

*Preliminary Draft; Comments
welcome*

FAQ's on Poverty in India

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This paper is based on ongoing research at Oxus; in particular, the following two papers:

Trends in World Poverty: Ideology and Research; paper presented at IMF, June 28, 2000

Growth and Poverty in India: Myth and Reality; paper presented at Institute for Social and Economic Change, Bangalore, Jan. 17, 2000

The above papers are available at www.oxusresearch.com

What is Poverty?

1. Poverty is best defined with reference to the best definition available on obscenity: "I know it when I see it" was the cryptic definition of a US Supreme Court justice adjudicating in an obscenity case in the mid-seventies.
2. There is a rich history of formal definitions of poverty, going back to the mid-nineteenth century. It is an attempt to capture the bottom-half of the population, the have-nots, the poor.
3. The point above already has a formal definition of poverty – the "bottom half of the population". This is a definition of relative poverty i.e. there will always be a bottom-half and the top-half. Primarily influenced by research work on India, the World Bank defined absolute poverty as the bottom 40 percent in the developing countries (mid-seventies). Possibly the first absolute definition of poverty was that of Dandekar-Rath, who defined it as an expenditure of Rs. 15 per capita per month for the Indian rural population, 1960-61 prices; and Rs. 18 per capita per month for the urban population.
4. With the definition of absolute poverty, the number or percentage of poor at any given time can be assessed. The Head Count Ratio (HCR) measures the percent of poor in the population. With a *relative* definition of poverty, the proportions stay exactly the same over time. It is, however, a mistake to think that an absolute poverty line is absolute. It changes, and should *increase*, with economic development.
5. The Government of India set up an Expert Group to suggest a methodology to measure poverty. This group submitted its report in 1993 (hereafter EG-GOI) and suggested a new poverty line, Rs. 49 and Rs. 56, rural and urban areas, 1973-74 prices. This line was higher in real terms by approximately 15 percent.

International Comparisons

1. The availability of an absolute poverty line allows comparisons across countries. But what should an international poverty line be ? Over the last decade, most comparisons of international poverty have been done by the World Bank, and the definition used is a purchasing power poverty line of \$1 per capita per day, 1985 PPP prices. The most recent publication of the World Bank, however, reports a *new* international poverty line of \$1.08 per capita per day, 1993 prices. This new line marks a historical first in that it reduces the original poverty line by approximately 15 percent i.e. the new line of \$ 1.08 , 1993 prices, is equivalent to \$ 0.82, 1985 prices. The reasoning behind this large 18 percent reduction in the absolute poverty line is not transparent, and debatable.

Income and Non-Income Poverty

1. Income is only one-dimension of poverty, albeit the most important one. It allows access to consumption goods, leaving little aside for basic investment goods like education and health. The perpetuation of poverty, inter-generational poverty, or permanent poverty are important policy considerations with as much importance as the alleviation of absolute poverty. Any poverty definition has to incorporate these non-income aspects of poverty.
2. However, it is the case that money incomes are highly correlated with expenditures on health and education. An incorporation of these considerations implies that the poverty line should be raised by the average desirable expenditure on these investment goods.

Growth and Income Distribution

1. One well studied consequence of economic growth is the possible negative effects on income distribution e.g. it is possible that high “capitalist” economic growth will lead to a worsening of the distribution of income. Table 1 documents the data for India. This table reports the *worst* distribution reported for a given year by two sources: Deininger-Squire(1996) and the WIDER(2000) income distribution data set. The data suggest that there is virtually no change in income distribution (defined as the share of the bottom 40 percent) over a twenty-five year period, 1972 to 1997.
2. The constancy of the share of the bottom 40 percent has a strong implication for studies on poverty: *it means that the poor have shared equally in whatever economic growth that has occurred.* So a determination of what has happened to poverty decline is really a determination of what has happened to economic growth.

Measurement of Poverty and Income Growth

1. The availability of a poverty line is the first important step in the calculation of the head count ratios or HCR. Two additional variables are needed: the distribution of expenditure, and mean expenditure. There is only *one* source for the former – a sample survey of households or individuals. For the latter, at least two estimates are available – the mean estimate as derived from the survey data, and the mean estimate obtained from national accounts (NA) data.
3. Table 2 reports on different poverty and growth estimates for India using the *same* poverty line. The survey data used are from the National Sample Survey or NSS. The estimates are vastly different and depending on the data used, almost any conclusion is possible. Indeed, there has been considerable discussion in the literature about there being significant economic growth in India after the reforms, with precious little poverty reduction. This justifiably raises concerns about economic policy – in particular, about the economic reforms initiated by Dr. Manmohan Singh, India’s Finance Minister from 1991 to 1996.

