New Estimates of India's Middle Class

Technical Note

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As part of the Understanding India initiative at the Center for Global Development, we are issuing this technical note, originally prepared as background for our launch event. Increasingly, the development challenges nations around the world face are centered on issues of state capacity in a democratic context. In India, the world's largest democracy and a rapidly growing economy, the emerging middle class is often seen as an indispensable force for a more accountable and transparent government. This technical note provides new estimates for the size of India's middle class – defined as having reasonable economic security in today's globalized world. Based on data from India's 2009/2010 National Sample Survey, Christian Meyer and Nancy Birdsall estimate India's middle class to constitute around 70 million people, or less than 10 percent of the population – much less than often assumed.

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1.   Existing Research, Motivation, Question

India's middle class has been the subject of much debate. With rapid economic growth over the last decade, the income of the average household in urban India has grown by about a third between 1993/1994 and 2009/2010[1]. In this period, economic growth not only lifted millions of households out of poverty, but also gave rise to an emerging middle class – with new consumption patterns and, potentially, a strong interest in sound and stable political and economic institutions.

Who constitutes this middle class in India? India's National Council of Applied Economic Research (NCAER) has been at the forefront of shaping this debate. NCAER's current definition identifies the middle class as comprising of two sub-groups: "seekers" with annual household income between Rs. 200,000 and Rs. 500,000, and "strivers" with annual household income between Rs. 500,000 and Rs. 1 million at 2001/2002 prices. Assuming an average household size of 5 people and converting into constant 2005 purchasing power parity (PPP) dollar, these numbers would be about $8 to $20 per capita per day for seekers, and $20 to $40 per capita per day for strivers[2].

Most recently, NCAER applied this definition to a proprietary household survey conducted in 2004/2005, the National Survey of Household Income and Expenditure (NSHIE). In a NCAER-CMCR publication, Shukla (2010) rescaled this survey using national accounts data and finds that the Indian "middle class" doubled in size over the last decade, growing from 5.7 percent of all Indian households in 2001/02 to 12.8 percent of all households in 2009/2010. This corresponds to about 28.4 million households with a total of 153 million people.

Internationally, there exists no consensus about the definition of a new, income-based "class" of the not-poor but not-rich in developing countries. Birdsall (2010) has suggested a $10 per capita per day (at 2005 PPP) minimum for being middle class in today's global economy – much higher than the World Bank's international poverty lines but high enough to imply minimum vulnerability to most economic and political shocks.[3] Kharas (2010) and World Bank (2012, forthcoming) use $10 per capita per day (PPP) as a minimum threshold for a person to be middle class. Similarly, Pritchett (2003) has previously argued for a higher international poverty line of $15 per capita per day (PPP) to set a standard for what constitutes unacceptable deprivation and inadequate income in a globalized world. Lopez-Calva et al. (2012) and Sumner (2012) provide comprehensive reviews of the recent "middle class literature".

In this note, we use updated household survey data to re-assess the size of the Indian middle class. Consistent with previous work (Birdsall 2010, 2012) we apply a $10 per capita minimum threshold, which seems to be emerging as the global minimum for the middle class.

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[1] In urban India, mean household income per capita has increased from about $1.78 PPP per capita per day to about $2.37 PPP per capita per day, according to World Bank PovcalNet. Available online at http://iresearch.worldbank.org/PovcalNet (last accessed October 22, 2012).
[2] NCAER reports 5.0 as the average household size in their 2004/2005 survey. More recent numbers from India's 2011 Census suggest a smaller household size with a median of around 4 members. This would effectively increase the thresholds in per capita terms.
[3] Based on analysis of vulnerability in three countries of Latin America. See Lopez-Calva and Ortiz-Juarez (2011).

2.   Data and Methodology

We rely on the latest round of India's National Sample Survey (NSS), conducted by the National Sample Survey Office at the Ministry of Statistics and Programme Implementation (MOSPI) of the Indian Government. The 66th round survey that we use was conducted between July 2009 and June 2010 and includes a detailed module on household consumer expenditure (NSS KI 66/1.0).

