

Trends in Urban Poverty under Economic Reforms: 1993-94 to 2004-05

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Urban poverty, when directly measured by counting the persons unable to access the official nutrition norm of 2,100 calories through their total monthly spending on all goods and services, declined between 1983 and 1993-94, but rose substantially between 1993-94 and 2004-05 while poverty depth has increased. This is particularly evident in the states with the conurbations of Delhi, Mumbai, Chennai and Kolkata, while states with smaller urban centres have fared better. This paper presents the estimates for urban areas at the all-India level and the individual states. The official method has been underestimating actually existing urban poverty in the same manner that rural poverty has been underestimated. The energy intake accessible at the all-India official urban poverty line has fallen to 1,795, but in many states it is below 1,450 calories at the state-specific official poverty lines. The data also record a small decline in average protein intake and a small rise in fat intake per capita over the same period.

1 Introduction

It is widely recognised that rural India, in particular agriculture and allied activities, has been in prolonged depression and that in specific regions agrarian distress continues to be acute. Poverty in rural India measured directly by this author by applying the official nutrition norm of 2,400 kilocalories per day to the NSS data to obtain poverty lines, has risen substantially between 1993-94 and 2004-05. Rural persons spending less than the total monthly sum whose food spending part would allow them to reach the nutrition norm, rose from 74.5% in 1993-94 to an all-time high of nearly 87% by 2004-05. Rural persons unable to access 2,200 calories per day, rose from 58.5% to 69.5% while those below the very low 1,800 calories per day level, registered a rise from 20% to 25% indicating increasing poverty depth. These findings along with the estimates of rural poverty for the major states had been presented in Patnaik (2007).

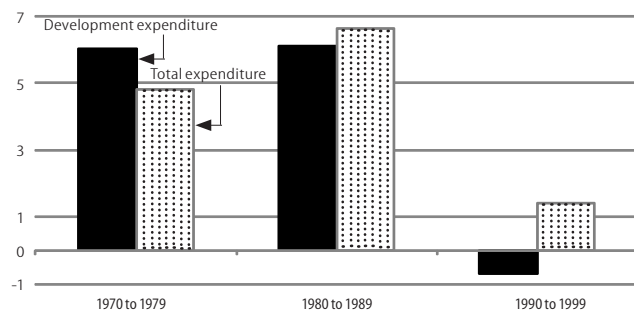
This substantial worsening is particularly significant for two reasons – it has occurred during the period of economic reforms, and in no previous period since official poverty estimation started, do we find such a large increase – the percentage of persons below 2,200 calories energy intake had ranged between 54 to 59 over the period 1973-74 to 1993-94 and had never exceeded 60% before economic reforms whereas by 2004-05 it has reached nearly 70%. Similarly, the percentage of persons below 2,400 calories intake had never exceeded 75% before whereas by 2004-05 it has reached nearly 87%. All individual states in the country, except two, have seen substantial worsening of the position taking even the lower nutrition norm of 2,200 calories for rural India.

Urban India has fared little better under economic reforms. Directly measured by counting the persons unable to access the official nutrition norm of 2,100 calories through their total monthly spending on all goods and services, urban poverty declined between 1983 and 1993-94, but has risen substantially between 1993-94 and 2004-05 while poverty depth has increased. This is particularly evident in the states with the conurbations – Delhi, Mumbai, Chennai and Kolkata while states with smaller urban centre have fared better. This paper presents the estimates for urban areas at the all-India level and the individual states. The official method has been underestimating actually existing urban poverty in the same manner that rural poverty has been underestimated. The energy intake accessible at the all-India official urban poverty line has fallen to 1,795, but in many states it is below 1,450 calories at the state-specific official poverty lines. The data also record a small decline in average protein intake and a small rise in fat intake per capita over the same period.

Urban poverty has been usually and correctly thought of as being affected strongly by employment and income trends in rural areas. The completely landless poor in rural areas have always been footloose migrants, with a large component migrating seasonally to other rural areas and another stream migrating to urban areas in search of work. When levels of economic activity are rising in the rural economy as a whole, employment is growing and incomes are buoyant, we would expect much less migration to urban areas to take place and thus better prospects for urban poverty reduction. If employment opportunities and incomes are growing faster in urban areas than rural ones, migration will also rise, owing not to distress but to the prospect of better conditions, but such additions to the urban workforce then will not raise urban poverty. Distress migration of labourers, petty peasant producers and of artisans, takes place in a situation of rural depression when income from agriculture and other activities falls and such migration if large enough relative to urban employment opportunities, will tend to add to the factors raising urban poverty.

The two decades from 1970 onwards saw reasonably high levels of public expenditure and activity in all the material productive sectors while employment growth rates kept ahead of workforce growth rates. The decade from the early 1990s, however, has been one of sharply lowered investment, absolute decline of real public development expenditures (Chart 1a), and rising unemployment in both rural and urban India, the former faring worse.

Chart 1a: Central Government Development and Total Expenditures
(Annual growth rates over decades, in %)



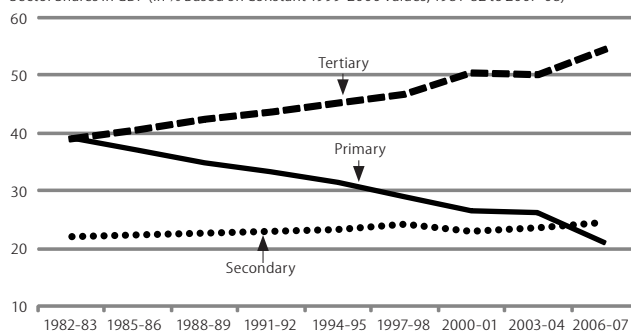
Spending rates improved during 2000-05 to 7% owing to the very low base effect, but absolute real spending has not recovered. States' spending on economic and social services shows the same trend as the above.

Source: R Ramkumar (2008).

Rapid structural shifts of a not wholly desirable kind have taken place with the contribution of the material productive sectors to GDP, remaining stagnant in the case of manufacturing and construction, and declining sharply in the case of agriculture. Only the tertiary sector has registered high growth raising its share in GDP to nearly 60%. The contribution of the primary sector to GDP has declined rapidly (Chart 1b), more rapidly than its share of workers and population, implying a decline in its worker productivity relative to other sectors. The real income generated from the primary sector per head of total population has virtually stagnated between Rs 4,000 and Rs 5,000 using implicit GDP deflators. The foodgrain output growth rate has decelerated far below the population growth rate even after factoring in the 233 million tonne harvest of 2007-08. The growth rate will be lower still once the 2009-10 drought year output data are factored in.

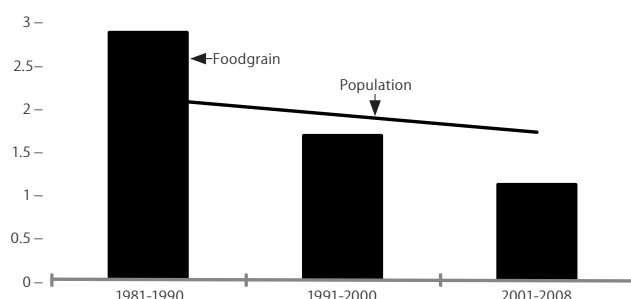
Chart 1b: Contribution of the Economic Sectors to GDP in India

Sector Shares in GDP (in % Based on Constant 1999-2000 Values, 1981-82 to 2007-08)



Source: Calculated from RBI 2007-08.

Chart 1c: Decade Average Foodgrain Output Growth and Population Growth Rates
(1980-81 to 2007-08 in % per annum)



Compound Growth rates calculated by taking 3-year averages centred on the year specified, as the initial and terminal values for each decade/period. RBI 2008-09.

In such a situation we would expect more distress migration to urban areas and poorer prospects for urban poverty reduction. Further, the level of activity in the material productive sectors has also been lower during the 1990s in urban India which has seen rising unemployment rates. We would certainly expect urban poverty to rise and this is indeed what the expenditure and nutrition data show. The impact of expansionary measures like the NREGA introduced from February 2006 in rural areas has been uneven owing to patchy implementation and will show itself only after the 66th round 2009-10 data of the National Sample Survey (NSS) becomes available.

