

# Policies for the Poor: Verifying the Information Base

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# **Policies for the Poor: Verifying the Information Base**

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## **1. Introduction**

Policymaking for the poor has received considerable attention among the academics as well as policy makers, in the wake of economic reform in particular, in India. However, several discussions and recommendations are based on outdated perceptions and misconceived notions regarding the poor, their consumption patterns and institutional constraints without any verification of the information base. This has been so particularly in the context of the debate on reduction in poverty, under-nutrition and revamping the public distribution system (PDS) involving different policy options.<sup>1</sup> This trend persists even in the New Millennium. For instance, the Expert Committee on Long Term Grain Policy (GoI 2002) followed by the Planning Commission in its Eleventh Five Year Plan (2008) mistook observed reductions in the mean based estimates of average food consumption and calorie intake of the total population for actual reductions in the nutritional status of the poor and recommended universal PDS without even verifying distribution of household consumer expenditure, food and calorie intake and PDS cards across expenditure groups. Now the Government of India (GOI) has constituted another Expert Group to Review the Methodology for Estimation of Poverty. The Expert Group has already initiated work on redefining the poverty line on the basis of the National Sample Survey (NSS) data from the 61<sup>st</sup> round for the year 2004-05 little appreciating the data inadequacies, if any.

This paper illustrates one such issue with reference to NSS data on household consumer expenditure distribution from the 61<sup>st</sup> round. The study examines how comprehensive is the recommendation for universalizing the PDS made by the Expert Group on Long Term Grain Policy and the Planning Commission and how relevant is the NSS data for redefining the poverty line. The paper is structured as follows: Section 2 provides some examples to

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<sup>1</sup> See, for instance, the series of studies by the author listed in the references.

illustrate how situation assessments of and policy recommendations for reducing economic deprivation are made with little appreciation of the actual information base. Section 3 verifies some possible inadequacies in the NSS data on household consumer expenditure from its 61<sup>st</sup> round and their explanation. The final section concludes the paper.

## **2. Policy Making for the Poor**

A sad commentary on the state of governance in India is that, despite being a poor-in-majority (till recently) poor country, policy makers and academic experts keep debating on (i) revising the definitions and norms for poverty; (ii) comparability of data sets over time; (iii) scope for integrating different data sets and methodologies for estimation of poverty; and (iv) limitations of targeted poverty interventions even after nearly six decades of planned pursuit of development for ‘Growth with Poverty Reduction’. One question that has received little attention is the very information base for defining poverty norms and estimates and choice of policies. For instance, the NSS data used in most of these studies is designed only to obtain unbiased estimates of averages and not distribution parameters. Hence, distributional changes in the NSS data sets often reflected underlying institutional and contractual relations rather than actual distribution of economic welfare. Further, in pursuit of unbiased estimates of averages, the survey is carried out in the form of successive sub-rounds spread over an agricultural year in order to take into account seasonal variations in a monsoon dependent agricultural economy. However, policy experts paid little attention to these issues and went ahead defining and estimating poverty norms from the NSS data on consumer expenditure conducted during the 28<sup>th</sup> round. This survey was not spread out over the full agricultural year but lasted from October 1973 till June 1974. One would expect consumption estimates for the bottom decile groups to be much more sensitive to seasonal variations than those for the richer decile groups. Given that the poverty norms were estimated by inverse linear interpolation to such data on calorie content and consumer expenditure, one is not sure how reliable would be the poverty norm estimate? Similar issues haunt the debates on revamping the PDS to promote the food security of the poor at least cost.

The syndrome persists even today. For instance, there is a general belief that the NSS 61<sup>st</sup> round data is relatively nuisance-free. The Expert Group, in all earnestness, has started using this data to look into issues regarding revising the methodology for poverty estimation. The same information base is also used for analysis of issues related to food security and public policy choice in the *Eleventh Five Year Plan*. Based only on mean based estimates of