The NSS consumer expenditure survey estimates household monthly per capita consumer expenditure (MPCE), for rural and urban sectors of the country, for States and Union Territories, and for different socioeconomic groups. The survey is also the basis for the Government's official poverty estimates.

In a first step, we use the NSS survey data to replicate India's official poverty estimates. We apply the official poverty lines set by India's Planning Commission based on the methodology of the Tendulkar Committee (Government of India, 2012) to our estimates of monthly per capita consumption expenditure based on the NSS survey's mixed reference period (MRP). For 2009/10, the official rural poverty line is Rs. 672.8 per capita per month, the urban poverty line is Rs. 859.6 per capita per month. This allows us to replicate India's official poverty headcount ratios for urban and rural areas (Figure 1 below). In total, 354.7 million people lived below India's poverty lines in 2009/10.

Figure 1: Poverty and Consumption Distribution, Rural and Urban, 2009/10
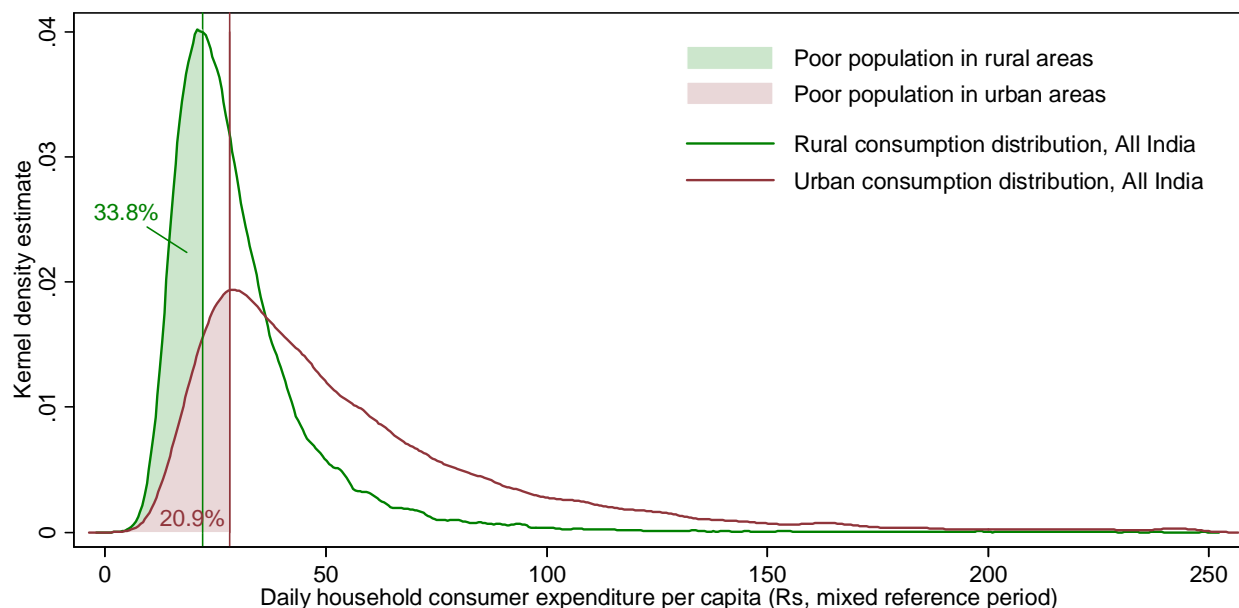
Vertical lines indicate the official MPCE (MPR) 2009-2010 poverty lines for rural and urban areas. Percentages indicate poverty headcounts.
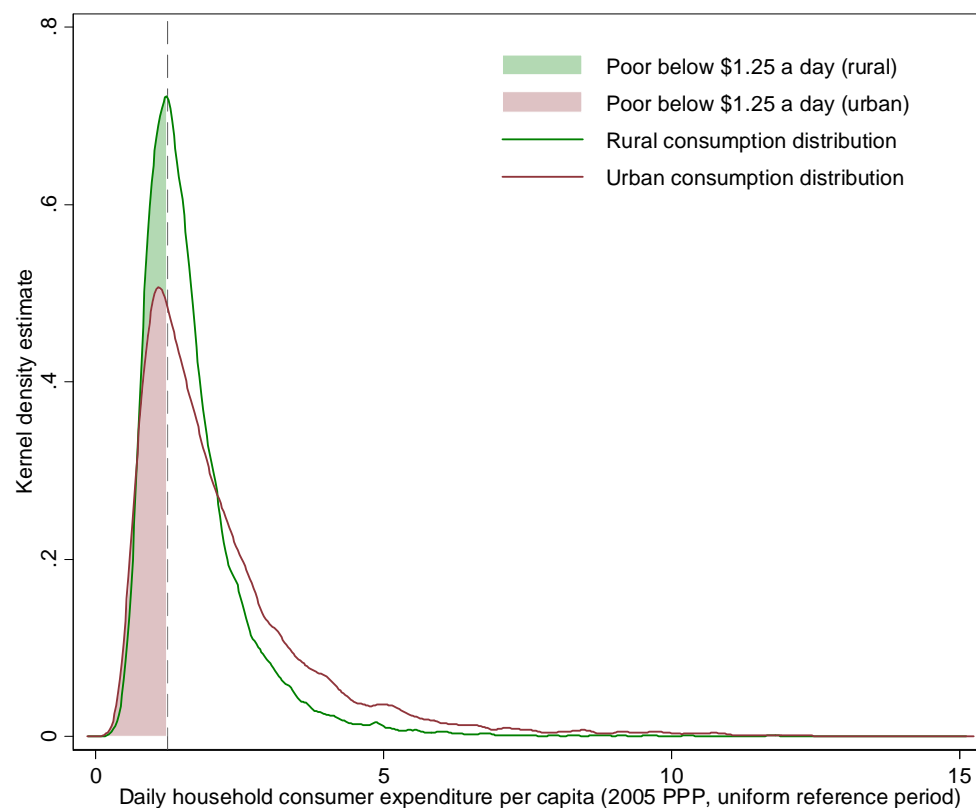
Source: CGD calculations, based on India NSSO Socio-Economic Survey 66/1.0 (2009-2010).