2 Incorrect Methodology of Official Poverty Estimates

In earlier papers this author had pointed out that the accepted methodology of poverty estimation used by the Planning Commission in India and by a number of individual academics, is incorrect and embodies a logical fallacy, the fallacy of equivocation (Patnaik 2005, 2007). It is important to note that it is not only mistakes in the formal process of inference, but also the incorrect use of terms, or verbal fallacies, which fall under the rubric of *logical fallacies*. The fallacy of equivocation arises when the same term is used in two quite different senses within the same argument. In this case the term is "poverty line expenditure". This was defined in a particular manner directly linked to a nutrition norm for the initial poverty estimate, but subsequently a different definition was used. We have shown earlier that defining the poverty line in one way but applying it in a different sense, does not allow valid comparison of poverty ratios over time in any state, nor does it allow valid comparison of the poverty ratios of the different states at any point of time.

The problem has arisen because the original definition of poverty line which was clear and unambiguous, based on a nutrition norm, was applied in one year only, 1973-74 and later a definition no longer directly based on nutrition, was employed. As a result the consumption standard no longer remained invariant over time, or across states at a given point of time. The poverty line had been originally defined precisely as that particular observed monthly per capita expenditure on both food and non-food items (observed from the NSS data on spending and nutrition) whose food spending part allowed the consumer to obtain the nutrition norm in terms of kilocalories per day. For rural India in 1973-74 it was Rs 49.1 and for urban India Rs 56.6 (in per day terms Rs 1.6 and Rs 1.9, respectively). In the words of the 1993 Expert Committee,

The official estimates are based on a calorie norm of 2,400 calories per capita per day for rural areas and 2,100 calories per capita per day for urban areas. The poverty line for the base year 1973-74 has been taken as the per capita expenditure level at which these calorie norms have been met, on an average, for the country as a whole, as per the NSS household consumption expenditure survey for the corresponding year.

Inverse linear interpolation method was applied to the data on average per capita monthly expenditure and the associated calorie content of food items in the class separately for rural and urban areas. Based on the observed consumer behaviour in 1973-74 it was estimated that, on an average, consumer expenditure of Rs 49.09 per capita per month was associated with a calorie intake of 2,400 per capita per day in rural areas and Rs 56.64 per capita per month with a calorie intake of 2,100 per day in urban areas. Thus, the concept of poverty line used here was partly normative and partly behavioural.

This way of deriving the poverty line, while being anchored in a 'norm' of calorie requirement, does not seek to measure the nutritional status, and more specifically the incidence of malnourishment or under-nourishment in the population. It focuses rather on the purchasing power needed to meet the specific calorie intake standard with some margin for non-food consumption needs (emphases added).

The "specific calorie intake standard" is not being met however by the official poverty lines after 1973-74, with small initial shortfall of calorie intake from the norm at the official poverty lines which has increased rapidly over time. By 2004-05 the shortfall was 600 calories per day at the rural all-India level while in some states it had reached nearly 1,000 calories (Patnaik 2005, 2007). The urban all-India shortfall of energy intake from the lower norm of 2,100 calories, at the official poverty line is 305 calories by 2004-05 but for three states it is over 600 calories. These official poverty lines in most states do not measure poverty any longer, but they do measure destitution. A different definition of poverty line no longer "anchored in a 'norm' of calorie requirement" has been used for all subsequent years after 1973-74. The correct nutrition based poverty lines for 1973-74 have been brought forward to successive current years using consumer price indices,¹ without any regard to whether at the resulting poverty lines, the nutrition norms were being violated or to what degree they were being violated. This procedure took the consumption basket to be fixed at the base year level and assumed that only changing prices need to be adjusted for, to obtain the changing cost of this fixed basket, and thus implicitly assumed that the nutrition part would be automatically looked after. The rationale for this assumption was never spelt out and it has turned out to be incorrect.

Altering thus, the definition of poverty line from one functionally dependent on a nutrition norm being satisfied, to another definition with price-index adjustment to the base year line, involves the "fallacy of equivocation", namely using the same term "poverty line" in two completely different senses giving not just different results, but as it turns out, increasingly divergent results. The following are the nutrition norm-based definition and the subsequent price-index adjustment to a base year definition:

(A) Definition 1: Let the nutrition level NU_{CAL} measured in daily calorie intake, be a function g of Monthly Per Capita Expenditure or MPCE:

$NU_{CAL} = g(MPCE)$ Then, define the official poverty line in year Y_n as

$$OPL_{Y_n} = f\{g_{Y_n}, NU_{CAL}^*\},$$

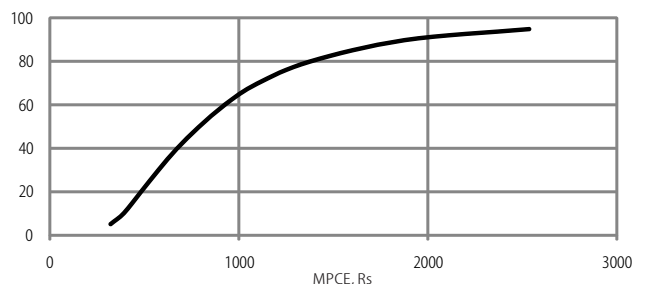
where $NU_{CAL}^* = 2,400$ Rural, 2,100 Urban

(B) Definition 2: The official poverty line in year Y_n is defined as

$$OPL_{Y_n} = OPL_{Y_0} \cdot P_{Y_n} / P_{Y_0}$$

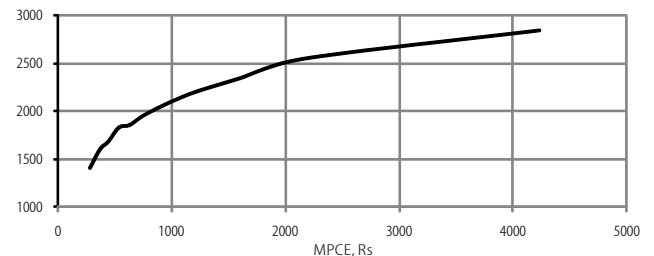
In the first definition of the official poverty line OPL, the observed functional relation g_{Y_n} of daily nutritional intake in calories NU_{CAL} to the monthly per capita expenditure MPCE in any year Y_n , is used to obtain the expenditure level OPL_{Y_n} for that year corresponding to the particular calorie norm/s NU_{CAL}^* for rural and urban India and for the states. So the poverty line for that year

Chart 2a: Ogive, 2004-05 Uniform Reference Period (All-India Urban)
% of persons



Source: Table 1, column 3 and col 1, upper end values.

Chart 2b: Daily Per Capita Calorie Intake by MPCE (2004-05 URP All-India Urban)
Calories per day



Source: Table 1, col 4 and col 5.

depends directly on the relation g of calorie intake by MPCE levels of the year, and on the specific nutrition norm adopted. The relation g is shown for 2004-05 all-India urban in Chart 2b (the all-India rural charts were presented in Patnaik 2007), and it can be similarly plotted for every individual state. The MPCE corresponding to the specific nutrition norm (the poverty line) is obtained from this graph. It is then applied to the ogive shown in Chart 2a to obtain the percentage of persons falling below it. We termed this the "direct poverty line" since the current nutrition data by

spending classes are directly used to estimate the poverty line. This was the method used by the Planning Commission to obtain the 1973-74 official poverty line and poverty percentage.

In the second definition of the official poverty line, both the relation g between nutritional levels and expenditure, and the nutrition norm NU^* drop out of the picture. The poverty line obtained by applying the nutrition norm in the original year y_0 , is treated as the base-year line OPL_{y_0} and this is brought forward to a current year y_n by applying the consumer price index multiplier P_{Y_n}/P_{Y_0} to give the current official poverty line OPL_{Y_n} . Thus in definition 2 the base year basket is kept fixed, and the information of Chart 2b regarding current energy intake by MPCE levels, is ignored entirely although these data are available. The current poverty line so obtained is applied to Chart 2a for the relevant year to obtain the percentage of persons falling below it and this is the official headcount poverty measure. This is the method used by the Planning Commission for every estimate after 1973-74.

Of course, every such price index adjusted "poverty line" has a calorie intake value accessible to the consumer but no information is officially provided regarding this. We termed the official poverty lines, "indirect" poverty lines since they did not use current nutrition data at all but merely presumed, incorrectly, that the method of price index adjustment could capture "the purchasing power needed to meet the specific calorie intake standard with some margin for non-food consumption needs". However as Chart 3c shows, each successive official poverty line has enabled the consumer to access lower and lower energy intake. Clearly the poverty lines have been increasingly underestimating the "purchasing power needed to meet the specific calorie intake standard". This process has been going on at five yearly intervals for over three decades thus cumulating the degree of underestimation. The initially small divergence between the actual current cost of accessing the specific calorie standard on the one hand and the officially measured cost on the other, has become a very large divergence by 2004-05 as Chart 3a shows, which continues to grow fast. The official poverty percentages show a continuous decline (Chart 3b), precisely because the official poverty lines are counting the poor below a continuously lowered standard. These poverty percentages cannot be validly compared over time. No valid inference regarding change in poverty can be drawn when the standard with respect to which poverty is measured, is itself being altered.