4. But there is a problem with the above conclusion that economic growth in India in the nineties has *not* led to poverty reduction and/or the conclusion that acceleration of economic growth in India in the nineties (from about 5.7 percent in the eighties to about 6.5 percent in the nineties) has led to a stagnation, or an *increase* in absolute poverty. This conclusion arises from a highly inconsistent and questionable methodology i.e. of taking mean income from the surveys to derive conclusions of absolute poverty, and mean incomes from the national accounts to derive estimates of economic growth.
5. There is no logical basis for this mis-match. If objections are there to the use of mean incomes from national accounts as an estimate of the mean income of the population – and there can be valid reasons for doing so – then the same objections should translate into calculations of income growth. This is a trivial point, but apparently economists, and research institutions (e.g. the World Bank) keep making this error.¹
6. Estimates of income growth and poverty come in pairs – either the survey data are used to generate both growth and poverty, or the survey mean is adjusted upwards (or downwards) to the NA estimate to generate poverty, and the NA estimate used to generate estimate of growth. These are the only two logically consistent estimates.
7. This consistency check reveals the following two possible conclusions about poverty and growth in India.

NSS survey conclusion: there has been a stagnation in per capita expenditures and a small increase in absolute poverty;

OR

National Accounts data: there has been a large increase in per capita expenditures, and a corresponding large decline in absolute poverty.

Wrong Conclusion: It cannot be concluded that there was economic growth in India in the nineties, and that there was an increase in absolute poverty. There is **no** evidence for this joint conclusion.

¹ For speculation on why this might be the case, see Bhalla(2000b).

Poverty and Economic Growth – Evidence from India, 1977-1998

1. The two estimates of mean expenditure² do not match. This occurs for both definitional reasons (surveys do not cover the institutional population e.g. prisons) and practical reasons (different methods of estimation, different coverage etc.). Often, survey estimates are considerably below the NA estimates, posing a problem for analysts: which mean estimate is correct?
2. Note that two separate estimates of absolute poverty are possible – and both estimates *have* to use the distribution data (e.g. Lorenz curves or the share of mean income of each quintile, or percentile, or decile). The two estimates of poverty are: distribution data plus mean obtained from surveys; and survey distribution data, plus mean obtained from national accounts. On an inter-temporal basis, two estimates of growth are possible: growth as revealed by surveys, and growth as revealed by national accounts.
3. Since poverty is a function of income, and therefore derived from an income estimate, it is important to examine the different growth estimates revealed by the two sources of data: NSS and NA. For the pre-reform decade (1977 to 1987) the NSS reports a 11 percent growth in real per capita expenditures and a 10 percent decline in the HCR. The NA estimate of growth is 13 percent, and the decline in poverty is 11 percent.³ In other words, the two estimates are fairly close.
4. But for the post-reform estimate (1987 to 1997), the NSS and NA estimates are very different. The surveys estimate that real per capita expenditures increased by only 13 percent over the entire 10 years, and that poverty declined by 4 percentage points – from 38 to 34 percent. In contrast, the NA estimates that real p.c. expenditures rose by 39 percent, and that the HCR declined by 27 percentage points – from 38 percent in 1987 to only 11 percent in 1997.
5. Note that both estimates show that poverty reduction accompanies growth, and that the trickle down elasticity (elasticity of change in head count ratio with respect to expenditure growth) is around 0.75. This estimate is based on both the decades, and the two different sources of data on mean incomes.
6. NSS has recently released data for the first six months of 1998. These figures are startling in that they show that real per capita expenditures declined by over six percent since 1997, and thus show only a seven percent increase for the 11 years, 1987 to 1998. The poverty ratio shows an increase from 38 to 42.6 percent. These data thus indicate that there was some marginal growth in income, and an increase in the HCR i.e. evidence that trickle down does not work.

² The terms income and expenditure are used interchangeably in the text. Surveys are conducted on either an expenditure basis, or income basis, or both; as well as on a household or individual basis. Thus, distributions according to four different criteria are available – per capita or household, income or expenditure.. The preferred definition of poverty measurement is on a per capita expenditure basis.