We then convert Rupees into constant 2005 purchasing power parity (PPP) dollars. This involves two separate steps: First, we deflate 2009/10 Rupees into constant 2005 Rupees. Replicating the methodology

of the NSS survey, we use two different price indices for urban and rural areas[4]. Second, we convert Rupees into international PPP dollars using conversion factors derived from the 2005 round of the International Comparison Program (ICP). We closely follow Ravallion (2008) to calculate separate PPP conversion factors for rural and urban areas, reflecting regional differences in cost of living[5].

We use these factors to re-scale household consumption estimates for urban and rural areas so that we can apply a single poverty line for the whole country. Also note that we are moving from household-level thresholds to per capita level thresholds. Figure 2 below illustrates our transformations and reproduces the poverty estimates of PovcalNet, using the international poverty line of $1.25 per capita per day[6].

Figure 2: International Poverty and Rescaled Consumption Distribution, Rural and Urban, 2009/10

Dashed line at international poverty line of $1.25 per capita per day.
Source: CGD calculations, based on India NSSO Socio-Economic Survey 66/1.0 (2009-2010).

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[4] Specifically, we use India's CPI for urban non-manual employees (1984/95=100) to deflate urban household expenditure and India's CPI for agricultural laborers (1986/87=100) to deflate rural household expenditure. This choice of price indices follows Government of India (2011). Since India's CPIs are based on half-years, we rebase the indices to 2005 using the simple average of 2004/05 and 2005/06. Note that the World Bank's PovcalNet software uses a different version of CPIs, so that our results are marginally different. We are grateful to Martin Ravallion and Shaohua Chen for helpful clarification and comments.