Incidentally, the initial choice of calorie intake as the nutrition norm was well advised since protein intake is highly correlated with calorie intake in the Indian case arising mainly from the continued predominance of foodgrains as the nutrition source in the prevailing cereals-pulses-vegetables dietaries of its poor population. Even as late

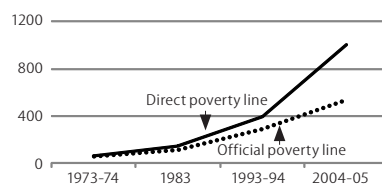
as the 61st round, 2004-05 the foodgrains (cereals and cereal substitutes, pulses and products) accounted for 75.3% of the total calorie intake and 75.8% of the total protein intake of the average rural consumer while these same foodgrains accounted for 65.6% of the total calorie intake and 67.2% of total protein intake of the urban consumer (NSS Report 513). Thus an even higher share of total protein intake comes from the foodgrains than does the share of energy (calorie) intake from this source. Some non-cereal foods like the edible oils and sugar which are a rich source of energy have no protein at all.

Foodgrains are the third richest source of protein per unit of weight, after nuts and animal products, even considering cereals alone and leaving out pulses. A 100 gm cereals intake decline per day divided half and half between rice and wheat flour, entails a decline of 345 calories and 10 gm protein. To make up this extent of energy decline by substituting animal products, the person would need to consume, say either 345 ml milk, or three large eggs or a suitable combination of smaller quantities of both. Since these amounts of animal products are each today over three times more expensive than 100 gm rice or wheat, and the cost differential was similar in the past, it is hardly surprising that the majority of the population cannot afford such substitution whatever their tastes and preferences might be, and are obliged to rely overwhelmingly on the foodgrains for not only their calorie but also their protein intake. Nutritional security still means foodgrains security in our country: provided the normal cereals, pulses and vegetables-predominant diet of the mass of the population, is sufficiently affordable by them to be consumed daily in

desired quantities which meet their energy requirement, automatically protein requirements will be met, with minor supplementing by preferred but costlier animal products. That is why the National Nutrition Monitoring Bureau (NNMB) (1997) had correctly stated that "The NNMB has confirmed in successive surveys that the main bottleneck in the dietaries of even the poorest Indians is energy and not protein as was hitherto believed". The main reason for the observed absolute decline of protein intake for the mass of the rural and urban population, is the large absolute decline of foodgrains intake, not compensated by a very tiny rise in animal products intake in most states. In fact in many states animal products intake has also fallen from already low levels over the reform period when foodgrains intake was falling.

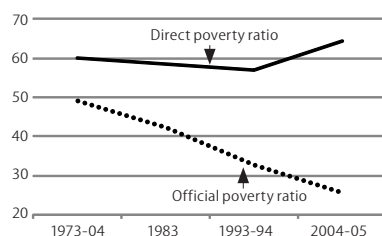
There seems to have been a recent systematic misinformation campaign that the problems with official poverty measurement have arisen because too much importance was given to nutrition and non-food costs which are increasingly important, were not taken into account. But the problem is exactly the converse. It has arisen not

Chart 3a: Official and Direct Poverty Lines
(1973-74 to 2004-05, all-India Urban, MPCE in Rs)



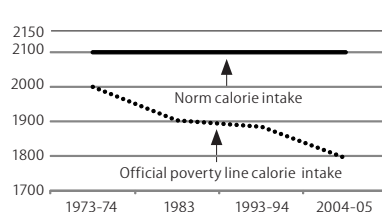
Source: Table 2, lines 1 and 3.

Chart 3b: Official and Direct Poverty Ratios
(1973-74 to 2004-05 All-India Urban, Obtained by Applying the Respective Poverty Lines, in %)



Source: Table 2, lines 2 and 4.

Chart 3c: Declining Calorie Intake at Official Poverty Lines
(1973-74 to 2004-05, all-India Urban)



Source: Table 2, lines 2 and 4.

because a nutrition norm was applied, but precisely because a nutrition norm was never applied after the initial estimate. Actually observed non-food spending was always taken into account since the poverty line was the *total* observed monthly spending, food plus non-food, from the NSS consumption expenditure data, whose food part allowed the consumer to access the specified nutrition level. True, no norms were set for non-food essentials. Had this been done and a vector of reasonable norms adopted, the poverty lines might have been even higher than those obtained by directly applying a nutrition norm alone.

The 1993 Expert Group unfortunately decided to continue to ignore current spending required to access the nutrition norm. It opted to continue with the fixed base year rural and urban baskets of 1973-74 even though it was already clear that poverty lines obtained by adjusting the cost of these baskets using price indices, were no longer allowing the nutrition norms to be accessed. The Expert Group indeed compounded the problem by advising the use of different price indices for the different states to arrive at varying state level poverty lines. Contingent factors like supply of subsidised grain in some south Indian states (not necessarily maintained as governments changed) led to much lower than the all-India average poverty lines being adopted for them, and subsequent current poverty lines in these states ended up being underestimated to an even greater degree than the large average underestimation for all-India. The latter itself arose from the cumulative nature of underestimation since the inadequate definition 2 of price-index adjustment was applied six times at five-yearly intervals over a long period of three decades after 1973-74.

For example in Andhra Pradesh (AP) by 2004-05 the official rural poverty estimate was only 11.2%, not because actually poverty was low, but solely because the official poverty line at Rs 293 per month (Rs 9.8 per day) was the lowest in India and even more severely underestimated than the all-India Rs 356 per month. Plotting the relation *g* for that state shows that this poverty line allowed only 1,600 calories per day to be accessed, it had become a destitution line, not a poverty line. The correct poverty lines allowing the consumer to obtain 2,400 and 2,200 calories were Rs 935 and Rs 708, respectively. Nine-tenths (90.2%) and nearly four-fifths (78%) of the state's rural population failed to spend enough to reach these norms.²

The AP urban official poverty line of Rs 543 in 2004-05 had 28% of persons falling below it, but at this poverty line only 1,720 calories daily could be accessed. The required sum for accessing 2,100 calories, Rs 1,175 was over double the official poverty line, and 75.5% of urban persons spent less than this. When official poverty percentages are estimated at a mere 11 rural and 28 urban while actual poverty percentages are 90.2 and 75.5, respectively, how misleading the official estimates would be for the formulation of public policies relating to the state, may well be imagined. Fortunately the issue of BPL ration cards is not based on the official estimates, otherwise by now we might have seen famine in addition to the observed farmer suicides.

A number of states apart from AP show exceptionally large underestimation of their official poverty lines and hence grossly underestimated head count poverty ratios: Kerala, Tamil Nadu, Karnataka, Gujarat and Punjab in particular. In rural and urban

Kerala 12% and 20.2% of persons fell below the official 2004-05 poverty lines of Rs 430 and Rs 559.4 but at these spending levels plotting the relation *g* for the state shows that only 1,475 and 1,300 calories, respectively, could be accessed. The true poverty lines for accessing 2,400 calories rural and 2,100 calories urban were Rs 1,345 and Rs 1,960, more than three times the official poverty lines, and 78.5% and 87%, respectively, of rural and urban persons fell below it. The misguided cutting of rice allocation from the central pool under the public distribution system to Kerala by as much as 80% in early 2008, will hardly help matters. It is often argued that NSS data on calorie intake in Kerala is underestimated, but its pattern is broadly in line with the intakes observed for Tamil Nadu and Andhra Pradesh after allowing for the fact that as a food deficit state importing heavily from neighbouring states, Kerala has to pay a higher cost for food which is bound to affect intake adversely especially for the lower fractiles of the population if their real incomes are not rising adequately. Maintenance of its well-functioning PDS and civil supplies system is especially important for Kerala. It is only the substantially higher consumption of marine products in this coastal state which also has 44 rivers, which has in the past entailed a higher than average protein intake and has averted the decline in protein intake which has marked the rest of India. Kerala shares this characteristic with the states of Goa and West Bengal.

At the other end of the country consider Punjab: officially only 7.1% of urban persons were poor because the poverty line following definition 2, was set at Rs 466.2, less than Rs 16 per day. Plotting the relation *g*, we find that at this spending level only 1,435 calories could be accessed, 665 calories deficit from the urban nutrition norm. In order to reach the norm, Rs 1,280 monthly spending was required, nearly thrice the official poverty line, and 68.8% of urban consumers could not reach this level. How will public policy be correctly guided when actual urban poverty is nearly 70% whereas the stylised "fact" administrators work with, which turns out to be a fiction, is only 7% in poverty?

