HOW MANY CHRONICALLY POOR PEOPLE ARE THERE IN THE WORLD? Some Preliminary Estimates

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Abstract

This background paper provides some preliminary estimates of the global incidence of chronic poverty for the *Chronic Poverty Report 2004-05*. We define chronic poverty as remaining below the poverty line for at least five years, with welfare measured in expenditure or income terms. Using the latest estimates on the magnitude of static dollar a day poverty available from the World Bank and panel data estimates of the unconditional probabilities of the currently poor staying poor, we estimate the number of people who are chronically poor by region. This is an inherently imprecise exercise that suffers from both measurement error and the need to make a number of very strong assumptions. Nonetheless, our best "guesstimate" is that there were between 300 and 420m people worldwide living in chronic poverty in the late 1990s.

Introduction

This paper provides details of how the estimates of the global incidence of chronic poverty contained in the *Chronic Poverty Report 2004-05* were estimated. Following Hulme and Shepherd (2003), we define chronic poverty as long duration poverty – specifically a person remaining in monetary poverty for at least five years. Using the latest estimates on the magnitude of static dollar a day ($1/day) poverty available from the World Bank and panel data estimates of the unconditional probabilities of the currently poor staying poor, we estimate the proportion and number of people who are chronically poor for different regions in the world. This is an inherently imprecise exercise that suffers from both measurement error and the need to make a number of strong, and potentially controversial, assumptions. Both the methodology and estimates contained in this paper should therefore be thought of as highly tentative. Nonetheless, our best "guesstimate" of the magnitude of chronic poverty is that there were between 300 and 420 million people worldwide living in chronic poverty in the late 1990s.

Methodology and Caveats

There are a number of serious difficulties to face in estimating the likely numbers of people living in chronic poverty in the world. These difficulties relate to both the assessment of the numbers of the static poor and the extent to which they stay poor. Current figures for static poverty are most developed for monetary poverty relative to the World Bank's $1/day poverty line. There are, however, a number of well-known problems with the Bank's $1/day estimates – most notably their reliance on purchasing power parity to make cross-country comparisons.[1] There is much more limited knowledge about poverty dynamics (movements into and out of poverty) within countries. Even though estimates of poverty dynamics are available for an increasing number of developing countries, there are important caveats about their comparability and accuracy (Baulch and Hoddinott, 2000). Given current data availability, a very approximate estimate with rather limited geographic disaggregation is the most that can be done at the present time.

Our estimates of chronic poverty are derived by multiplying the number of people who are poor in a country at a given point in time by the likelihood that these people will stay poor for the next five or more years. To estimate the number of static poor in each country, we simply multiply each country's population by its 'poverty rate' using the World Bank's $1/day line. To estimate the likelihood of the currently poor staying poor for the next five or more years, we examined transition matrices computed from household level panel data (see Appendix 1). The top-left hand corner of these transition matrices shows the likelihood of a person staying poor for the period spanned by the panel, from which the unconditional probability of a person staying poor for the next five years can be derived on a country by country basis. In countries for which no reliable panel data exists, we make the very strong

[1] For the rationale underlying the $1/day poverty line, see Ravallion, Datt and van de Walle, (1991) and Ravallion (2003). For critiques of either the rationale or implementation of the $1/day line, see Deaton (2001), Pogge and Reddy (2003) and UNCTAD (2002).

assumption that the unconditional probability of staying poor is the same as the regional average. As the majority of developing countries do not have panel data, this means that the regional unconditional probability of staying in poverty is sometimes based on just one or two panel surveys.[2]

As a check on the sensitivity of our estimates to the use of the $1/day poverty line, we also perform an analogous calculation using countries' national poverty lines. Although national poverty lines are derived in different ways, it turns out that the poverty lines of the most populous developing countries are usually nutritionally based. This means that the national poverty line comprises two components: the cost of an individual acquiring between 2000 and 2300 calories per person per day plus a modest allowance for non-food expenditures. Despite some differences in the calorific requirements used and the method of computing the non-food component in different countries' national poverty line calculations, this allows us to make an alternative estimate of global chronic poverty which circumvents the purchasing power parity problems associated with the World Bank's $1/day line. The estimates of the global magnitude and distribution of chronic poverty presented later in this paper do not, however, appear to be particularly sensitive to whether national poverty lines or the $1/day poverty line are used to measure estimate poverty.

Finally, it must be stressed that both the World Bank's estimates of static poverty and most panel data studies of poverty dynamics only consider monetary measures of poverty – usually, although not always, in consumption rather than income terms. It is for this reason that we focus on a monetary definition of chronic poverty in this paper. This is not to deny the importance of wider multi-dimensional conceptions of poverty and chronic poverty (Sen, 1999; World Bank, 2002), which have been explored using other methods in the *Chronic Poverty Report 2004-05*.

