Should Poverty Measurement Discount Expenditure on Pan, Tobacco and Alcohol? The Indian case

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Abstract:

Poverty in Indian context has always generated contests and controversies regarding its concepts, measurement, levels and implications on several aspects of human welfare. This paper cautions on the validity of poverty assessment indicated by reported expenditure per capita at household level given the fact that this expenditure is an aggregate inclusive of expenditure on evil commodities. On this premise, the population share in Monthly Per Capita Expenditure classes is being verified, inclusive and exclusive of this component of expenditure on evil commodities to comment on welfare implications of the existing approach of poverty assessment.

Key Words: Asia, India, Poverty

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I. Motivation

In the post-war development discourse poverty is found to be the major issue of concern in the development of the developing countries. As a consequence substantial literature emerged on the methodology with respect to the measurement of poverty. Poverty is defined as a shortfall of income level to meet minimum level of living. The following excerpt from Joshi (1997) elaborates on concepts of poverty measurement in India.

> "….the definition of poverty line has been viewed from two angles viz., the minimum level of living i.e. the cost of bundle of goods at the relevant prices and the inadequacy in food consumption expressed as the shortage of necessary energy intake in terms of nutritional requirement for healthy living. Given a "balanced" or "minimum" diet, the poverty line may be defined as that expenditure level at which households, on an average seem to have the specified diet which is not easy in practice to follow item by item. Further the cost of the specified diet as poverty line based on value judgement may not necessarily confirm to its prescribed composition. However, it only ensures amount of spending enough to provide balanced diet and it is by no means certain that balanced diet are purchased and consumed…. (In India) the official approach to measurement of poverty started by fixing a standard of calorie intake and observing the level of per capita consumption expenditure with which on the average, this calorie intake level is associated" (Joshi, 1997).

The most common practice of setting a poverty line is subject to income level qualifying a minimum level of per-capita calorie intake in terms of its price equivalent. Hence, designating the poverty status of a household depends on qualifying a certain minimum levels of per capita expenditure, which is supposed to ensure consumption of minimum per capita calories intake according to the set norms. However existing literature on this subject suggest that there is a mismatch between the expenditure levels and calorie equivalence even among those above the poverty line (see for example Mehta and Venktaraman, 2000; Palmer-Jones and Sen, 2001). And hence, apprehensions are raised whether poverty measurement based on expenditure levels will match deprivations in minimum calorie intake.

Moreover, the assessment of poverty in terms of expenditure levels alone could therefore not guarantee the calorie norm on circumstances of evil consumption (here referred to expenditure on PTI- Pan, Tobacco and Intoxicants). This has been our point of departure in evaluating poverty in the context of increasing consumption of PTI. In Indian context, total household's consumption expenditure (food and non-food) is used as proxy for income level of the household and thereby forms the basis for poverty estimations in the country which includes expenditure on alcohol and other intoxicants also. Thus, certainly the expenditure on alcohol and other addictive consumption influences the overall expenditure of the household's consumption. Estimations of poverty based on household's consumption expenditure inclusive of the expenditure on this evil commodity may be misleading in the sense that a given level of consumption expenditure may not ensure the corresponding level of welfare. Often the share of expenditure on this evil commodity may be more among the lower rungs of consumption expenditure class where the consequent welfare may always be less than expected. On this premise, our apprehensions are regarding the misrepresentation of poverty levels once it is decided based on consumption expenditure inclusive of the expenditure on these evil commodities. However, all that matters depend upon the amount of expenditure spent on this commodity and its percentage in total expenditure.

II. The Consumption of Social Bads

Although alcohol[1] consumption has existed in India for many centuries, the quantity and patterns of its use has varied, and resultant problems have undergone substantial changes over the past two decades. Alcohol consumption produces individual ill-health and social problems[2]. The global burden of disease due to alcohol exceeds that of tobacco and is on par with the burden attributable to unsafe sex world wide (Global Status Report on alcohol, WHO, 1999). While the recorded alcohol consumption per capita has fallen since 1980 in most developed countries, it has risen steadily in developing countries and alarmingly so in India[3].