Conversely, the official poverty lines for many states, while underestimated relative to true poverty lines derived from the nutrition norm, have been well above the all-India official line. So their official poverty percentages come out much higher than for the other states even though directly measured poverty is lower than in those states. Thus Bihar, Madhya Pradesh, Orissa, Rajasthan and Uttar Pradesh had higher than average official rural poverty lines for 50th round 1993-94, at which the calorie intakes were respectively 2,150, 2,010, 2,230, 2,100 and 2,230 – far above the mere 1,600 to 1,700 calories accessible at the official poverty lines in the south Indian states and Gujarat, and well above the 1,980 calories at the all-India official poverty line. The former states were officially ranked below the south Indian states and Gujarat whereas the true ranking was the opposite, since all the south Indian states and Gujarat had more than 70% of their population below even the lower nutrition norm of 2,200 calories compared to 40% to 50% below it in Bihar, MP, Orissa, Rajasthan and UP.

For a quarter century the incorrect idea has been firmly implanted in the public mind that these are the poorest states in the country, reinforced by the use of the journalistic acronym the

“Bimaru” states or sick states to refer to them. This false idea had prevailed to the extent that the 1993 Expert Committee actually gave in writing the remarkably illogical argument that Bihar gets ranked above 11 states if definition 1 directly applying the nutrition norm is followed, and since it is simply not possible that Bihar is not among the poorest, therefore definition 2 should be retained (which puts the state right at the bottom followed by Orissa).

It was forgotten that while Bihar and Orissa may well have been among the poorest states in terms of criteria like infrastructure and showed poor performance on vital rates, infant and maternal mortality, they were by no means as poor in terms of low nutrition of the majority as were many other states. This is not as surprising as might seem to those with firmly held preconceptions not supported by hard analysis of the data. The more conventionally “backward” a region is with relatively slower rise of modern market relations, lower growth of foodgrains-displacing cash crops and lower monetisation of inputs and wages, the more likely it is that its traditional rural food security systems like payment to labour in grain wages or to poor tenants in share of food crops, are retained. The moment the labouring classes start to be paid mainly in cash, food security is automatically undermined with price inflation given that there is always upward stickiness of money wages in the absence of labour organisation. Nor does low inflation, such as seen during 2000 to 2005, help the poor-and-hired if it is the result of lower public spending, loss of employment and demand deflation as was the case during that period. The relation between under-nutrition and morbidity is complex and it must not be assumed that there is an automatic one-to-one correspondence between the two. Countries or regions which have effectively implemented public health and sanitation measures and have reached immunisation to the masses, have seen dramatic improvement in mortality and morbidity rates even with low levels of nutritional intake.

By 2004-05, the situation had worsened greatly compared to 1993-94, including in the hitherto low-poverty states, with a sharp increase in the proportion of rural persons unable to access even 2,200 calories, in every state except only Assam. As regards urban poverty in 2004-05 the exceptionally low official poverty lines were for Assam, Bihar, West Bengal, Kerala, Punjab and UP. The daily calorie intake obtainable at their respective official poverty lines in Assam, Kerala and Punjab, was as low as 1,485, 1,300 and 1,435. Urban official poverty ratios of these states were 3.3, 20.2 and 7.1 whereas the true poverty ratios using direct poverty lines were 47, 87 and 68.8: thus half or more of urban persons though actually poor, were left out of the officially measured set of “the poor”.

We have run ahead somewhat in talking of the state estimates to highlight the seriousness of the disjunction between actual and officially measured poverty. Estimation of all-India urban poverty applying the first nutrition norm based definition and its comparison with official estimates, is discussed next.

3 Urban Poverty Trends, All-India

Table 1 presents the all-India urban distribution of persons living in households, the average expenditure and average calorie intake by expenditure classes, from NSS reports 508 and 513 relating to

Table 1: Distribution of Persons by Monthly Per Capita Expenditure (MPCE) Groups, Average Expenditure and Average Calorie Intake Per Diem (2004-05, All-India Urban)

MPCE Class	% of Persons URP 2004-05	Cumulative % of Persons URP 2004-05	Average MPCE Rs URP 2004-05	Average Calorie Intake URP 2004-05	Cumulative % of Persons (Current values)		
					MRP 2004-05	MRP 2005-06	MRP 2006-07
1	2	3	4	5	6	7	8
< 335	5.0	5.0	279.7	1,413	3.5	3.0	1.5
335-395	5.1	10.1	368.1	1,608	7.4	6.3	3.9
395-485	9.8	19.9	441.3	1,687	15.9	13.3	9.5
485-580	10.3	30.2	533.2	1,833	25.8	21.8	17.4
580-675	9.7	39.9	625.8	1,856	35.7	30.6	25.8
675-790	9.9	49.8	730.2	1,943	45.8	41.6	35.0
790-930	10.3	60.1	858.0	2,024	56.1	52.3	46.1
930-1100	9.7	69.8	1,014.3	2,110	65.9	62.7	57.2
1100-1380	10.2	80.0	1,226.4	2,209	77.4	75.7	70.3
1380-1880	9.9	89.9	1,594.4	2,341	87.8	86.5	82.9
1880-2540	5.1	95.0	2,157.2	2,545	93.9	93.5	91.4
2540 and more	4.9	99.9	4,235.6	2,839	100	100	100
All	100.0		1,052.4	2,020			

Source: NSS (61st round, 2004-05) Report No 513 Nutritional Intake in India. See A108 for calorie intake and % of persons by expenditure classes. Report No 508 Household Consumer Expenditure in India – Key Results See p 47 and A-276 for the same % of persons, and MPCE by expenditure classes. URP is uniform 30-day recall period and MRP is Mixed Recall Period with 30 days reference for all except infrequently purchased items for which the reference period is 365 days. Cols 6-8 show the MRP distribution of persons for 2004-05 to 2006-07 from Report 527, Table P1.

the 61st round 2004-05. These data are enough for us to make both the indirect official, and direct poverty estimates. Owing to the juxtaposition of the relevant available data on both expenditure and calorie intake, the non-specialist and the non-economist can get a good idea of the magnitude of head-count urban poverty without making any calculations at all, simply by inspecting Table 1 carefully.

Looking at the first, fourth and fifth columns, the eighth MPCE class Rs 930 to Rs 1,100 whose mean expenditure level is Rs 1,014.3 shows an average calorie intake of 2,110, very close to the 2,100 norm. The poverty line would thus lie just below Rs 1,014. From column 3, about seven-tenths, 69.8% of the urban population of India, spent less than Rs 1,100 per month per person. Since the upper half of the Rs 930 to Rs 1,100 class which contained 9.7% of persons, obtained calorie intake above 2,110 calories, this has to be deducted from 69.8 so obtaining the poverty ratio as slightly under (69.8 – 4.9) or 64.9%. On plotting the data as graphs, which allows precise interpolation, we get Rs 1,000 per month required for obtaining 2,100 calories daily, and 64.5% as the figure in urban poverty spending less than this. Yet, the official Planning Commission figure of urban poverty from the same data is only 25.7%, because it corresponds to its poverty line of Rs 538.6. Since this poverty line is very close to the average expenditure of the fourth class, it is clear that only around 1,833 calories can be accessed at this line, well below the official nutrition norm of 2,100 calories.

The graphs for interpolating, are easily plotted and are those discussed earlier (Patnaik 2007) in the context of rural poverty. First, the ogive, or the cumulative frequency distribution of persons plotted against the upper-end value of each expenditure class – (col 3 and col 1 of Table 1) and this is shown in Chart 2a. Second, the per capita daily calorie intake plotted against the per capita monthly expenditure (col 5 and col 4) which is the g relation of definition 1 namely $NU_{CAL} = g(MPCE)$. This is shown as Chart 2b which enables us to read the calorie intake at any given expenditure level.

We, thus, have two relations in three variables, (1) the poverty line expenditure, or any other expenditure level, (2) the percentage of the population below the poverty line, or below any expenditure level, and (3) the calorie norm, or any specified calorie intake. Given the value of any one of the three variables, the corresponding values of the other two are uniquely determined and can be read from the graphs. The relation $NU_{CAL} = g$ (MPCE) shown in Chart 2b can be also plotted directly on Chart 2a itself by taking the calorie intake values along the right hand y-axis. The corresponding data and charts for rural India were given in Patnaik (2007). Table 1 gives the mixed recall period (MRP) distribution for the three years from 2004-05 to 2006-07 as these are being used nowadays in an illegitimate manner to claim poverty reduction, a matter we discuss later.