Data

The above methodology requires that we have estimates of both static poverty and the unconditional probability of a poor person staying poor for all developing countries. For static poverty, we use the most commonly used estimates of extreme poverty based on either the World Bank's $1/day standard or national poverty lines taken from *World Development Indicators* 2003 (WDI 2003). In a few cases, however, we regard the WDI 2003 estimates of $1/day poverty as implausible. For example, the WDI 2003 estimates for the $1/day poverty in Uganda was 82% compared to 37% in the WDI of the previous year. In contrast, Pakistan's extreme 'poverty rate' fell from 31% to just 13% over the same period. Finally, WDI 2003 has no $1/day

[2] This is most problematic for Latin America and Sub-Saharan Africa.

poverty estimates for Ethiopia.[3] For these three countries, we have replaced the questionable numbers in WDI 2003 with those from WDI 2002.[4]

After these adjustments, $1/day poverty estimates exist for 79 of the 134 developing countries in the world. These 79 countries account for 1.1 million of the 1.2 million people the World Bank estimates to be extremely poor. Most of the remaining 55 countries are countries with relatively small populations, whose absence will not make a substantial difference to our global estimates of chronic poverty. However, there are also four 'populous, poor countries' (such as the Democratic Republic of the Congo, Myanmar, North Korea and Sudan) which have no estimates in any of the recent additions of *World Development Indicators*, and indeed most internationally available statistics. In order not to omit these countries, all of which have very specific geo-political characteristics, from our analysis we have consulted key informants on the likely magnitude of $1/day poverty in these countries. The poverty rates that we have assumed based on these consultations are: DR Congo 75%, Myanmar 40%, North Korea 60%, and Sudan 55%. This is obviously a very approximate procedure, but we would argue that it is better to make these crude adjustments than to omit these four countries from our analysis altogether. For the remaining 51 countries, we have assumed that their poverty rates are equal to the regional average. On this basis, 1.2 of the 5 billion people living in the developing countries fall below the World Bank's $1/day poverty line.

The unconditional probabilities of staying poor for five years or more are based on the multi-country transition matrices listed in Appendix 1 (most of which have been compiled from secondary sources). It should be noted that the welfare measures and poverty lines adopted by these 10 panels differ considerably. The time elapsed between different waves of these panel data sets also differs substantially between countries (from two years for the Philippines and the Russian Federation to twelve years for Bangladesh). This is important for the comparability of our chronic poverty estimates across countries because the probability of a currently poor individual still being poor two years later is much higher than that of the individual still being poor twelve years later.[5] We have crudely adjusted the unconditional probabilities of staying poor indicated by the transition matrices to ensure rough consistency between countries and time elapsed.[6] In particular, we have adjusted downward unconditional probabilities that are based on panels spanning less than 5 years, and *vice versa*. Similarly, we have adjusted downward the

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[3] Note also that Nicaragua has no $1/day poverty estimate in the WDI of 2002 while an incredible 82% is listed in WDI 2003. We have therefore excluded Nicaragua from our 79 country sample, although we do not expect this to alter our global chronic poverty estimates significantly.

[4] It is not feasible to simply use the WDI 2002 *en bloc* because this also contains a number of dubious, and also more out of date, $1/day poverty estimates.

[5] Note that in all cases we consider remaining poor to be defined by the first and last wave of the panel, which assumes that people/households do not move out of poverty and then back into it during the period spanned by the survey. Clearly, this is a problematic assumption but one which the available panel data does not allow us to circumvent.

[6] A more rigorous way to standardise the unconditional probabilities of staying poor derived from transition matrices spanning different periods would be to use maximum entropy methods (Golan *et al.*, 1996). This is something we intend to pursue in our future research.

unconditional probability of remaining in poverty for panel data sets that were only conducted in rural areas, on the grounds that mobility is generally high in urban areas.

It should also be noted that the initial surveys from which the panels in Appendix 1 were constructed are not always nationally representative (sometimes having been conducted in just a few provinces or districts, or only in rural or urban areas). We have placed most reliance on panels with wide geographic coverage but, where necessary, have adjusted upward (downward) the unconditional probabilities of remaining in poverty for those panel surveys that were only conducted in urban (rural) areas. As all these adjustments are based on subjective judgements, we have specified both a low and a high estimate of the probability of staying poor for each country for which we consider there is reliable panel data. These are shown in Table 1.