[5] Ravallion (2008) exploits the sampling information in the 2005 ICP to calculate implicit PPP conversion factors for urban and rural India. After replicating Ravallion's calculation, we use Rs. 17.23 (urban) and Rs. 11.4 (rural) to convert into PPP dollars. We acknowledge that the calculation of implicit PPP conversion factors for urban and rural areas based on the 2005 ICP weights might not accurately reflect the cost of living for a middle class household in 2009/2010.

[6] Our estimates for the headcount of people living below the international poverty line of $1.25 using the NSS uniform reference period and the World Bank's CPIs (cf. *supra* footnote 1) is 34% for rural and 29% for urban areas. This corresponds to the estimates available through PovcalNet, available online at http://iresearch.worldbank.org/PovcalNet/. Using our preferred CPIs, we estimate the headcount to be slightly higher at 36% (rural) and 30% (urban) areas.

However note that the 2009-10 NSS household survey collected information on household consumption not income. Before we can apply our *income-based* identification of the middle class, we therefore make a crude adjustment for differences across the distribution in the ratio of income to consumption (for example to take into account the tendency for saving rates to increase at higher incomes). We exploit the fact that NCAER's NSHIE 2004/05 collected information on both household expenditure and household income and use estimated ratios of income to expenditure kindly provided to us by NCAER to adjust the consumption data at each decile of the distribution to an estimated income average[7].

Figure 3 below illustrates the rescaling for rural (left panel) and urban (right panel) households.

Figure 3: Consumption/Income Adjustment, Rural and Urban, 2009/10
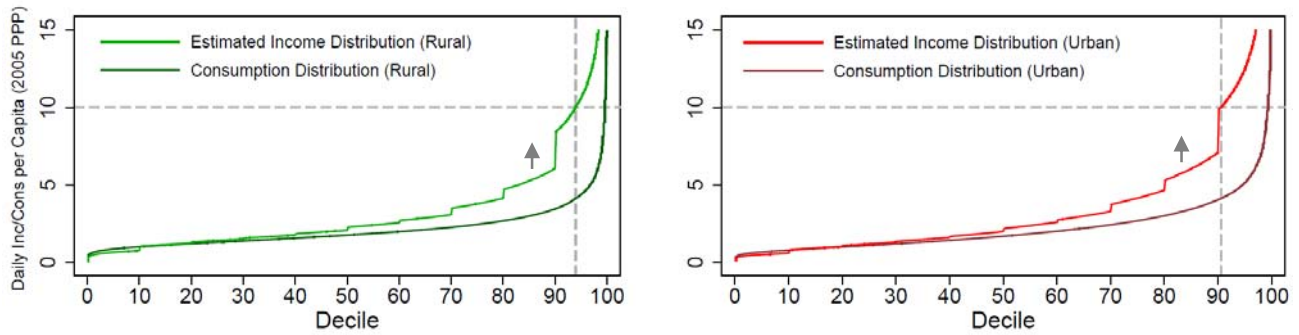
Source: CGD calculations, based on NCAER NSHIE 2004-2005 and India NSSO Socio-Economic Survey 66/1.0 (2009-2010).

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[7] We acknowledge two concerns in doing this: First, although Shukla (2010) demonstrates that many parameters of NCAER's 2004/05 NSHIE are comparable to the official NSS surveys, the expenditure concepts of the two surveys might not be fully comparable. We use the ratio of NSHIE's "routine expenditure" to income, which seems conceptually closest to the NSS expenditure concept. Second, we do not impose a distribution on the decile means. Since our middle class falls into the top decile of the distribution, this seems the least arbitrary approach.