Marketing initiatives signal that alcohol is a normalized ordinary commodity. Such marketing practices conspicuously overshadow the occasional public message that raises concerns about drinking-related risks[4]. Based on recent WHO estimates of the global burden of death, disease and disability from alcohol, it has been projected that if alcohol policy and interventions are not stringent and made more effective, damage from alcohol is likely to increase. There is

also extensive evidence in literature on alcohol consumption and its associated externalities, particularly crime, violence and labour market productivity[5]. The literature on alcohol consumption and addictive goods as a whole, for developing countries and India in particular reveals that it is increasing and accounts for a significant share of the expenditure among lower income segment of the population[6]. Besides money spent on alcohol, an alcohol addict also suffers from other adverse economic effects. These include reduced wages (because of missed work and lowered efficiency on the job), increased medical expenses on illness and accidents, legal cost of drink-related offences, and decreased eligibility of loans. At this point one may not characterize alcohol as an ordinary commodity rather than an evil commodity with respect to its negative externalities and other socio-economic and health related consequences (Babor et al, 2003), similarly other addictive commodities[7]. Some studies consider alcohol and other addictive commodities like cigarettes as economic complements while others find evidence of substitution. Given the significant negative externalities associated with alcohol and other addictive commodities such as tobacco and pan, our poverty estimations based on household budget (total households consumption expenditure) inclusive of expenditure on these commodities is questionable.

III. Relevant Data and Methods
Data

The data on production is perhaps an obvious derivative of the levels of consumption. But it may not be true for assessment at the household level as the component shares of such expenditure will differ across households giving rise to differential outcomes in welfare. More specifically a given expenditure irrespective of its components (evil expenditure or the other) can not ensure the equivalent welfare. Thus, this paper uses household expenditure data to examine the expenditure on alcohol and other additives (grouped as Intoxicants, Pan and Tobacco) and its share in the total expenditure of the household. We have used NSSO (1999-2000) 55th Round Household Consumption Expenditure unit level record data for the analysis. We are aware of the fact that there are intricacies involved in this particular round in estimating the per capita income especially to arrive at poverty levels [for instance see (Deaton and Dreze, 20001)]. This is because, it introduced for the first time an inquiry of consumption expenditure for two reference periods, for 30 days and 7 days. Here we have considered 30 days expenditure levels instead of 7 days. As a matter of fact reported expenditure on these commodities by the households may always be lower in relation to the

actual expenditure. It is observed that in other countries too the reported alcohol consumption from consumer expenditure surveys tends to be sizably lower than figures obtained from retail sales and production[8] (Rahman, 2002). In Indian context, also a similar pattern is expected when one looks at across the states. Possible reasons could be: *firstly*, as is said all that produced, for instance in a state, may not be consumed in that state. *Secondly*, the design of household survey data may exclude some frequent alcohol consumption prone groups such as slum dwellers and migrant workers or households with transitory lifestyles e.g. some nomadic scheduled tribes, as is the case of NSSO[9] (Rahman, 2002). *Thirdly*, there is always a possibility of under reporting the consumption of alcohol and other addictive commodities, given local, community/caste specific social taboos. Acknowledging that this information is under reported, we attempt analysis based on the reported levels of alcohol consumption and other addictives (pan and tobacco) in households. Perhaps, whatever consequence that we conclude using this data may well be an underestimate too.

Method

The three selected commodities (Pan, Tobacco and Intoxicants (PTI)) is said to be evil commodities and the stated expenditure on them is considered in exclusion for our analysis. Using the NSSO data set first we have elaborated on the pattern of reporting on the consumption of these commodities by households across states and sectors. This is facilitated by information provided by NSSO on item-wise expenditure of each surveyed household on what is reportedly consumed. We calculated the total amount spent on these commodities together and the resultant as percentage of total household consumption expenditure. Later, we refer the total household's reported consumption expenditure as its budget. Then, we recalculate the MPCE (for 30 days) by subtracting the amount of expenditure on these commodities from the actual MPCE (i.e. household budget) which includes expenditure on these commodities. We computed quartile classes for two MPCEs, one including PTI and the other excluding PTI across states and for each sectors.