³ As explained later, the NA consumption estimate is lowered by 10 percent for all the years to account for the fact that the very rich are not caught in the survey net. An implicit assumption is that approximately the top 2 percent of households (4 million households) are missed and that these households enjoy 10 percent of total consumption.

7. The NSS is perhaps the only survey organization in the world which uses a 30 day recall period for food expenditures. Since 1994-95, the NSS has been collecting data on both a 30 day and a 1 week recall basis. As Visaria(2000) notes, the differences in the estimate of food expenditure (almost two-thirds of total expenditures) are striking. The 7 day recall period shows about 30-35 percent *higher* expenditure in both rural and urban areas. This results in an estimate of expenditure change over the 11 year period, 1987-1998 to be 22 percent, and the poverty ratio in 1998 to be 23 percent (from 38 percent in 1987 i.e. a trickle down elasticity of 0.70).
8. Thus, the following robust conclusions follow from use of either survey or national accounts data for the twenty one year period 1977 to 1998:

Pre-reform period, 1977 to 1987: an average per capita expenditure growth of about 1 percent per annum, and an average decline in the HCR of about 1 percent per annum. Low growth and low decline in poverty, but the correlation between the two is very high. Growth leads to poverty reduction.

Post-reform period, 1987-1998: Per-capita expenditure growth doubles according to the NSS data to about 2 percent per annum; according to the national accounts data, per capita expenditure growth more than triples to about 3.5 percent per annum. Both sources show significant decline in the HCR: 16 percent according to NSS, and 26 percent according to the national accounts data. The only reason that the two estimates do not match for the level of poverty in 1998 is because the NSS estimates growth to be 22 percent (1987-1998) and NA estimates this growth to be 43 percent

No matter what the data source, survey or national accounts, growth is shown to lead to poverty decline, almost one for one. "No growth, no poverty reduction" is the only conclusion.

Given that national accounts and surveys give vastly different estimates of mean income, is there a method of choosing between the two?

1. Yes. Bhalla-Glewwe(1986) offer an Engel – Deaton method of assessing whether national accounts or survey data are accurate. The success of this method rests on the availability of a third source of data for basic food items. The authors applied this method to Sri Lankan data and found that during the seventies, the survey data was yielding significantly more reliable estimates of mean expenditure than national accounts data.
2. Bhalla(2000b) applies the same method to Indian NSS and national accounts data. In contrast to the result for Sri Lanka, the conclusion that the national accounts data for India are yielding "correct" estimates of per capita expenditures cannot be rejected. For example, over the twenty five year period, 1973-1998, the NSS reports a nominal increase in per capita expenditures of 731 percent and the national accounts yield an estimate of 1170 percent. Use of a third source of data on food quantities and prices, and Engel-Deaton elasticities, yields an estimate of 1063 for total expenditure change – an

estimate close to 90 percent of the national accounts expenditure change and 45 percent higher than the NSS change. (Table 3).

What does the Trickle-Down Elasticity (TDE) depend on ?

1. It is incorrect to assume (as done above) that the method to estimate the elasticity of change in the HCR with respect to income growth is to take the ratio of the two estimates. Bhalla(2000a) explores the determinants of this elasticity for different countries, regions, and time-periods. This elasticity varies significantly with respect to “initial conditions” i.e. it depends on the base-period HCR level, and whether the poverty line income level was in the flat, steep or fat portion of the log-normal income distribution. For India, the estimate is close to -0.75 , and this is also the result obtained by Deaton-Tarozzi(1999) in their study of poverty in India, based on NSS data, for the time-period 1987-1993.
2. The world estimate of the elasticity is close to -0.4 . Note that this elasticity is different than the elasticity of the growth in incomes of the poor with respect to the growth in mean incomes. The difference arises because the HCR is censored at a particular expenditure level e.g. assume the poverty line is a 100, and the mean income of the poor is 50, and the standard deviation is 10. A 10 percent increase in real incomes is unlikely to make any dent in the level of poverty.