The official poverty line, Rs 538.6 (below Rs 18 per day) is the result of applying definition 2 namely updating the 1973-74 poverty line of Rs 56.4 by the Consumer Price Index for Industrial Workers³ and it corresponds to around 1,835 calories intake. We see that the average calorie intake of the fourth and fifth spending classes are very similar, showing up as a kink in the g relation of Chart 2b. If these classes are pooled, the calorie intake at the official poverty line drops to 1,795 and the deficit from the norm is 305. Since the specific class interval values are chosen by NSSO only to ensure roughly the same proportion of persons in each class, it is justified to pool classes if calorie intakes are close.⁴ The actual spending level at which 2,100 calories could be accessed, Rs 1,000 per month is nearly double the official poverty line, and applying this value to the ogive of Chart 2a tells us that 64.5% of persons spent less than this – the correct estimate of urban poverty for 2004-05. This is 7.5% points higher than urban poverty in 1993-94.

The difference between 64.5% directly applying the nutrition norm, and 25.7% is large. Almost two-fifths of total urban persons – 64.5 minus 25.7, or 38.8% to be precise – have been excluded from the set of the officially poor. Given the high cost of urban living which we know from our own daily experience, the finding that nearly two-thirds of the urban population in 2004-05 spent less than the paltry sum of Rs 33.3 per day on all goods and services should certainly give pause for thought. The meagerness of their living standards can well be imagined, for this is a sum which the top 10% of the population would have spent without a thought on buying a single cup of coffee at an airport.

The official claim is that head count urban poverty has reduced steadily from 49.2% in the base year to 25.7% by 2004-05. This claim is untenable, for comparability over time and across states at a point of time, is as compromised in the official urban estimates as in the rural estimates earlier discussed in Patnaik (2007). We cannot compare the 49.2, 42.2, 32.6 and 25.7% officially poor in 1973-74, 1983, 1993-94 and 2004-05, respectively, and claim that poverty is continuously declining, because these poverty percentages have been derived by applying poverty lines which allowed respectively 2000, 1905, 1885 and 1795 calories daily intake (Table 2). Owing to the use of definition 2 to derive the poverty lines, the consumption standard at the poverty lines is not held constant over time but has been going down more and more relative to the nutrition norm, as these same data in

Table 2: The Urban Poor as Per Cent of Urban Population All-India (1973-74 to 2004-05)

Round No:	28th 1973-74	38 1983	50 1993-94	61 2004-05
1 MPCE giving 2,100 Kcal, Rs (DPL 2,100)	65*	147	398	1,000
2 % of persons below direct PL	60*	58.5	57.0	64.5
3 Official poverty line OPL Rs	56.6	117.6	285	538.6
4 % of persons below official PL	49.2	42.2	32.6	25.7
5 Calorie intake at Official PL	2000*	1905	1885	1795
6 Deviation from RDA of 2,100 Kcal	-100	-195	-215	-305
7 Ratio of DPL to OPL	1.13	1.25	1.40	1.86

Source: Planning Commission for official estimates lines 3-4. Estimates using nutrition norms, by plotting Chart 2a and 2b for each large sample Round from NSS Reports. Figures marked with an asterisk are approximate values. The Rs 56.6 urban official poverty line in 1973-74 is not consistent with 2,100 calories intake and is likely to correspond to 2,000 calories as indicated. Direct poverty line and poverty percentage in the base year are approximate and derived by assuming the rural-urban differential to remain constant over 1973-74 to 1983.

Chart 3c show. The only period when the change in the standard associated with the official poverty line was negligible, was 1983 to 1993-94 with only a 20 calorie drop in the accessible intake, while in other decades the drop has been much larger. Accordingly the only period for which both the official and the nutrition-invariant measures show a decline in urban poverty, is the 1980s decade. In the next decade the nutrition invariant measure shows a rise in poverty, while the official measure shows a decline associated with a substantial fall in the calorie intake at the official poverty line.

Over the period 1983 to 1993-94, the decline the official measure shows in the poverty percentage is real, although it is much smaller than the nearly 10% points official decline from 42.2% to 32.6%. The latter is spurious, arising from the fact that as the base year becomes more distant the increasingly underestimated poverty line over time intersects the ogive at its more steeply declining lower segment. The correctly measured decline using the nutrition invariant poverty lines is a small one from 58.5% to 57% in the population lying below 2,100 calories. More significantly the all-India below 1,800 calories percentage dropped from 31.5% to 23.5%. The reality of poverty decline over the 1980s is also confirmed by some simple readings from our charts: in 1983 the official 42.2% in urban poverty lay below 1,905 calorie intake. By 1993-94, the below 1,905 calories per cent of persons, had dropped to 35.5%. On the other hand, the 32.6% of persons in official poverty in 1993-94 were below 1,885 calories, while by 2004-05 the below 1,885 calories percentage of persons was much higher at 42.5%.

The improvement in the urban poverty situation over the 1980s is visible also for the individual states. The largest urban poverty decline took place in West Bengal, from 67% to 49%. In rural West Bengal too there was marked improvement over the same period (Patnaik 2007). In only four states – Karnataka, Gujarat, Haryana and Punjab – however, urban poverty rose, while in all other major states it declined. Macroeconomic policies in the 1980s decade which had an impact on urban India were markedly expansionary, the urban employment growth rate was higher than the labour force growth rate, urban real expenditure was registering improvement for the mass of the population while the scope of the public distribution system was expanding. The direct estimates showing reduction in poverty in the 1980s, are consistent with other macroeconomic trends. These trends were reversed as sharply income deflating

economic reform policies were undertaken over the 1990s, raising unemployment and poverty. It would be interesting to see how the differing extent of improvement or worsening across states is associated with state-wise variation in public development expenditures and in employment growth rates, but these questions await further research.

For the mass of the Indian population, calorie intake is highly sensitive to what would appear to upper income classes, as small absolute change in monthly spending. A mere Rs 88 rise in MPCE in the next lowest compared to the lowest expenditure class, raised the food expenditure by Rs 51 and this raised daily energy intake by nearly 200 calories (which can be embodied in 55 gms of a cereal like rice or wheat, or a 200 ml glass of milk). Since negligible numbers are observed to survive in households below an intake per capita of 1,000-1,100 calories daily (1,200-1,300 in the cooler hill states), 1,000 calories per day may be taken as a conservative threshold for survival. The MPCE for the second lowest compared to the lowest expenditure class was 31.6% higher while the normalised calorie intake (deducting 1,000 from intake values) was 47.2% higher. The MPCE for the third lowest group compared to the second lowest was 19% higher while the calorie intake rose by 13%.

Thus the elasticity of calorie intake with respect to MPCE exceeds unity for the very poorest classes and remains pretty high at 0.7 for the next class. The top class spent nearly double the average of the top-but-one class. Its normalised calorie intake was one-fifth higher. Even the richest consumers are by no means satiated with respect to food, and the data show that their consumption of costlier animal products has been rising.

The official method underestimates the actual current cost, at each point of time, of reaching the nutrition standard because the economic environment which has been altering the consumption basket has been changing in many ways which cannot possibly be captured by price indices alone. The implicit assumption behind the official procedure is that it is only changes in the level of prices which affect "the purchasing power needed to meet the specific calorie intake standard with some margin for non-food consumption needs". But there are many factors other than price changes, which affect the consumer's purchasing power. Changes in the level of employment and wages affect incomes and purchasing power, so do reduction in kind payments and increasing monetisation of wages. Removal or reduction of subsidies and putting what were hitherto public goods, under "market pricing", also affect purchasing power, and this operates most powerfully in the areas of health and education.

As the consumption standard embodied in the official poverty line is being continuously lowered over time in all the states as well except during the 1980s, it is not surprising that the percentages of the population falling below these increasingly underestimated poverty lines, show a steady decline. But the resulting claim of poverty reduction is quite spurious since the principle of comparability is violated owing to the alteration of the consumption standard. It is as spurious as inferring and claiming improved academic performance from a declining percentage of failures over time when there has been an unstated and continual lowering of the pass mark over the same period.