IV. Observations

It is observed that overall the percentage of households reporting pan, tobacco and alcohol are respectively 28, 61 and 14 per cent and 70 percent of households report consumption of at least one of them. As per reported information on the percentage households consuming pan, tobacco or intoxicants or at least one of it, is high in rural sector when compared to urban

sector, it holds true across states. The reported consumption of any of these three products across Indian states is of varying degree with a uniform rural dominance (See Figure 1). This varying range is bound by the highest represented by Assam (above 90 per cent) and the lowest in Punjab (below 40 per cent). While comparing across these three commodities, percentage of households reporting consumption is highest for tobacco followed by pan and the least is recorded for intoxicants (See Table 1 in Appendix). Also the level of alcohol consumption varies significantly according to the caste and socio-economic class of the household or individual, a higher proportion of scheduled castes and tribes report alcohol consumption[10] compared to general caste households, 36% and 17.5% relative to 8%. (Rahman, 2002). Likewise there are variations across religion, occupational groups and the income groups.

With regard to the share of expenditure on PTI commodities in the household budget, data shows that in India on an average, about 3 per cent of the household budget is spent on these commodities, for rural households the budget share on PTI is higher than urban households. Across states there is a wide variation with Assam reporting the highest (around 4 per cent) followed by Andhra Pradesh and the lowest is in Punjab (around 2 per cent). There are wide variations in the budget share of PTI across states by rural-urban residence (see Figure II). It is said that the share of alcohol expenditure out of the household budget is high for labour households when compared other households (Reddy and Patnaik, 1993). We too find the share of expenditure on PTI in household budget is higher among the laborer households, by income classes it is high for lower income classes, by social group it is high for STs followed by SCs, OBCs and Others.

Considering the range of expenditure levels of MPCE class based on total monthly per capita expenditure inclusive of expenditure on PTI, the percentage of population falling in to the same MPCE class increases in the lower rung of expenditure class when we exclude the expenditure on PTI (see Figure III). This otherwise indicates that for a given poverty line defined according to a minimum MPCE level, the percentage of people falling below poverty line could be more on exclusion of PTI from MPCE and the difference will be significant. In Table 2 and 3 in Appendix we provide maximum values of quartiles class of MPCE with inclusion and exclusion of expenditure on PTI commodities, separately. At a glance it is indicating that the quartile values are lower when we exclude the PTI compared with those

inclusive PTI. Of course the range of difference varies across quartiles, within and across the states by rural-urban residence. Such variation could perhaps be explained with the inherent inter-state variation in the level of consumption of these commodities varies as well as their share in the expenditure. Hence their exclusion or inclusion will have differential revisions on poverty assessment across states.
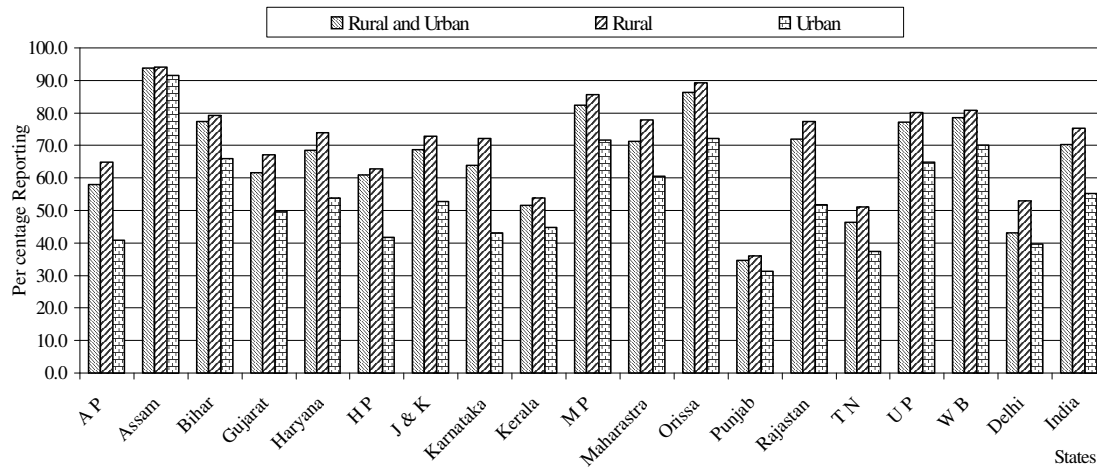
V. Remarks