Alternative to NSS Estimates of Poverty in India, 1987-1998:

1. Two estimates of change in the Head-Count Ratio for India have been reported above. Using the distribution of expenditures as obtained from NSS surveys, and mean consumption from national accounts data (each years estimate of mean consumption is deflated by 0.9 to arrive at the consumption of the households likely to have been sampled by the NSS – note that this is also the “deflator” yielded by the Engel-Deaton method referred to above) yields an estimate of poverty in India of 12 percent in 1998 (Jan-June). The National Sample Survey yields an estimate of 22.6 percent for the same year. Are there other estimates to suggest whether poverty was closer to 23 percent or 12 percent in 1998 ?
2. Deaton-Tarozzi(1999) use price relatives as yielded by the 1987 and 1993 data and arrive at an estimate of 28.7 percent for the level of absolute poverty in 1993-94. They make **no** adjustments for possible underestimation by NSS of mean total consumption. As shown in Table ??, NSS estimates were only 70 percent of national account expenditures for that year. If a minimal adjustment is made to this ratio i.e. an increase to 80 percent (close to the ratios prevailing prior to 1987), then 1993-94 would have yielded a 14 percent higher real expenditure than that indicated by NSS. This would translate into a poverty level of about 18 percent in 1993-94 (using a TDE of -0.75).
3. The NSS experiment for a shorter recall period yielded an increase of 14 percent in per-capita expenditures in 1994-95, and this difference has stayed constant in subsequent years. Thus, a firm conclusion is that the old 30 day and the new 7 day data yield a difference of 14 percent in total expenditures (and a much larger – 30 percent – difference in food expenditures). This is strikingly close to the estimate derived above and suggests that a **firm** estimate of poverty in India in

1993-94 is 18 percent. (The national accounts estimate is 22 percent for 1993-94, Table 2).

4. Since 1993-94, the national accounts data suggest an increase in per-capita expenditures of 18 percent, and 14 percent since 1994-95. The 7 day recall NSS data yields *no* increase in real expenditures between 1994-95 and Jan.-June 1998. Even if the average of these two estimates is taken i.e. 7 percent, it suggests that the HCR declined by 5.25 percent (TDE of -0.75) between 1994-95 and 1998. So a conservative estimate (with no decline in HCR assumed to have occurred in the one year following 1993-94), for the HCR in 1998 is 18 minus 5.25 or 13 percent.
5. Thus, a “final” estimate of poverty in India in 1998 (Jan-June) seems to be a lot closer to 12 percent (our estimate based on a simple methodology of survey data on distribution and 90 percent of national accounts data on consumption) than the 23 percent yielded by the revised NSS data.

What have we learnt ?

1. This paper has reviewed the methodological basis for estimating absolute poverty on the basis of survey and national accounts data. In conjunction with other work (Bhalla2000a,b and c), this paper provides alternative-to-NSS (and hence alternative-to-GOI) estimates of the level, and trends, in absolute poverty in India. What is interesting is that this method is no different than the official government of India method to estimate poverty, prior to 1993. In a radical move, the Expert Group, Government of India (1993) recommended *against* the use of national accounts estimates. Bhalla(2000c) discusses the fact that this report did not provide much basis for the radical change proposed.
2. Two major results emerge from the analysis. **First**, use of both survey and national accounts data, in isolation or jointly, suggests a very strong relationship between economic growth and poverty reduction. As a rough rule of thumb, the trickle down elasticity (elasticity of the decline in the head count ratio of poverty with respect to real income growth) in India is observed to be -0.75 , which is almost double that observed in the developing world (Bhalla(2000a)).
3. **Second**, economic reforms initiated in 1991 have led to a radical transformation in the well being of the bottom half of the population. From an approximate level of 38 percent in 1987, poverty level in India in 1998 was close to 12 percent.
4. **Third**, and most importantly, the analysis of income and poverty trends in India suggests that like seven years earlier, the time has come for raising of the poverty line by about 15 percent. But it would be a continuation of a major mistake to tie the allocation of funds to states for poverty removal on the basis of how much poverty presently exists in that state.

REFERENCES:

Most of the Bhalla, Surjit S. papers are available at www.oxusresearch.com

Ahluwalia M. (1977), 'Rural Poverty and Agricultural Performance in India', *Journal of Development Studies*.

Bhalla, Surjit S. (2000a), "Trickle Down Elasticity and the Poor – Evidence 1975 to 2000", mimeo, work in progress, forthcoming, July 2000.

_____, 2000b, "Trends in World Poverty – Ideology and Research", paper presented at IMF, June 28, 2000.

_____, 2000b, 'Growth and Poverty in India – Myth and Reality', paper prepared for a Conference in honor of Raja Chelliah, Institute of Economic and Social Change, Bangalore, January; final draft, June.