3. Middle Class Estimates

Based on our estimated income distributions, we calculate the size of the middle class using our minimum threshold of $10 per capita per day (2005 PPP) and a maximum threshold of $50 a day[8]. (See Birdsall, 2012 for a brief discussion of the $50 maximum based on data from Latin America. We use it here primarily to allow comparisons that are as consistent as possible of, for example, India to Brazil.)

Table 1 below compares our estimates with NCAER's estimates from Shukla (2010). Our estimates suggest that less than 6 percent of Indians are part of our $10 - $50 middle class in 2009-10, or just under 70 million people. That is less than half of NCAER's estimate of 153 million. About 60 percent of our middle class lives in India's urban areas.

Table 1: Size of India's Middle Class, CGD and NCAER estimates (2009/10)

	CGD *based on India's NSS survey*		NCAER *based on NSHIE 2004/2005 survey*	
	Population share	(million)	Population share	(million)
Rural	3.37%	27.84		
Urban	11.79%	41.33		
Total	5.88%	69.17	12.8%	153

Note: NSS estimates use mixed reference period. Population data based on India Registrar-General, estimate at reference date 1 Mar 2010.
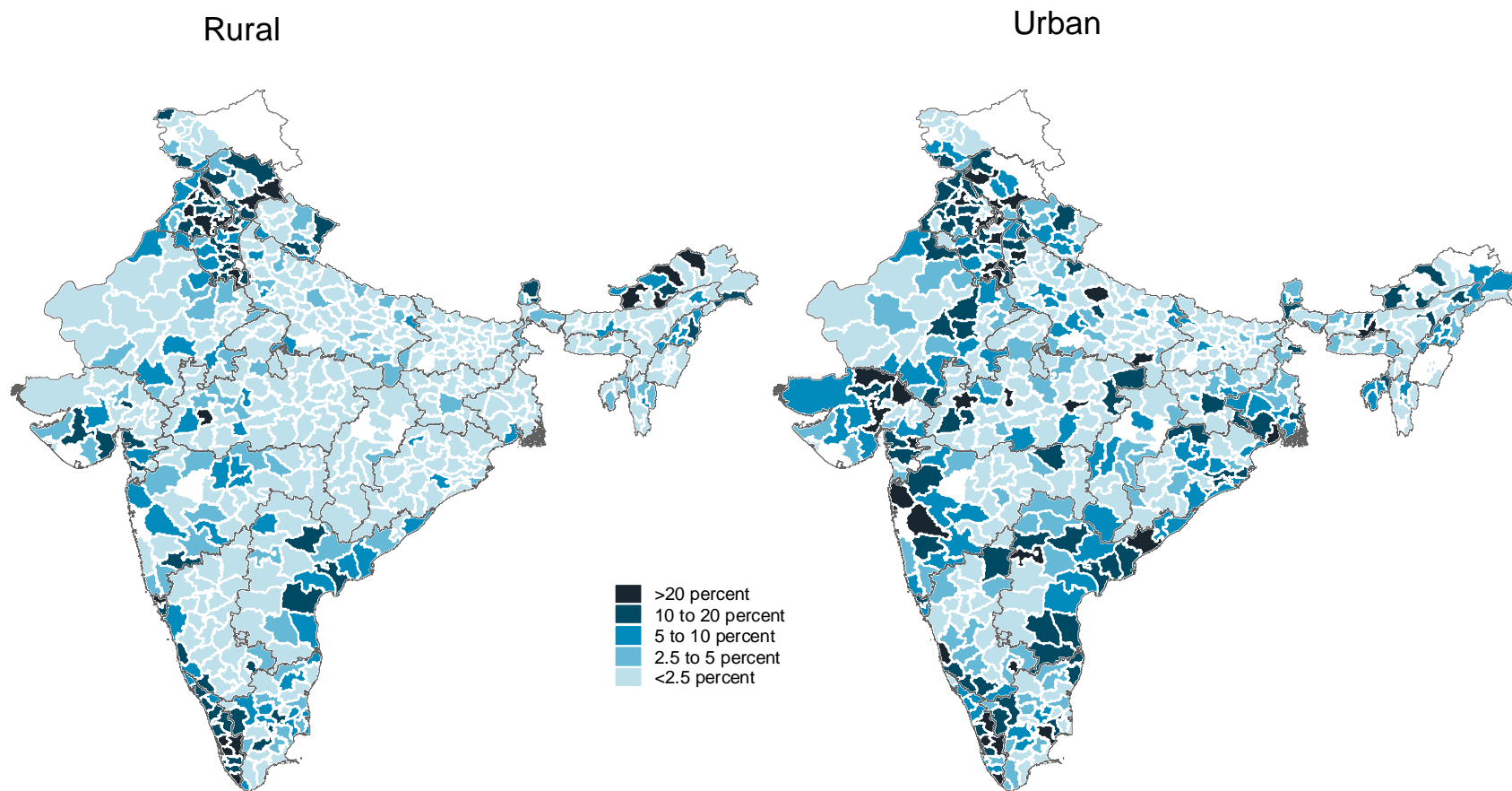*Source:* CGD calculations based on NCAER NSHIE 2004-2005 and India NSSO Socio-Economic Survey 66/1.0 (2009-2010).