The present note starts with the argument that as the alcohol and other addictive (like pan, tobacco) commodities are not ordinary commodities but are evil ones and thus subjected to negative externalities, the inclusion of expenditure on these commodities in the estimation of poverty is misleading. Poverty levels are said to be reflect on the level of economic well-being of people in the sense that lower poverty level is indicative of better economic well-being in general. When we include the expenditure on these commodities and say that the particular household is not poor, it is a false representation of the economic well being of that household. For example take two households one is just below poverty line but the share of expenditure on this commodity is nil and another household just above the poverty line but the share of expenditure on this commodity is say 20 per cent. While comparing level of economic well being between the two, the former may be better compared with the later, given the negative externalities of these commodities.

In summary, we bring out the following facts of common concern based on NSSO (1999-2000) 55th round consumer expenditure data. Seventy percent of Indian households report consumption of at least one of these evil commodities. The expenditure on these commodities on the whole comprises around three percent of the household budget, which need not be considered small given the extent of underreporting of spending on such commodities. The share of PTI in household budget is higher in lower income classes when compared with the higher income ones. Across states and by rural-urban residence and quintile classes the level of expenditure on these commodities and the share in the household budget varies. Our simple analysis indicates the percentage population falling below poverty line will be more when we exclude the expenditure on these (PTI) commodities from the household budget.

* * *

Fig I : Percentage of Estimated Households Reporting the Consumption of PTI

This figure (I) is drawn based on the data given in col. 3, 7, and 11 of the Table 1 in Appendix.

Figure II: (Average) Share of Per capita Expenditure on PTI Commodities in the Household Budget: Across Major Indian States
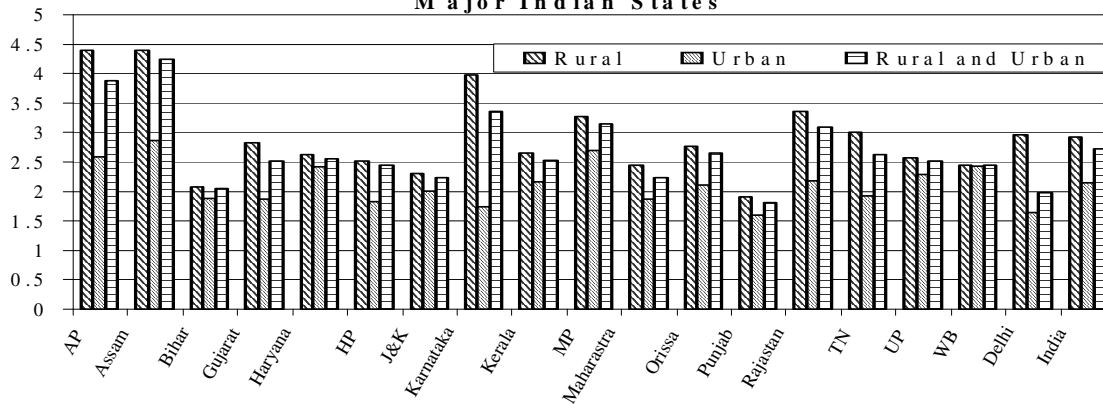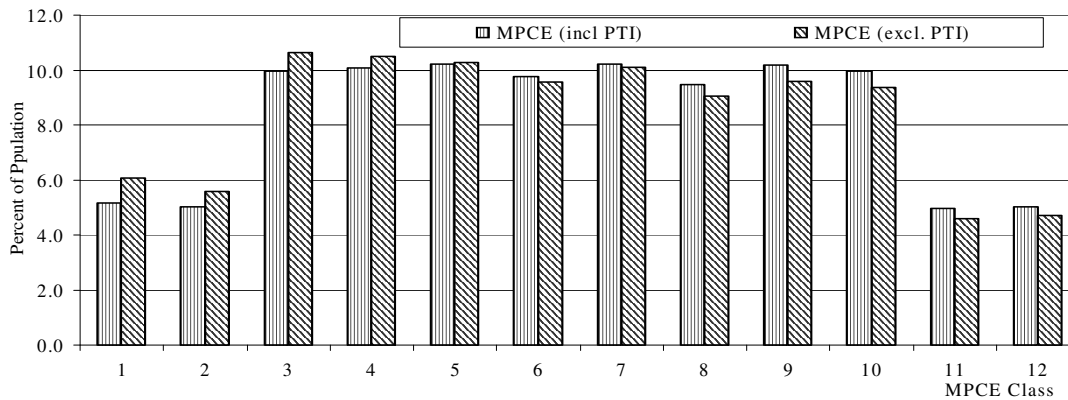