averages for recent years, the *Eleventh Five Year Plan* has concluded that calorie intake of the poor has declined and has recommended policy options for augmenting incomes and universalizing the PDS (GoI, 2008). However, one is not sure how far the policy recommendation for universalizing the PDS is based on facts and their appreciation. For instance, 28 per cent of the rural and 26 per cent of the urban population was poor in 2004-05 (GoI, 2007a) but only about 29 per cent of the rural and 13 per cent of the urban population benefited from targeted PDS (Table 1). Among the beneficiaries of this programme, 70 per cent in the rural and 43 per cent in the urban sector was non-poor (Table 3). The NSS data for the 61<sup>st</sup> round reports size distribution of households across twelve percentile classes of monthly per capita consumer expenditure (MPCE) for both rural and urban sectors. The estimates show that the poorest four MPCE classes, which accommodated the poorest thirty per cent of the population, did not exhaust the set of *Antyodaya* & *BPL* cardholders. More than 50 per cent of the households in these MPCE classes did not have the *Antyodaya* & *BPL* ration cards (Table 2). Persons across expenditure classes possessed the *Antyodaya* and the *BPL* ration cards, though, as a percentage, the number of such persons generally declined across higher percentile classes of expenditure in both rural and urban sectors (Table 2). In rural India, even the richest percentile class (consisting of the richest five per cent of the rural population) included households/persons possessing the *Antyodaya* and the *BPL* ration cards: Nearly one (0.8) percent had the *Antyodaya* card and about 11 % had the *BPL*-card. In urban India, at least one-hundredth of the richest five per cent had the *BPL*-card. This would imply massive Type I and Type II errors in PDS targeting.<sup>2</sup> The estimates make a sad commentary on the state of targeted PDS in India; hence, it provides little basis for the kind of recommendations made by the Eleventh Plan. Type I error should be the issue for serious policy concern and not maximizing Type II error by universalizing the PDS.

**Table 1: Distribution of Population by PDS Cards:  
Rural and Urban India (2004-05)**

<b>Type of PDS card</b>	<b>Rural</b>	<b>Urban</b>
Antyodaya	2.80	0.94
BPL	26.01	11.58
Others	55.27	61.34
No card	15.92	26.13
Total	100.00	100.00

<sup>2</sup> Type I error occurs when a targeted welfare programme does not benefit the intended beneficiaries and Type II when the programme benefits the unintended beneficiaries (Cornia and Stewart 1993).

**Table 2: Percentage of A&BPL households by MPCE class and their reliance on the PDS: All India**

Rural Sector				Urban Sector			
MPCE class	% of A&BPL hhs	% of consumption from PDS by A&BPL hhs		MPCE class	% of A&BPL hhs	% of consumption from PDS by A&BPL hhs	
		Rice	Wheat			Rice	Wheat
0-235	48.8	30.27	35.84	0 – 335	33.4	41.94	31.25
235-270	44.3	27.90	28.43	335 – 395	28.3	38.79	30.61
270-320	40.8	27.97	29.51	395 – 485	26.4	33.34	32.18
320-365	38.3	26.95	26.44	485 – 580	19.9	37.04	33.34
365-410	33.9	26.40	30.39	580 – 675	17.8	35.25	28.67
410-455	33.1	25.51	28.01	675 – 790	11.6	32.56	22.98
455-510	31.0	27.91	27.99	790 – 930	10.1	34.28	20.84
510-580	25.7	27.28	27.65	930 – 1100	6.9	32.35	14.57
580-690	23.8	28.54	29.27	1100 – 1380	4.1	23.20	22.89
690-890	19.8	28.13	23.90	1380 – 1880	2.2	26.79	5.22
890-1155	15.2	27.43	18.07	1880 – 2540	1.5	17.36	8.91
1155 & more	12.0	21.85	24.03	2540 & more	0.9	25.35	30.27
All classes	29.4	27.40	28.16	All classes	11.3	34.95	28.08

Source: Estimates based on GoI (2007b)

Note: % of A&BPL hhs = Percentage of households with *Antyodaya* and *BPL* ration cards in each expenditure class

It should surprise to find majority of the households with *Antyodaya* & *BPL* ration cards in the non-poor/richer MPCE classes; the estimated poverty lines for rural and urban India for the year 2004-05 are Rs 356.30 and Rs 568.60 respectively (GoI, 2007a). GoI (2007b) explains this feature as follows: “*It should be mentioned here that the MPCE of a household is based on its consumption expenditure during the last 30 days. A poor household that bought a durable good during the 30 days prior to the date of survey might conceivably be placed in a higher MPCE class than the class in which its usual MPCE lies.*” (GoI 2007b, p. 16; Footnote # 3). One is not sure how valid could this explanation be since it would mean that majority of the “*usually*” poor households fall in the NSS non-poor expenditure classes and worthlessness of the NSS data base for studies on poverty. This is because the statement, if valid, would amount to stating that the NSS estimates of consumption distribution do not represent the “*usual MPCE*” and hence, do not make any sense. It would even mean revising estimates of rural poverty upwards by 20-percentage point for rural India and 5.35 percentage point for urban India. The revised estimate would be 48.3 per cent for rural India and 31 per

cent for urban India. If the explanation were invalid, it would mean how badly implemented are the targeted poverty alleviation programmes even after nearly two decades of reform. Therefore, is important to examine the validity NSS explanation for the observed distribution of Antyodaya and BPL rations card across the entire range of consumption distribution and hence, the reliability of the NSS information base. The following section provides some descriptive statistics on related details.