_____, 2000c, "Hayek Rediscovered – The Road to Economic Freedom ", in H. Kim and David Wienstein (ed.) Freedom and Economic Development, forthcoming.

_____, 2000d, 'World Bank – We have a Poverty Problem', *Economic Times*, 18 January.

_____, 1997a, "Economic Freedom and Growth Miracles: India is Next", Draft prepared for a panel discussion on South Asia: The Next Miracle?, *World Bank - IMF Annual Meeting*, Hong Kong 1997.

_____, 1994, "Freedom and Economic Growth: A Virtuous Cycle ? " invited paper for Axel Hadenius. (ed.) Democracy's Victory and Crisis: Nobel Symposium 1994 Sweden, Aug. 27-30, 1994; Cambridge University Press, July 1997

_____, 1992, "Free Societies, Free Markets and Social Welfare", background paper for the World Bank World Development Report 1991, Aug. 1992. (Submitted for publication in the non-refereed World Bank Discussion Paper series, and rejected.)

_____, and Indermit Gill (1991), 'Social Expenditure Policies and Welfare Achievement in Developing Countries', mimeo, World Bank, August.

_____, and Homi Kharas (1990), 'Growth, Poverty Alleviation and Improved Income Distribution in Malaysia: Changing Focus of Government Policy Intervention', chapters 2, 3 and 4, *World Bank Report on Malaysia*, No. 8667-MA, June.

_____, 1989, 'Role of welfare policies and income growth in improving living standards in India and Sri Lanka', background paper for *World Development Report 1990*, December. (Submitted for publication in the non-refereed World Bank Discussion Paper series, and rejected.)

_____, "Sri Lanka's Achievements - Fact and Fancy", in TN Srinivasan and P. Bardhan (ed.), Rural Poverty in South Asia, Columbia University Press, 1988.

_____, "Is Sri Lanka an Exception? A Comparative Study of Living Standards", August, 1984, In TN Srinivasan and P. Bardhan (ed.), Rural Poverty in South Asia, Columbia University Press, 1988.

_____, and Glewwe, Paul, "Growth and Equity in Developing Countries - A Reinterpretation of the Sri Lankan Experience", World Bank Economic Review, July, 1986.

_____, and P.Glewwe (1985), 'Living Standards in Sri Lanka in the Seventies – Mirage and Reality', Paper prepared for World Bank – Central Bank, Sri Lanka Project on 'Evolution of Living Standards in Sri Lanka', May.

Bhalla, Surjit S.(1980), 'Measurement of Poverty - Issues and Methods', background paper for World Development Report. (Submitted for publication in the non-refereed World Bank Discussion Paper series, and rejected.)

Bhalla, Surjit S. (1979), 'The Distribution of Income in Korea - A Critique and a Reassessment', mimeo, World Bank, pp. 1-52, March. (Submitted for publication in the non-refereed World Bank Discussion Paper series, and rejected.)

Central Statistical Organization (CSO), (1980), *National Accounts Statistics – Sources and Methods*, April.

Certau, Michel de, *The Practice of Everyday Life*, University of California Press, 1984.

Datt, G. (1999), 'Has Poverty Declined since Economic Reforms? Statistical Data Analysis', Special Article, *Economic and Political Weekly*, 11 December.

Deaton, Angus and Anne Case, "Household Expenditures – An LSMS Topic Study", mimeo, World Bank, 1985.

Deaton, Angus and A. Tarozzi (1999). 'Prices and Poverty in India', mimeo, Princeton University, December.

Deininger, Klaus and Lyn Squire (1996), "A new data set measuring income inequality", World Bank Economic Review, Sept.

Dubey, A. and S. Gangopadhyay (1998), *Counting the Poor: Where are the poor in India?*, Sarvekshana Analytical Report No.1, Dept. of Statistics, Government of India, February.

Expert Group, Government of India (1993), *Report of The Expert Group on Estimation of Proportion and Number of Poor*, Perspective Planning Division, Planning Commission, July.

Government of India, *Economic Survey, various issues*.

Hayek, Friedrich, 1944. *The Road to Serfdom*. Chicago: University of Chicago Press.

NCAER, Volume 1, Issue 2 (2000), '*Micro Impacts of Macroeconomic and Adjustment Policies*' (MIMAP) – India, January.