Figure 4 plots the resulting middle class population shares for rural and urban areas by district (population shares not absolute numbers).[9] Overall, the map illustrates that India's middle class is not as heavily concentrated as we might have expected.

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[8] Our estimates suggest that only 0.06% of the rural population and 0.23% of the urban population have an income of more than $50 per day. Together, they account for about 1.33 million people.
[9] In remote Arunachal Pradesh in the northeast of the country, nearly half of all households in the districts of Upper Siang and West Kameng are counted among the middle class.

Figure 4: Middle Class Population Share, by District (2009/10)

Rural   Urban

- >20 percent
- 10 to 20 percent
- 5 to 10 percent
- 2.5 to 5 percent
- <2.5 percent

Source: CGD calculations based on India NSSO Socio-Economic Survey 66/1.0 (2009-2010).

4. Discussion of Results

Our significantly smaller estimate for the Indian middle class might be driven by

- (a) different definitions of what constitutes a middle class household and
- (b) discrepancies in the underlying survey data.

The distributions in Figure 3 above illustrate that even a slightly lower minimum threshold would include a significantly larger number of households. Recall that NCAER's monthly household thresholds in rupees are, by our estimates, equivalent to $8 to $40 per person per day. Does the difference between $8 and $10 matter? Table 2 below presents our middle class estimates using thresholds of $8 and $50. The change from $10 to $8 increases the size of the middle class by about 20 million people.

Table 2: Size of India's Middle Class, CGD estimates using different thresholds

	$10 to $50 a day (PPP) *based on India's NSS survey*		$8 to $50 a day (PPP) *based on India's NSS survey*	
	Population share	(million)	Population share	(million)
Rural	3.37%	27.84	5.9%	48.33
Urban	11.79%	41.33	12.2%	42.80
Total	5.88%	69.17	7.74%	91.14

Note: NSS estimates use mixed reference period. Population data based on India Registrar-General, estimate at reference date 1 Mar 2010.
Source: CGD calculations based on India NSSO Socio-Economic Survey 66/1.0 (2009-2010).

In addition to a more narrow definition compared to NCAER, differences in the underlying survey data might influence our estimates. First, we compare our estimates of mean household expenditure from the NSS 2009/2010 with the reported mean household expenditure from the NSHIE 2004/2005. As expected given the five year gap between the two surveys, mean total household expenditure in constant 2005 Rupees is lower in NSHIE 2004/2005 than in the NSS 2009/2010. Table 3 below shows our estimates and compares them with the NSHIE estimates taken from Shukla (2010, p. 48, Table 3.1).