### 3. Descriptive statistics:

It would be of interest to examine the distribution of targeted ABPL cards between the poor and no-poor classes as defined by the Government of India for the rural and urban sectors. The estimates show that only 30 per cent of the population with Antyodaya and BPL cards in rural India is poor; PDS seems to be better targeted in the urban sector where this percentage estimate is 57 per cent (Table 3).

**Table 3: Distribution of Antyodaya and BPL cards between the Poor and the Non-Poor:  
Rural and Urban India (2004-05)**

	Poor	Non-poor	Total
Rural	30.47	69.53	100.00
Urban	57.26	42.74	100.00

The NSS explanation for this apparent profile of Type I and Type II errors in PDS targeting is that the poor incurred durable expenditure during 30 days preceding the date of interview and hence, the NSS estimates of consumption based on a 30-day-reference period got overstated and the household got classified in class intervals above the poverty line. This boils down to the hypothesis that the poor and non-poor households possessing targeted PDS cards differ essentially in terms of durable expenditure and are comparable with respect to other items of consumption, that is, non-durables. How valid is this proposition?

Tables 3 to 6 provide estimates of total monthly per capita consumer expenditure, per capita expenditure on durables and non-durables for select percentiles of the total population, population above the poverty line (APL), population below the poverty line (BPL), BPL population with holding Antyodaya and BPL cards, APL population with Antyodaya and

BPL cards and total population with Antyodaya and BPL cards in the rural and urban sectors respectively. Some relevant findings are as follows:

- (i) The percentage budget share of durables appears too small to validate the NSS explanation: While the rural poor spend, on an average, less than half percent of their total consumption budget, the rural non-poor spend about 4 per cent and the rural population as a whole about 3.5 per cent (Table 4).
- (ii) The hypothesis under review pertains to the sub-set of population with Antyodaya and BPL (ABPL) cards and the profile is not very different for this sub-group: The poor population with ABPL cards spends 0.38 per cent, the non-poor with ABPL cards about 3.21 per cent and the combined sub-group about 2.50 per cent of its consumption budget (Table 5).
- (iii) Mean based estimates of averages for skewed distribution can mislead. Hence, one may look at the order-based estimates provided in these tables. What is striking is that nearly 75 per cent of the population in all categories does not spend anything on durables (Tables 4 & 5).
- (iv) The profiles are similar across corresponding sub-groups in urban India too (Tables 6 & 7).

The findings presented above are based on simple descriptive statistics and it would be worthwhile to validate the NSSO explanation. One option could be to examine if the NSS estimates of per capita consumer expenditure on non-durable and durable items respectively differ significantly between the poor and non-poor among the ABPL cardholders. The regression estimates show that they are indeed different (Tables 8 & 9).

**Table 4: Consumption Profiles of Poor, Non-poor and Total Population: Rural India  
(2004-05)**

Percentiles	Monthly per capita consumption of								
	BPL population			APL population			Total population		
	Total	Durables	Non-durables	Total	Durables	Non-durables	Total	Durables	Non-durables
p1	140.50	0.00	140.08	359.42	0.00	357.18	177.83	0.00	177.20
p5	190.70	0.00	190.25	372.50	0.00	369.83	236.42	0.00	235.75
p10	215.00	0.00	214.28	387.92	0.00	385.00	270.71	0.00	269.38
p25	252.78	0.00	251.83	436.30	0.00	432.50	341.75	0.00	339.42
p50	293.40	0.00	292.27	537.69	0.00	531.58	455.67	0.00	451.00
p75	326.33	0.00	325.00	713.20	2.60	700.52	626.00	1.43	616.67
p90	343.79	2.50	342.80	1006.33	19.29	971.60	887.88	12.22	864.22
p95	350.00	5.71	349.00	1290.11	51.17	1231.60	1152.04	33.33	1106.10
p99	355.02	21.25	354.64	2490.10	420.00	2095.93	2165.00	275.00	1876.50
mean	284.84	1.10	283.74	666.82	26.39	640.43	558.62	19.23	539.39

