analysis using the NFHS-3 data will yield more accurate results. One could take a leaf out of the Planning Commission's book where the poverty lines are first determined at the state level and then used for estimating the number of poor in each state. In this case, the rural and urban poverty lines in different states are determined using consumer price indices. These estimates provide the number of poor in the country as a whole. We suggest that the same procedure be followed when identifying cut-off points for including households within particular wealth quintiles. We do agree that the Planning Commission does this to adjust for inter-state variations in the prices of commodities, while in the NFHS-3 it is inter-state variations in living standards due to disproportionate wealth possession that have to be adjusted for.

Given that there is a mix of community variables and household-specific variables in the construction of the WIFS, the

Table 5: Variations in Percentage of the de jure Population with Selected Characteristics across Different Wealth Quintile Classifications

	NFHS-3 Wealth Quintile						State-Specific Wealth Quintile					
	Lowest	Second	Middle	Fourth	Highest	Total	Lowest	Second	Middle	Fourth	Highest	Total
Currently married women (15-49 years) using contraception (%)	42.2	51.1	56.8	62.5	67.5	56.3	49.1	53.5	55.1	58.7	63.0	56.3
% of women aged 15-49 years with anaemia (<12.0 g/dl)	64.3	60.3	56.0	52.2	46.1	55.3	61.2	58.2	56.3	53.1	50.0	55.3
% men aged 15-49 years using any kind of tobacco	74.0	68.3	60.0	52.0	38.6	57.0	70.0	64.2	59.4	52.4	43.7	57.0
Percentage of men aged 15-49 years with BMI < 18.5 (Kg/m2)	48.3	42.4	37.4	29.6	19.1	34.2	44.3	40.1	36.4	30.8	30.8	34.4
% of children (0-5 years), whose births were registered	23.9	31.0	39.4	53.8	72.4	41.1	31.8	38.4	41.2	45.4	50.5	41.1

Source: Computed using the NFHS-3 data set.

use of a state-specific, rural-urban adjusted wealth quintile classification is further justified. In addition, the state-specific wealth quintile classification allows differential weights for the possession of a particular household asset in rural and urban areas and for the irrelevance of a particular household asset in a particular state.

This exposition is intended to caution NFHS-3 data users to make use of the WIFS to compute quintiles for the population they wish to stratify according to economic status. Further, a quintile classification is always subject to change depending on the purpose and context. While the WIFS is a household attribute, its quintile distribution should be in accordance with the population, and the relevant outcome that one wishes to stratify in terms of this wealth score. An analysis based on the existing national wealth quintile classification not only makes a false pronouncement on wealth inequality, but also leads to misleading data on wealth-related inequalities in demographic and health outcomes. To conclude, the dis-aggregation according to wealth quintiles presented in the NFHS 3 does not providet a true picture of wealth disparity because it ignores both the prevailing differences among states and between rural and urban areas.

NOTE

1 The NFHS-3 wealth index is based on the following 33 assets and housing characteristics: household electrification, type of windows, drinking water source, type of toilet facility, type of flooring, material of exterior walls, type of roofing, cooking fuel, house ownership, number of members per sleeping room, ownership of bank or post office account, ownership of a mattress, pressure cooker, a chair, a cot/bed, a table, an electric fan, a radio/transistor, a black and white television, a colour television, a sewing machine, a mobile phone, any other telephone, a computer, a refrigerator, a watch or clock, a bicycle, a motorcycle or scooter, an animal-drawn cart, a car, a water pump, a thresher, and a tractor.

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