Table 3: Mean Annual Household Expenditure, NSS 2009/2010 and NSHIE 2004/2005, By Sector

|	CGD *based on 2009/10 NSS survey*		NCAER *based on NSHIE 2004/2005 survey*	
	mean, per year (current Rs.)	mean, per year (2005 Rs.)	mean, per year (current Rs.)	mean, per year (2005 Rs.)
Rural	61,886	43,043	33,054	33,741
Urban	103,430	71,938	58,417	59,632

Note: NSS estimates use mixed reference period. NSHIE figures are routine expenditure. Rupees deflated using methodology described above.
Source: CGD calculations based on NCAER NSHIE 2004-2005 and India NSSO Socio-Economic Survey 66/1.0 (2009-2010).

Shukla (2010) projects the size of India's middle class using NSHIE 2004/2005 data, which is re-scaled to 2009/2010 using annual GDP growth rates. To reconstruct his forecasts, we apply actual GDP growth rates (at market exchange rates) from the International Monetary Fund's World Economic Outlook database and re-scale 2004/2005 mean expenditure assuming a full pass-through from real GDP growth to real household consumption expenditure growth.

Figure 5 below shows mean household expenditure from the NSHIE 2004/2005 (dark red/green), mean household expenditure from the NSS 2009/2010 (light red/green), and the assumed growth path of the NSHIE mean (dotted line).

Figure 5: Growth Projection of NCAER NSHIE Mean Household Expenditure, Compared to NSS
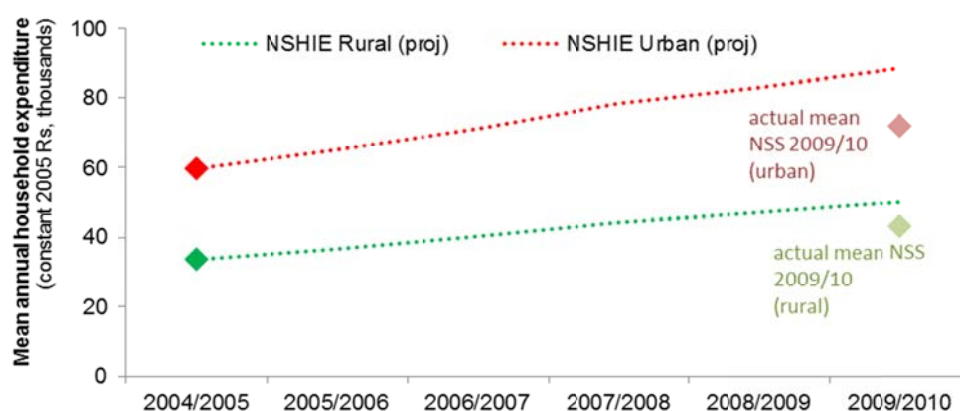
Source: CGD calculations based on NCAER NSHIE 2004-2005, India NSSO Socio-Economic Survey 66/1.0 (2009-2010), IMF WEO (2012).

This replication of Shukla (2010) illustrates two potential discrepancies in the underlying survey data. First, the mean household consumption expenditure in the NSHIE 2004/2005 could just be higher relative to the NSS, potentially due to different survey design and concepts of consumption estimates. Second, growth rates derived from national accounts data do not correspond to growth in survey-based household consumption expenditure. The large discrepancy between Indian household surveys and national accounts data is a well-established point, e.g. in Deaton (2001) and Sundaram and Tendulkar (2003). We are inclined to assume that the NSS survey-based data are a better measure of household consumption and welfare, but cannot be sure in this case without analysis that is beyond the scope of this note.

5.   Conclusion

Even after taking into account these concerns, we conclude that if to be middle class is to be reasonably secure in material terms, then India's "middle class" constitutes less than 100 million people, and is crowded into the top decile along with the much smaller number of "rich" households. In that sense India does not yet look much like the middle class "societies" of Latin America, let alone of the mature western democracies.

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