4 Poverty Trends in the Large Conurbation States

Here we present the results of trends over the reform period worked out for states with the largest urban centres, namely, Maharashtra, Tamil Nadu, West Bengal and Delhi (Table 3). As we have seen, the all-India percentage of urban persons unable to access the modest nutrition norm of 2,100 calories daily rose from 57% to 64.5% during 1993-94 to 2004-05. The below 2,400 calories percentage in urban India at 88.5% was marginally above the nearly 87% in rural India. In the states with the conurbations however the extent of poverty rise has been generally much more than the all-India average. Urban Maharashtra has seen a very steep and alarming rise poverty percentage from 52.5% to 85% or by over 30% points, and is the most expensive state with the highest direct poverty line, after urban Kerala. In Delhi the rise is from 35% to 57%, in West Bengal from 49% to 67.5% with Tamil Nadu registering negligible change from the initially highest poverty level of 69% to 70.5%. Urban Tamil Nadu no longer showed the highest poverty by 2004-05 since Maharashtra outstripped it by a considerable margin while West Bengal

Table 3: Direct and Indirect Official Poverty Estimates for Selected States
(Urban India, 50th round 1993-94 and 61st round 2004-05)

State	<2400 1993-94	<2400 2004-05	<2100 1993-94	<2100 2004-05	<1800 1993-94	<1800 2004-05
Direct poverty estimate						
1 MPCE required for						
Calorie intake (Rs)						
Delhi	650	1,800	445	1,150	325	705
Maharashtra	835	3,500	558	1,750	295	850
Tamil Nadu	677	1,940	440	1,180	308	680
West Bengal	650	2,350	365	1,150	230	515
All-India	635	1,785	395	1,000	253	542
2 Percentage of persons in poverty						
Delhi	53.0	82.5	35.0	57.0	19.0	23.5
Maharashtra	85.5	96.0	52.5	85.0	27.0	49.0
Tamil Nadu	87.0	90.0	69.0	70.5	42.5	39.0
West Bengal	80.0	93.0	49.0	67.5	18.0	21.5
All-India	82.5	88.5	57.0	64.5	23.5	26.3
Indirect official estimate						
3 Official poverty line (Rs)						
Delhi	309.5	612.9				
Maharashtra	335.0	665.9				
Tamil Nadu	300.0	547.4				
West Bengal	255.0	449.3				
All-India	285.0	538.6				
4 Official poverty percentage						
Delhi	16.1	15.2				
Maharashtra	35.0	32.2				
Tamil Nadu	39.9	22.2				
West Bengal	23.0	14.8				
All-India	33.2	25.7				
5 Calorie Intake at OPL						
Delhi	1,770	1,710				
Maharashtra	1,865	1,715				
Tamil Nadu	1,785	1,685				
West Bengal	1,850	1,735				
All-India	1,885	1,795				

Source: Official estimates of poverty line and poverty percentage from Planning Commission, press release. Direct estimates by author by constructing for states the *ogive* and *g* relation using the NSS Reports cited in Table 1. For Delhi at both dates, and for Maharashtra and West Bengal in 2004-05, two spending classes each with very close calorie intakes have been pooled. The All-India below 1,800 calories poverty line and poverty percentage obtained after pooling the fourth and fifth expenditure classes which have similar calorie intakes.

acquired the dubious distinction of coming very close to it though still registering much lower urban poverty than Maharashtra.

Such substantial urban poverty rise under economic reforms in states with the conurbations, should not surprise us given that the urban employment situation has deteriorated over the period and the increasing privatisation of supply and reduction of subsidies on utilities, transport and of healthcare, have raised non-food costs substantially. Given their declining real expenditure, the food spending part has fallen even for poorer spending classes. Using the consumer price indices as deflators, a substantial decline is seen in real expenditure on food for all classes with the overall average in urban India dropping by 11.6%, while real spending on cloth has fallen by 15.2%. The analysis of these trends await a later paper. With more realistic deflators to estimate real expenditure, a matter discussed in a later paper, we would find a larger decline in the spending on food and cloth compared to applying the official general consumer price indices.

It is an alarming scenario indeed when 60% to 80% of the urban population in states containing the major metros, including the national capital, cannot access even 2,100 calories of energy and cannot spend enough to maintain already very low cloth consumption. Using the mixed recall period (MRP) data rather than the uniform recall period (URP) does not change by an iota the conclusions in this section, since the food spending is the same in both. The present policy thrust towards privatisation of utilities supply and the higher cost of healthcare and medicines is going to worsen the situation if the trend is allowed to continue unchecked. Especially alarming is the situation in Maharashtra where poverty depth has risen fast with nearly half the population unable to access even 1,800 calories intake compared to around one-quarter in that situation a decade ago. The nutrition invariant poverty line at norm level is nearly three times the official one for urban Maharashtra. Poverty depth has also risen in all other states studied here except Tamil Nadu which had the highest initial poverty depth but has marginally reduced it.

5 Urban Poverty in the Remaining States

Table 4 gives the official and direct poverty lines and the corresponding official and direct poverty percentages for all 18 major states for 2004-05, along with the estimates for 1993-94 for comparison. Whereas officially measured poverty has declined in all states, this is clearly the result of the further underestimation of the poverty lines and hence of a further lowering of the nutritional standard inherent in these poverty lines for the later date compared to the earlier one. By 2004-05 in 12 of the states not

even 1,800 calories energy intake could be accessed by the urban consumer at the OPL, while in three states it had dropped below 1,500 calories. In Assam, Punjab and Kerala the OPL are so exceptionally low by 2004-05 that energy intake accessible was 1,485, 1,435 and 1,300 calories, respectively. In seven other states the energy intake permitted by their urban OPL was below 1,750 calories. The states are West Bengal, Andhra Pradesh, Tamil Nadu, Gujarat, Maharashtra, Haryana and Delhi. Thereby the official poverty ratios are no longer measuring the percentage of the poor, but only the poorest lower two-fifths of the poor.

The below 2,100 calories urban poverty percentage has risen in all states except Assam and Uttar Pradesh over the period of economic reforms.⁵ The extent of rise is small in Tamil Nadu, and is remarkably large with a 25 or more percentage point rise, in

Table 4: Urban Poverty by States and All-India, 2004-05 Official and Direct Measures

State	Official Indirect Estimate				Change	Direct Estimates							
	2004-05 OPL Rs	2004-05 OPR %	2004-05 Calorie Intake at OPL	1993-94		2004-05 DPL Rs	2004-05 <2100 %	1993-94 <2100 %	2004-05 <2000 %	1993-94 <2000 %	2004-05 <1800 %	1993-94 <1800 %	
All-India	538.6	25.7	1,795	1,885	-90	1,000	64.5	57.0	52.0	46.0	26.3	23.5	
East													
Assam	378.8	3.3	1,485	1,675	-190	965	47.0	49.0	40.5	41.5	16.5	17.5	
Bihar	435	34.6	1,775	1,980	-205	675	65.2	47.5	56.0	38.0	38.0	14.5	
Orissa	528.5	44.3	2,055	2,185	-130	685	48.5	32.0	38.5	22.0	24.0	10.0	
West Bengal	449.3	14.8	1,735	1,835	-100	1,150	67.5	49.0	48.5	37.0	21.5	18.0	
South													
Andhra Pradesh	542.9	28.0	1,720	1,840	-120	1,175	75.5	63.0	63.0	53.5	37.0	36.0	
Karnataka	599.7	32.6	1,755	1,885	-130	1,180	75.5	57.0	60.0	45.0	39.5	33.0	
Kerala	559.4	20.2	1,300	1,695	-395	1,960	87.0	67.0	82.5	57.5	68.0	38.5	
Tamil Nadu	547.4	22.2	1,685	1,780	-95	1,180	70.5	69.0	65.0	60.5	39.0	42.5	
West-Central													
Gujarat	541.2	13.0	1,690	1,790	-100	1,145	67.0	57.0	51.0	46.5	28.8	28.5	
Madhya Pradesh	570.2	42.1	1,845	2,050	-205	882	67.5	52.5	63.0	44.5	35.0	20.5	
Maharashtra	665.9	29.0	1,715	1,865	-150	1,750	85.0	52.5	75.0	59.5	49.0	27.0	
Rajasthan	559.7	32.9	1,800	2,025	-225	950	69.5	36.0	60.0	29.0	33.0	14.0	
North and north-west													
Punjab	466.2	7.1	1,435	1,605	-170	1,280	68.8	51.5	60.7	42.5	39.0	23.5	
Haryana	504.5	15.1	1,700	1,885	-185	1,100	66.4	49.0	53.5	28.0	26.5	17.0	
Himachal Pradesh	504.5	3.4	1,870	2,200	-330	1,050	43.5	17.5	33.3	8.0	2.8	0.0	
Jammu and Kashmir	553.8	7.9	1,880	2,000	-120	1,090	62.5	21.0	40.0	9.5	9.0	1.5	
Uttar Pradesh	483.3	30.6	1,870	1,970	-100	600	46.0	55.0	39.5	40.5	26.0	19.5	
Delhi	612.9	15.2	1,710	1,770	-60	1,150	57.0	35.0	47.5	32.0	23.5	19.0	