**Table 5: Consumption Profiles of Population Groups and Sub-groups with targeted  
PDS cards: Rural India (2004-05)**

Percentiles	Monthly per capita consumption of								
	BPL population with A & BPL cards			APL population with A & BPL cards			Population with A & BPL cards		
	Total	Durables	Non-durables	Total	Durables	Non-durables	Total	Durables	Non-durables
p1	137.17	0.00	137.17	358.75	0.00	354.90	153.48	0.00	153.48
p5	177.41	0.00	177.00	367.80	0.00	364.89	210.75	0.00	209.88
p10	201.55	0.00	200.80	378.42	0.00	375.50	243.00	0.00	241.63
p25	244.29	0.00	242.57	415.04	0.00	411.38	304.00	0.00	302.33
p50	287.40	0.00	286.40	487.00	0.00	481.03	391.33	0.00	388.47
p75	323.40	0.00	322.00	617.70	2.00	605.77	516.00	0.00	509.50
p90	342.00	2.50	341.00	804.25	16.25	782.20	695.45	7.50	680.78
p95	348.75	5.56	347.63	1007.50	50.00	958.33	844.00	24.25	818.46
p99	354.78	18.75	354.20	1887.58	282.40	1574.17	1432.30	160.00	1335.95
mean	278.72	1.05	277.66	574.45	18.46	555.98	453.80	11.36	442.44

**Table 6: Consumption Profiles of Poor, Non-poor and Total Population: Urban India (2004-05)**

Percentiles	Monthly per capita consumption of								
	BPL population			APL population			Total population		
	Total	Durables	Non-durables	Total	Durables	Non-durables	Total	Durables	Non-durables
p1	197.00	0	195.83	545.19	0	541.38	241.79	0	241.40
p5	256.17	0	255.33	572.55	0	568.06	333.90	0	331.87
p10	290.73	0	289.50	605.90	0	600.17	394.13	0	391.43
p25	355.13	0	353.13	722.83	0	714.70	533.35	0	529.00
p50	421.59	0	418.88	976.50	0	958.70	792.00	0	778.03
p75	479.69	0	476.20	1427.50	4.00	1394.83	1219.20	2.14	1197.00
p90	513.53	4.4	510.73	2140.79	35.00	2066.95	1882.43	24.00	1835.88
p95	526.83	10	525.14	2838.63	100.00	2688.00	2514.50	67.50	2422.00
p99	536.11	46.25	535.50	5438.33	750.00	4638.85	4689.98	493.00	4284.80
mean	410.80	2.33	408.48	1273.76	56.83	1216.93	1052.49	42.85	1009.64

**Table 7: Consumption Profiles of Population Groups and Sub Groups with targeted PDS cards: Urban India (2004-05)**

Percentiles	Monthly per capita consumption of								
	BPL population with A & BPL cards			APL population with A & BPL cards			Population with A & BPL cards		
	Total	Durables	Non-durables	Total	Durables	Non-durables	Total	Durables	Non-durables
p1	196.25	0.00	192.80	540.40	0.00	513.50	203.42	0.00	201.67
p5	236.22	0.00	236.07	553.20	0.00	547.40	267.75	0.00	267.56
p10	270.58	0.00	269.63	568.90	0.00	562.94	307.56	0.00	304.55
p25	330.00	0.00	329.57	614.57	0.00	607.50	393.25	0.00	390.51
p50	401.20	0.00	398.75	718.83	0.00	705.60	516.34	0.00	511.83
p75	465.06	0.00	462.42	913.38	3.00	894.00	696.65	1.14	683.73
p90	504.22	5.00	502.25	1178.50	24.00	1138.31	959.50	10.00	931.75
p95	520.14	10.83	520.14	1423.70	75.00	1354.00	1160.67	29.17	1108.57
p99	536.11	50.00	534.25	2274.10	666.67	1976.35	1883.10	261.67	1719.43
mean	393.69	2.31	391.38	836.95	32.14	804.81	599.97	16.19	583.79

**Table 8: Test of NSS Explanation: Rural India**

Dependent variable = nondurable /durable expenditures

Independent variable **bpl** = 1 if the population is POOR and zero otherwise.