Figure III : Given the MPCE Range the percentage of Population Falling in MPCE Class (incl. & excl PTI) in India: Rural and Urban

Table 1: Average Expenditure spent on PTI Commodities as percentage of Household Budget				
Sno	States	Rural	Urban	Total
1	*2*	*3*	*4*	*5*
1	Andhra Pradesh	4.39	2.58	3.87
2	Assam	4.4	2.86	4.24
3	Bihar	2.08	1.88	2.05
4	Gujarat	2.82	1.87	2.52
5	Haryana	2.62	2.42	2.56
6	Himachal Pradesh	2.51	1.83	2.45
7	Jammu and Kashmir	2.3	2.01	2.24
8	Karnataka	3.97	1.74	3.35
9	Kerala	2.66	2.16	2.53
10	Madhya Pradesh	3.27	2.69	3.14
11	Maharastra	2.45	1.87	2.23
12	Orissa	2.76	2.11	2.65
13	Punjab	1.91	1.6	1.81
14	Rajastan	3.35	2.18	3.09
15	Tamil Nadu	3.01	1.92	2.63
16	Uttar Pradesh	2.57	2.29	2.51
17	West Bengal	2.44	2.43	2.44
18	Delhi	2.96	1.65	1.98
India		3.01	2.1	2.7

Note: Figure II is drawn based on this table.
Source: Estimated using NSSO (1999-2000) 55th Round Consumption Expenditure unit level record data.

Table 2 : Given the MPCE Class Range, percentage of Population falling in this range (including and excluding expenditure on PTI Commodities)			
	MPCE Class	MPCE (incl. PTI) Code	MPCE (excl. PTI) Code
1	*2*	*3*	*4*
1	Lowest 5th Percentile	5.2	6.1
2	Next lowest 5th percentile	5.0	5.6
3	2nd Decile Class	9.9	10.6
4	3rd Decile Class	10.1	10.5
5	4th Decile Class	10.2	10.3
6	5th Decile Class	9.8	9.6
7	6th Decile Class	10.2	10.1
8	7th Decile Class	9.5	9.0
9	8th Decile Class	10.2	9.6
10	9th Decile Class	10.0	9.4
11	Next to upper most 5th percentile class	5.0	4.6
12	Uppermost 5th percentile class	5.0	4.7
	Total	100	100

Note: Figure III is drawn based on this table.
Source: Estimated using NSSO (1999-2000) 55th Round Consumption Expenditure unit level record data.

Table 3: Percentage of Households Reporting the Consumption of Pan, Tobacco and Intoxicants: NSSO 55th Round Consumer Expenditure