NCAER, Volume 1, Issue 1 (1999a), '*Micro Impacts of Macroeconomic and Adjustment Policies*' (MIMAP) – India, October.

NCAER, (1999b), *India Human Development Report of the Nineties*, Oxford University Press, 1999.

Sen, Amartya, **Freedom as Development**, Oxford University Press, 1999.

_____, 1988, "Sri Lanka's Achievements: How and When", in TN Srinivasan and P. Bardhan (ed.), *Rural Poverty in South Asia*, Columbia University Press, 1988.

_____, "Public Action and the Quality of Life in Developing Countries", Oxford Bulletin of Economics and Statistics", November

Sukhatune P.V. (1977), 'Malnutrition and Poverty', Ninth Lal Bahadur Shastri Lecture, Indian Agricultural Research Institute.

Srinivasan T.N. (1999), 'Poverty and Reforms in India', NBER-NCAER Conference on Reforms, December.

Srinivasan , T. N. and Pranab Bardhan, **Rural Poverty in South Asia**, Rural Poverty in South Asia, Columbia University Press, 1988.

Visaria, Pravin, 2000 "Poverty in India during 1994-1998: Alternative Estimates", mimeo, June 9.

World Bank. 1991. World Development Report *The Challenge of Development*. Washington, D.C.

Robert Summers and Alan Heston. 1988. "A New Set of International Comparisons of Real Product and Price Levels for 130 countries, 1950-85." Review of Income and Wealth, Income and Wealth Series 30: 1-25.

WIDER – U.N (1999), 'World Income Inequality Database' , available at www.wider.unu.edu/wiid,

World Bank, (2000a), World Development Report, 2000; *Attacking Poverty*.

World Bank (2000b), '*India: Policies to Reduce Poverty and Accelerate Sustainable Development*', Report No. 19471- IN, 31 January.

World Bank (1999), *Global Economic Prospects and the Developing Countries 2000*.

World Bank (1997a), *India: Achievements and Challenges in Reducing Poverty*, World Bank Country Study.

World Bank (1997b), '*India: 1997 Economic Update : Sustaining Rapid Growth*', Report No. 16506 - 1N, May.

World Bank. 1991. World Development Report *The Challenge of Development*. Washington, D.C.

World Bank. 1993. The East Asian Miracle: Economic Growth and Public Policy. Policy Research Report, July. Washington, D.C.

World Bank (1989), '*India: Poverty, Employment and Social Services*', Vol. I & Vol. II, Report No. 7617- 1N, May.

World Bank, *World Development Indicators*, Various years.

Table 1: The Distribution of Per Capita Expenditure in India

Year	Lowest 20%	Second 20%	Third 20%	Fourth 20%	Highest 20%
1972	8.5	12.6	16.5	21.8	40.6
1973	9	13.1	17.2	22.6	38.1
1977	8.5	12.5	16.4	21.7	40.9
1983	8.6	12.7	16.5	21.7	40.5
1987	8.9	12.5	16.3	21.3	41
1992	8.8	12.5	16.2	21.4	41.1
1994	9.2	13	16.8	21.7	39.3
1997	8.1	11.6	15	19.3	46.1

Source: The figures for 1994 and 1995 are taken from recent issues of the World Bank Development Indicators published by the World Bank. All other figures are from the NSS, reported in Datt(1995).

Table 2a: NSS and an Alternative Estimate of Poverty in India

Year	Real Mean Expenditure			HCI		
	Per Month					
	NSS ¹	NSS ²	NAS	NSS ¹	NSS ²	NAS
1977-78	60.8	60.8	70.0	51.8	51.8	49.0
1983	60.2	60.2	76.3	44.8	44.8	57.5
1987-88	67.8	67.8	80.0	39.3	39.3	38.0
1993-94	71.8	71.8	101.6	35.9	35.9	22.0
1994-95	73.0	85.2	106.2	36.9	21.5	17.0
1995-96	74.5	88.5	110.1	35.9	18.0	15.0
1997	73.9	87.9	118.3	37.1	19.9	13.0
Jan-Jun 1998	71.8	84.6	122.9	42.0	22.6	12.0

Notes:

1. NSS 1 refers to the 30 day recall method of estimating food consumption, and NSS 2 refers to the preferred, 7 day recall period for estimating monthly food consumption. Prior to 1994-95, all NSS data used the 30 day recall period. See Visaria (2000).
2. HCI refers to the head count index or the percentage of poor population in the economy. The NSS rural and urban poverty ratios (as well as mean expenditures) have been transformed to national estimates using the share of urban population as weights.
3. The “NAS” estimate of HCI is based on a refined pre-1993 government of India methodology. This method uses the NSS estimates for the distribution of expenditures, and the National Account estimates (multiplied by 0.9) for the estimate of mean expenditure. Use of 0.9 means that 10 percent of expenditure is assumed to accrue to the very rich households (4 million) who are likely missed by the NSS investigators. See text, and Bhalla(2000c) for details.

Table 2b: How much of national accounts expenditure is captured by National Sample Surveys ?

Year	Nominal Mean Expenditure Per Month			Ratio of B to C	Real Mean Expenditure Per Month			Ratio of E to F
	NSS ¹ (A)	NSS ² (B)	NAS (C)		NSS ¹ (D)	NSS ² (E)	NAS (F)	
1972	48.4	48.4	56.3	85.9	58.1	58.1	66.3	87.6
1973	56.9	56.9	66.3	85.8	56.9	56.9	66.3	85.8
1977	75.1	75.1	89.7	83.7	60.8	60.8	70.0	87.0
1983	125.0	125.0	166.7	75.0	60.2	60.2	76.3	78.9
1987	181.9	181.9	233.9	77.8	67.8	67.8	80.0	84.8
1993	331.5	331.5	526.2	63.0	71.8	71.8	101.6	70.7
1994	366.5	424.9	602.6	70.5	73.0	85.2	106.2	80.2
1995	418.8	484.5	679.2	71.3	74.5	88.5	110.1	80.4
1997	470.5	532.9	831.6	64.1	73.9	87.9	118.3	74.3
1998	474.5	549.9	939.6	58.5	71.8	84.6	122.9	68.8

Notes:

1. Nominal national account expenditure data has been deflated by the GDP deflator in 1973-74 prices.
2. National Sample Survey data has been deflated by poverty lines derived separately for urban and rural areas on the basis of the Expert Group (1993) methodology. The national aggregation is obtained by weighting by the urban/rural population.

Table 6: Is National Sample Survey or National Accounts Correct?

Survey Years	% Change in Real Consumption*		% Change in CPI-Food	% Change in Nominal Consumption				Ratio of Expenditure Change in		
	Cereals & Pulses	Edible Oils & Sugar		Food Only	All Items			NSS to	NAS to	Food to
			NSS		NAS	Predicted	NAS	Predicted	NSS	
							(%)	(%)	(%)	
1973-77	-1.3	23.1	16	10	32	40	32	80	125	31
1977-83	3.8	36.6	66	43	81	87	92	93	95	53
1983-87	1.9	11.8	39	26	45	44	51	102	86	57
1987-93	0.4	12.3	77	49	79	97	83	81	117	62
1993-98	1.7	22.4	52	33	34	71	66	48	108	98
1973-83	2.5	68	92	57	139	162	153	86	105	41
1973-87	4.4	88.0	168	98	246	277	283	89	98	40
1987-98	2.1	37.5	168	98	140	237	204	59	116	70
1973-98	6.6	158.4	616	292	731	1170	1063	62	110	40

Sources:

1. *Government of India, Economic Survey, Various Issues.*
2. *National Accounts Statistics, Various Issues.*
3. *Datt Gaurav, "Has Poverty Declined since Economic Reforms? Statistical Data Analysis", EPW Dec 11, 1999.*
4. *Report of the Expert Group on Estimation of Proportion and Number of Poor, Planning Commission, 1993.*

Notes:

1. NSS refers to National Sample Survey and NAS refers to National Accounts Statistics
2. Percentage change in real consumption has been computed by two different methods. Method I takes into account a 3-year moving average of net availability of cereals & pulses per capita per day in grams, while method II takes into account per capita availability of edible oils & sugar per year in kgs. The 3-year moving average has been centered on the year under consideration to remove spikes in the data.
3. Share of expenditure on food is assumed to be 63% of the total expenditure and that of non-food to be 37% for all years except 1998. For 1998, share of food and non-food is assumed to be 57% and 43% respectively.
4. For details on predicted expenditure see text at the end of Appendix I, Bhalla(2000c).