Source: Official estimates of poverty line and poverty percentage from Planning Commission, press release. Direct estimates calculated by author by constructing for each state the *ogive* and *g* relation using the same NSS Reports as cited in Table 1. In addition to states mentioned in Table 3, a pair of classes with close calorie intakes have been pooled in Gujarat. The 2004-05 calorie intake data for Uttar Pradesh are not well-behaved and estimates are provisional.

the states of Maharashtra, Rajasthan, Himachal Pradesh and Jammu and Kashmir. Nine more states, including Delhi are added if we consider a rise in the poverty percentage of at least 15 percentage points. Thus in 13 out of the 16 states which have experienced rise in poverty, the extent of rise has been more than 15 percentage points. Considering the population unable to access even 1,800 calories, in seven states the percentage has risen by 10 points or more, representing a substantial increase in poverty depth. The states are Bihar, Kerala, Madhya Pradesh, Maharashtra, Orissa, Punjab and Rajasthan. Only two states, Assam and Tamil Nadu, show marginal decline in the population below 1,800 calories intake. The all-India percentage below 1,800 calories shows only a small rise from 23.5% to 26.3%, which is anomalous since 16 out of 18 major states have shown increase in poverty depth.

“Extreme poverty” was defined by R Radhakrishna et al (2004) as spending less than half the official poverty line. The percentage of persons in “extreme poverty” so defined, is shown by the authors to have started at positive levels in the 1970s, and to have become either zero or negligible by 1999-2000. If this was true, it would certainly be a cause for great satisfaction that no persons in households are extremely poor any longer. Unfortunately the proposition advanced by the concerned authors is a misreading of the data.

The official poverty lines give lower and lower access to nutrition over time, so taking half the poverty line simply leads to the physical disappearance of the poor. In many states half the urban poverty line was so low by 1999-2000 that there were no observations of persons in households surviving, because the associated calorie intake was below 1,000 per day – and this value too is only obtainable by projected the *g* curve downwards to a hypothetical, not observed spending level which is below the lower end of the poorest spending class. It is not extreme poverty which had become zero, but people who ceased to exist at such low intake levels. By 2004-05 half the urban poverty line ranged between Rs 7 and Rs 8 in many states. Not even homeless urban pavement dwellers could survive on Rs 7-8 per day in 2005.

Considering the specific example of urban Punjab, the “extremely poor” percentage was stated to have reached zero in both in 1993-94 and in 1999-2000, by the authors (their Table 4A), and in 2004-05 too applying their definition we find it is zero. The reader might naturally infer from this in the absence of other related information, that urban Punjab has been in a really good position since extreme poverty has not existed for a long time, but such an inference would be wrong. In 1993-94 itself the urban OPL was already so low at Rs 253.6, that only 1,605 calories could be accessed. Half of this equals Rs 126.8 and there were no observed persons in households spending at such low levels. The poorest class spending below Rs 160 had mean expenditure of Rs 148.6, so the lower end of this class would be about Rs 135, and half the OPL is well below this. By projecting the *g* relation for Punjab downwards we find Rs 126.8 hypothetical spending would give only 975 calories. People in households ceased to survive well before this level is reached. In 2004-05 similarly half the urban OPL in Punjab continued to give below 980 calories and there were no actual observations. Haryana and West Bengal are among other states whose level of half the OPL falls well below the lower limit of the lowest spending class and “zero extreme poverty” has the same meaning as the poor being dead.

It seems a simple matter indeed to eliminate extreme poverty by taking the poverty line at a level such that it is the poor who are eliminated. The problem is that with such underestimated poverty

lines, the mechanical application of fractions of the OPL leads to incorrect inferences. Even as actual urban poverty and deprivation rises, we are likely to see further spurious claims of poverty decline. Moreover, it appears that India’s national currency poverty line is one of the effective bases even if not the sole one for the World Bank’s calculation of a global poverty line of \$1.25 (Reddy and Pogge 2005) and is the reason for the Bank’s claim, evidently an equally spurious one, of a substantial decline of the poverty percentage in Asia. China’s 2007 rural poverty line of 1,067 yuan per year (below 3 yuan per day) is a price-index updated current value from a 1984 base year poverty line obtained by applying a nutrition norm, which just as in India, was never applied later. As in India, China’s poverty line is clearly a large underestimate since the cheapest rice variety cost more at 4 yuan per kg. Recent upward revision of the Bank’s global poverty line relates to a re-evaluation of purchasing power parities and does not address the basic problem of grossly underestimated national poverty lines. If estimation results are not to be reduced to even more of a farce than they already are, it is time that both India’s Planning Commission and the World Bank took a hard look at the logical basis of their estimation procedures.

6 Above Average Rise in Poverty among Deprived Social Groups

While gender-based estimates of poverty are not possible from the available grouped data, we can approximate the situation of the deprived social groups. The position of scheduled castes (sc) and scheduled tribes (st) as always, is much worse than the average. While the percentage distribution of households and persons belonging to the sc and st are available from the 50th and 61st rounds, the relation of calorie intake and expenditure is available only for the general population and not separately for these social groups. To apply this general *g* relation and hence to apply the same poverty line as obtained for the general population, to the specific ogive for each group, probably means getting a better picture of their nutritional status than is the case in reality. In the absence of social group-specific calorie intakes which the NSSO

could have presented but has not, we have no alternative but to use the general poverty line. Table 5 shows the higher than average incidence of poverty among deprived social groups. While nearly seven-tenths of the general population in rural India could not access 2,200 calories per day by 2004-05, the incidence was 79% for the sc and 82.5% for st populations. While nearly two-thirds of the general population could not access even 2,100 calories per day in urban India, the incidence was 87.5% for the sc and 81% for the st population.

For the deprived social groups poverty shows a sharp worsening over the period of economic reforms. Around four-fifths of both st and sc rural persons had gone below 2,200 calories energy intake by

Table 5: Comparative Poverty among the General, and the SC and ST Populations (1993-94 and 2004-05, All-India)

Calorie Intake	<2200		<1800	
	1993-94	2004-05	1993-94	2004-05
Rural				
Percentage of persons with intake below specified level				
1 Scheduled tribe	73.5	82.5	30.0	44.0
2 Scheduled caste	70.5	79.0	27.0	33.0
3 General	58.5	69.5	20.0	25.0
Urban				
Percentage of persons with intake below specified level				
1 Scheduled tribe	67.5	81.0	33.0	61.5
2 Scheduled caste	75.0	87.5	39.5	66.5
3 General	57.0	64.5	23.5	26.2

Source: Patnaik (2008). Calculated by constructing ogives for SC, ST distribution of persons and using the calorie-expenditure relation for the general population to obtain direct poverty lines. Data from NSS Reports 402, 405, 422 for 50th Round 1993-94 and Reports 508, 513, 514 for 61st Round 2004-05. See also Namita S Nayak (2007) for 55th Round estimates. Data for the OBC are not available for 1993-94 so comparison is not possible.

2004-05 compared to 73.5% and 70.5% in 1993-94. The corresponding urban figures are as bad, with 81% and 87.5% going below 2,100 calories compared to 67.5% and 75% at the earlier date. While in rural areas the ST population was worse off than the SC population at both dates, the converse was the case in urban areas where the SC population appears to be worse off than the ST population. The incidence of poverty and poverty depth was significantly higher among both social groups compared to the general population at both dates, and there has been substantial rise in poverty and increase in poverty depth among deprived social groups.

Particularly disturbing is the very sharp rise in the percentage of persons not able to access even 1,800 calories. In rural India poverty depth increased among deprived groups with a rise from 30% to 44% in the percentage of ST persons below 1,800 calories intake while the corresponding rise for SC persons has been from 27% to 33%. In urban India poverty depth worsened even more, with a steep rise from 33% to 61.5% in the percentage of ST persons not able to get 1,800 calories with the corresponding rise for SC persons has also been very sharp, from 39.5% to 61.5%. The undermining of the public distribution system over the last decade, and the misconceived "targeting" of the population where only those officially designated as "below poverty line" are given access to affordable foodgrains, has undoubtedly contributed to the observed deepening of poverty among the deprived social groups.