Independent variable **abpl\_all**= 1 if the population has either Antyodaya or BPL card and 0 otherwise

```
. reg durable1 bpl abpl_all
```

Source	SS	df	MS			
Model	20924328.9	2	10462164.5	Number of obs =	79298	
Residual	4.5217e+10	79295	570238.608	F( 2, 79295) =	18.35	
Total	4.5238e+10	79297	570488.098	Prob > F =	0.0000	
				R-squared =	0.0005	
				Adj R-squared =	0.0004	
				Root MSE =	755.14	

durable1	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
bpl	-35.79427	7.160065	-5.00	0.000	-49.82796	-21.76059
abpl_all	-15.02235	6.295978	-2.39	0.017	-27.36243	-2.682276
_cons	43.41783	3.245992	13.38	0.000	37.0557	49.77995

```
. label var abpl_all "=1 if (card1==1|card1==2)"
```

```
. reg nondurable bpl abpl_all
```

Source	SS	df	MS			
Model	2.7052e+09	2	1.3526e+09	Number of obs =	79297	
Residual	1.9611e+10	79294	247325.996	F( 2, 79294) =	5468.96	
Total	2.2317e+10	79296	281435.39	Prob > F =	0.0000	
				R-squared =	0.1212	
				Adj R-squared =	0.1212	
				Root MSE =	497.32	

nondurable	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
bpl	-428.093	4.715458	-90.79	0.000	-437.3353	-418.8507
abpl_all	-138.1745	4.146393	-33.32	0.000	-146.3014	-130.0476
_cons	773.7736	2.137756	361.96	0.000	769.5836	777.9636

**Table 8: Test of NSS Explanation: Rural India**

Dependent variable = nondurable /durable expenditures

Independent variable **bpl** = 1 if the population is POOR and zero otherwise.

Independent variable **abpl\_all**= 1 if the population has either Antyodaya or BPL card and 0 otherwise

```
. reg durable1 bpl abpl_all
```

Source	SS	df	MS			
Model	28380635.7	2	14190317.8	Number of obs =	45346	
Residual	3.5012e+10	45343	772167.785	F( 2, 45343) =	18.38	
Total	3.5041e+10	45345	772759.61	Prob > F =	0.0000	
				R-squared =	0.0008	
				Adj R-squared =	0.0008	
				Root MSE =	878.73	

durable1	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
bpl	-52.45951	9.612274	-5.46	0.000	-71.29973	-33.6193
abpl_all	-14.52545	12.80844	-1.13	0.257	-39.6302	10.5793
_cons	58.1156	4.927309	11.79	0.000	48.458	67.77321

```
. label var abpl_all "=1 if (card1==1|card1==2)"
```

```
. reg nondurable bpl abpl_all
```

Source	SS	df	MS			
Model	7.9554e+09	2	3.9777e+09	Number of obs =	45346	
Residual	3.5336e+10	45343	779313.73	F( 2, 45343) =	5104.11	
Total	4.3292e+10	45345	954721.143	Prob > F =	0.0000	
				R-squared =	0.1838	
				Adj R-squared =	0.1837	
				Root MSE =	882.79	

nondurable	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
bpl	-871.4851	9.65665	-90.25	0.000	-890.4123	-852.5579
abpl_all	-263.3275	12.86757	-20.46	0.000	-288.5481	-238.1069
_cons	1350.497	4.950056	272.82	0.000	1340.795	1360.2

#### **4. Conclusions**

Few studies on poverty in India have really bothered to examine the veracity of the information base and its implications before making estimates of poverty, interpreting them and making policy recommendations. This applies to academic researchers as well as policy makers. An Expert Group as well as the Eleventh Five-Year Plan of the Government of India has recommended options for universal coverage of the public distribution system to promote general food security. The Government has appointed another committee to look into the methodological issues involved in defining the poverty line and making estimates of poverty. The Committee has already made considerable progress in redefining the poverty line based on the NSS data set from the 61<sup>st</sup> round. Both the Planning Commission and the Expert Committee do not seem to have made a careful analysis of the NSS data set. The Planning Commission does not seem to know that the NSS data set reveals universal coverage of the targeted PDS in both rural and urban India. On the other hand, the Expert Group on poverty does not seem to be aware of the NSSO explanation that the genuinely poor households are spread over even the upper percentile classes and thereby vitiating the NSS estimates as representative estimates of the underlying distribution. This paper looks into the validity of the NSSO explanation and finds limited basis for the same. In sum, Type I error in targeted PDS should be a matter for serious policy concern.

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