Sn	States	Rural and Urban				Rural				Urban			
		PTI	P	T	I	PTI	P	T	I	PTI	P	T	I
1	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*	*11*	*12*	*13*	*14*
1	Andhra Pradesh	58.0	10.1	49.6	23.9	64.9	10.5	56.3	28.6	40.9	9.4	33.3	12.4
2	Assam	93.9	85.3	74.1	26.9	94.2	85.7	75.8	29.1	91.6	82.2	59.1	7.4
3	Bihar	77.5	28.4	70.0	19.0	79.3	28.1	72.4	19.5	65.9	30.4	54.1	15.5
4	Gujarat	61.5	15.8	54.2	4.6	67.0	11.6	62.5	5.6	49.8	24.8	36.6	2.4
5	Haryana	68.5	1.7	65.9	13.8	74.0	0.9	72.0	13.3	54.0	3.5	49.7	15.1
6	Himachal Pradesh	60.9	0.3	57.7	16.7	62.8	0.3	59.6	17.2	41.8	0.8	38.3	11.8
7	J & K	68.7	1.1	66.1	6.6	72.9	1.3	70.4	6.3	52.8	0.5	50.0	7.7
8	Karnataka	64.0	37.8	46.7	15.5	72.2	43.8	53.2	17.6	43.1	22.4	29.9	10.0
9	Kerala	51.5	19.3	42.4	11.7	53.9	22.1	44.0	11.9	44.8	11.7	38.0	11.0
10	Madhya Pradesh	82.5	41.1	74.0	20.8	85.6	41.0	79.1	22.9	71.7	41.6	55.8	13.8
11	Maharastra	71.2	49.9	55.5	13.5	77.9	55.3	65.4	14.9	60.6	41.3	39.7	11.4
12	Orissa	86.4	41.0	74.6	22.5	89.2	40.7	79.1	24.3	72.1	42.3	51.9	13.3
13	Punjab	34.6	0.7	21.9	17.7	36.1	0.4	21.6	19.6	31.2	1.3	22.5	13.3
14	Rajastan	71.8	7.1	69.3	12.9	77.4	5.6	75.7	14.0	51.9	12.5	46.6	9.0
15	Tamil Nadu	46.4	21.9	35.1	10.0	51.2	26.6	38.1	11.0	37.5	13.1	29.4	8.2
16	Uttar Pradesh	77.1	28.5	70.6	7.6	80.2	28.8	75.2	7.7	64.8	27.5	52.7	7.1
17	West Bengal	78.6	25.0	71.9	6.7	80.9	25.3	74.5	6.7	70.0	24.0	62.0	6.8
18	Delhi	43.1	6.6	35.1	13.1	53.0	3.1	40.1	20.0	39.7	7.8	33.5	10.8
	Total (India)	70.2	28.3	61.0	14.2	75.3	29.5	67.0	15.5	55.3	24.8	43.1	10.2

Notes: 1. P-Pan, T- Tobacco and I – Intoxicants;
Source: Estimations using NSSO (1999-2000) 55th Round Consumption Expenditure unit level record data.

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End Notes

[1] There is substantial product heterogeneity even within the narrowly defined and commonly consumed local liquor, arrack.

[2] The consciousness of these facts raised the social movements against the sales and consumption of alcohol (see for example Pathak, 1985; Reddy and Patnaik, 1993; Kumara and Salaam, 1997). This has raised the policy issues with respect to alcohol (see Mahal, 2000; Reddy and Patnaik, 1993).

[3] At the same time social taboos associated with consumption within a particular socio-economic group (the urban middle class) decreased rapidly. The per capita consumption of alcohol by adults of 15 years and above in India increased by 106.67 percent between 1970-72 and 1994-96!

[4] There is a strong body of knowledge, research and experience about appropriate goals of prevention and effective interventions.

[5] Especially in the human capital perspective, it has negative impact (see Cercone, 1994).

[6] While alcoholic beverages are less expensive in India, their purchase may still require a substantial portion of a poor person's meager income. With one in three people in India falling below the poverty line, the economic consequences of expenditures on alcohol assumes special significance.

[7] Most individuals with severe alcohol dependence find it difficult to reduce their expenditure on drink, and hence their families often have to do without the basic necessities. Although the overall economic effect of alcohol use at the national level is yet to be estimated, it is likely that it represents a substantial proportion of India's national income.

[8] Figures for the shortfall for the Indian context do not exist but the experience from other country studies suggests this may be significant and hence a relevant issue in assessing the data source of consumption figures.

[9] The first two groups are excluded as slums do not fall in the NSS sample frame and because their expenditures are not generally included in the expenses of their permanent household.

[10] There is also variation with respect to household religion: Sikhs and Christians report the highest percentages of consumption, 22% and 20% respectively, relative to Muslims and Jains – 2.5% and 1.3% of who consume alcohol.