As argued here, since the Planning Commission estimates of general poverty themselves are large underestimates and the claim of poverty decline is false, the understanding which informs policymaking at the highest level, is incorrect. The entire policy thrust at the central level has been in the direction of undermining food security and increasing poverty. It is recognised by every state government by now, that even the state estimates of BPL population are not correct though they are much higher than the Planning Commission estimates, that foodgrain allocations from the central pool to most states are inadequate, and that a large proportion of the poor have been excluded from the public distribution system. Only an immediate going back to a universal distribution system combined with increased procurement and a level of issue prices which are affordable for the poor, can help to reverse the present situation of worsening nutrition and increasing poverty depth. Longer term policies require increasing foodgrains output, the effective restoration of mass purchasing power through stepping up development expenditures, implementing employment guarantee seriously and protecting small scale producers against global price volatility to stabilise their incomes.

7 The Tendulkar Committee Report

In view of the widespread growing opinion that official poverty estimates were underestimating actual poverty, following a meeting of the National Development Council, a committee was set up to look afresh into the basis of poverty estimation. The three-member committee has submitted its "Report of the Expert Group to Review the Methodology for Estimation of Poverty". The basic methodological error of the earlier Planning Commission estimation procedure is retained, indeed further extended,

and the most crucial problems of valid comparison which have arisen from following the erroneous method, have not been referred to or addressed by the committee. The methodological error, to repeat, arose from counting the poor below a *continuously declining nutritional standard*, arising from the increasing underestimation of the rural and urban poverty lines over time, since these lines were the price-index updated cost of a fixed basket which by now is 36 years old.

The report on the first page makes the following statement:

The estimated urban share of the poor population (described as head count ratio or poverty ratio) in 2004-05, namely, 25.7% at the all-India level is generally accepted as being less controversial than its rural counterpart of 28.3% that has been heavily criticised as being too low. In the interest of continuity as well as in view of the consistency with broad external validity checks with respect to nutritional, educational and health outcomes it was decided to recommend MRP equivalent of urban PLB corresponding to 25.7% urban head count ratio as the new reference PLB... (Note: PLB is Poverty Level Basket).

The committee thus keeps the incorrect method of poverty estimation by saying that the existing 2004-05 urban poverty line of Rs 538.6 and the poverty percentage of 25.7 are correct. Thereby it retains the old fixed urban basket of 1973-74 costing Rs 56 which provided 2,100 calories at that time, and it retains the past price-index adjustment to this cost to reach the grossly underestimated level of Rs 538.6 per month urban poverty line at which less than 1,800 calories could be accessed by 2004-05. The only modification is to take the MRP basis of this poverty line which is Rs 40 per month higher at Rs 578, on account of the higher recorded spending on non-food items. The food spending and calorie intake is the same under MRP as under URP, so all criticisms in this paper regarding the lowering of the consumption standard over time, the increasing underestimation of actual poverty, and the lack of comparability over time, remain fully applicable. (Two of the three "broad external validity checks" on nutrition mentioned in the report, relate to Body Mass Index, a ratio which is of very dubious value for poor populations as is widely admitted: prolonged under-nutrition leads to both stunting and low weight, so the BMI can remain at a cosmetically "good" level above 18.5, at significantly lowered values of both height and weight.)

The committee justifies its explicit acceptance of the lowered consumption standard at the urban poverty line from the original 2,100 norm to 1,776 calories by 2004-05, saying that the United Nations Food and Agriculture Organisation too has lowered norms. But there is no reason to emulate biased practices which single out developing countries like India and tell them in effect that they deserve hunger, and should accept today a much lower nutritional norm of around 1,800 calories, than was applied to them in the past, and much lower than the standard still being applied to other countries. All this is simply an intellectual rationalisation of an objectively deteriorating nutritional situation, by lowering standards and thereby lowering the resulting poverty percentages to present a much rosier picture than exists in reality. The point is that it is not valid to say that poverty has declined, when the consumption standard is being lowered over time. No amount of quoting the FAO can get around the logical fallacy. A basic methodological error is involved, and the fact that

FAO officials in Rome are misguided enough to perpetrate such an error in their estimates cannot be a justification for the Planning Commission in New Delhi to follow suit.

The report takes the consumption basket at the urban poverty line, and values it at new prices to arrive at a new rural poverty line of Rs 446.7 on MRP basis, which corresponds to about Rs 414 URP and is thus Rs 55 more than the earlier official poverty line of Rs 358.6. Nearly 42% of rural population falls below this new poverty line. There seems to be no logic or economic rationale whatsoever behind thus applying an urban consumption basket relating to 1973-74 whose cost has been price-updated, to rural India in 2004-05, except the purely instrumental one of manipulation to raise the rural poverty line and poverty percentage by 13.5 points in the hope that critics will be silenced. (There are calculation mistakes as well – the report says that at the new higher all-India rural poverty line, 1,999 calories can be accessed whereas the level is 1,930 calories.)⁶ It is strange that the committee adjusts only the rural estimate upwards in such an arbitrary manner and treats estimation as a matter of empirical bargaining with critics. The serious problem of incorrect methodology, which has not been addressed by the committee at all, affects all estimates both rural and urban made by the Planning Commission, including the new estimates made by the committee.

The procedure recommended by the report ensures that further claims of poverty decline can be made even as at the ground level poverty is actually rising. The committee's recalculation of 1993-94 and 2004-05 poverty percentages using its suggested new procedure, makes this very clear. It claims that at its new rural poverty lines, overall rural poverty reduced between

1993-94 and 2004-05 from 50.1% to 41.8%. It keeps quiet about the fact at its new poverty lines giving these estimates, accessible daily calorie intake also declined from nearly 2,100 at the earlier date to 1,930 calories at the later one, as we can easily check from charts of the *g* relation. So the new poverty estimates of the report remain non-comparable as before, since the poor continue to be wrongly counted below a changing standard. In fact the proportion of rural persons below 2,100 calories which we had estimated as 50.5% in 1993-94 rose by 10% points to reach 60.5% by 2004-05 (see Patnaik 2007, Table A-2). Similarly, the report claims that urban poverty at its new poverty lines declined from 31.8% to 25.7% comparing 1993-94 and 2004-05. It keeps quiet about the fact that at these new urban poverty lines accessible daily calorie intake also declined from 1,870 to 1,795 calories, making its figures non-comparable. From Chart 2b we can check further that the proportion of urban persons below 1,870 calories which was 31.8 in 1993-94, went up to 37% by 2004-05.

It is extremely unfortunate that the Tendulkar Committee has thrown away the valuable opportunity it had to correct the basic methodological error preventing valid comparison over time, which underlay previous estimates. By retaining the error, its procedure will continue to increasingly underestimate the actual cost of living. The current rapid food price inflation combined with rising unemployment owing to the effects on India of global recession, is raising poverty. But the Planning Commission, if it follows the suggested methodology, will once more estimate false poverty decline from the forthcoming 66th round data for 2009-10, since its new poverty lines will continue to diverge rapidly from the actual cost of living the poor have to incur.

NOTES

- 1 The CPIAL for rural areas and CPIIW for urban areas.
- 2 It has been brought to my notice by Arindam Banerji (2008) that my earlier direct estimate for 2004-05 for Andhra Pradesh, 79.5% and 67.5% below 2,400 and 2,200 calories (Patnaik 2007) were incorrect, the correct figures being 90.2% and 78%. Accordingly my statement that there was slight improvement compared to 1993-94 should read "As in other states in Andhra Pradesh too there has been a rise in directly measured poverty". On checking I find that the 2004-05 calorie intake data column for West Bengal was accidentally transposed in the data sheet under AP. While in a lexicographical ordering AP and West Bengal should be at opposite ends, owing to my regional grouping West Bengal the last state in east India was followed by Andhra Pradesh, the first state in south India. The other estimates are correct.
- 3 The all-India official poverty line is an implicit one, obtained as the expenditure corresponding to the all-India poverty percentage which is a weighted average of the state poverty percentages. This procedure gives a slightly lower value than price-index updating the previous period's all-India poverty line.
- 4 The Tendulkar Committee seems to have pooled the classes since it states the calorie intake to be 1,774 at the 2004-05 urban poverty line.
- 5 Uttar Pradesh shows a well-behaved *g* relation in 1993-94 but for 2004-05 its nutritional intake data fail to show a monotonic relation with MPCE over the fourth to eighth classes. Although we

have obtained an estimate by pooling classes, the results are provisional.

- 6 The committee seems to have incorrectly applied its new MRP poverty line to the existing URP *g* relation without realising that the *g* relation itself will shift rightwards when MRP is used.

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