Table 1: Approximate Probabilities of Staying Poor over a Five Year Period in Selected Countries with Panel Data

Country	**Probability of Staying Poor (low)**	**Probability of Staying Poor (high)**
India	0.25	0.35
China	0.15	0.25
Bangladesh	0.25	0.35
Ethiopia	0.3	0.4
Pakistan	0.25	0.35
Indonesia	0.2	0.3
Vietnam	0.4	0.5
Philippines	0.3	0.4
Russian Federation	0.1	0.2
Uganda	0.2	0.3

Source: Based on the transition matrices in Appendix 1

With the exception of transition economies, the probability of a person that is poor staying poor for the next five years is between 0.2 and 0.4, suggesting that between one-fifth and two-fifths of the static poor are chronically poor. It should be noted that although this table only contains estimates for 10 countries, these countries include 8 of the 10 countries that account for more than three-quarters (78%) of the world's $1/day poor.[7]

[7] It should also be noted that we have chosen not to use available panel data estimates from some countries (such as Madagascar, Nicaragua and KwaZulu-Natal in South Africa) which we regard as unrepresentative of their regions.

Preliminary Estimates

On the basis of the methodology and heroic assumptions outlined above, our best "guesstimate" is that the number of chronically poor people in the world in the late 1990s was between 300 and 420 million people. In other words, between one-quarter to one-third of the number of extreme (dollar per day) poor were chronically poor.

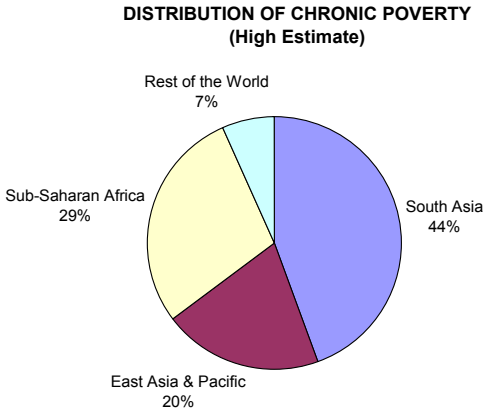
The lower estimate of 300 million people corresponds to the lowest plausible proportion of the population that would be persistently poor over a five year period. However, the upper estimate of 420 million people should not necessarily be considered as a maximum because the effects of measurement error in panel data often make it appear that there is more volatility in consumption/income levels than is actually the case (Baulch and Hoddinott, 2000). Unfortunately, there is currently insufficient information to be able to adjust for the impact of such measurement error in our estimates.

The limited availability of panel data means that it is not possible to draw conclusions about the geographic pattern of chronic poverty at anything other than a highly aggregated level. Since we have few estimates of poverty dynamics based on panel data for either Latin America or the Middle East and North Africa, we have combined these regions with Europe and Central Asia into a "Rest of the World" category. Using the $1/day poverty line to define the base population, Table 2 shows that South Asia accounts for the highest numbers of both chronically poor (134 to 187 million) and extremely poor (536 million) people. In Sub-Saharan Africa, the numbers of the extreme poor are slightly lower than in East Asia and the Pacific (303 million compared to 313 million). However, as the probability of remaining in poverty in Sub-Saharan Africa is almost double that in East Asia, the number of chronically poor people in Sub-Saharan Africa (91 to 121 million) exceeds that in East Asia and the Pacific (54 to 85 million). The "Rest of the World" accounts for between 20 and 28 million chronically poor people, although it should be stressed that these estimates are based on very limited data.

Table 2: Estimates of Chronic Poverty and Extreme Poverty by Region

Region	Population	Number $/day poor for countries where this is available	Estimated $/day poverty for entire region	Estimated chronic poverty for entire region (low estimate)	Estimated chronic poverty for entire region (high estimate)	Average proportion of poor that are chronically poor over a five year period (low estimate)	Average proportion of poor that are chronically poor over a five year period (high estimate)
Sub-Saharan Africa	658,716,132	216,393,433	303,265,370	90,979,611	121,306,148	30.0%	40.0%
East Asia and Pacific	1,807,813,858	277,040,275	312,812,211	53,652,001	84,933,222	17.2%	27.2%
South Asia	1,355,086,008	524,683,602	535,604,901	133,901,225	187,461,715	25.0%	35.0%
Rest of world	1,149,621,918	80,958,443	88,015,797	19,807,439	28,011,960	22.5%	31.8%
All	4,971,237,916	1,099,075,753	1,239,698,279	298,340,275	421,713,045		

Figure 1: Regional Shares of Chronic and Extreme Poverty



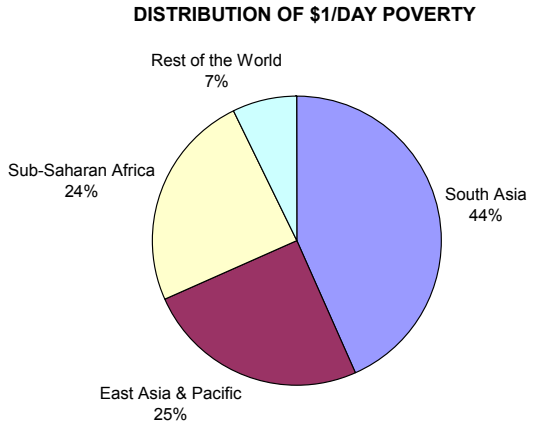
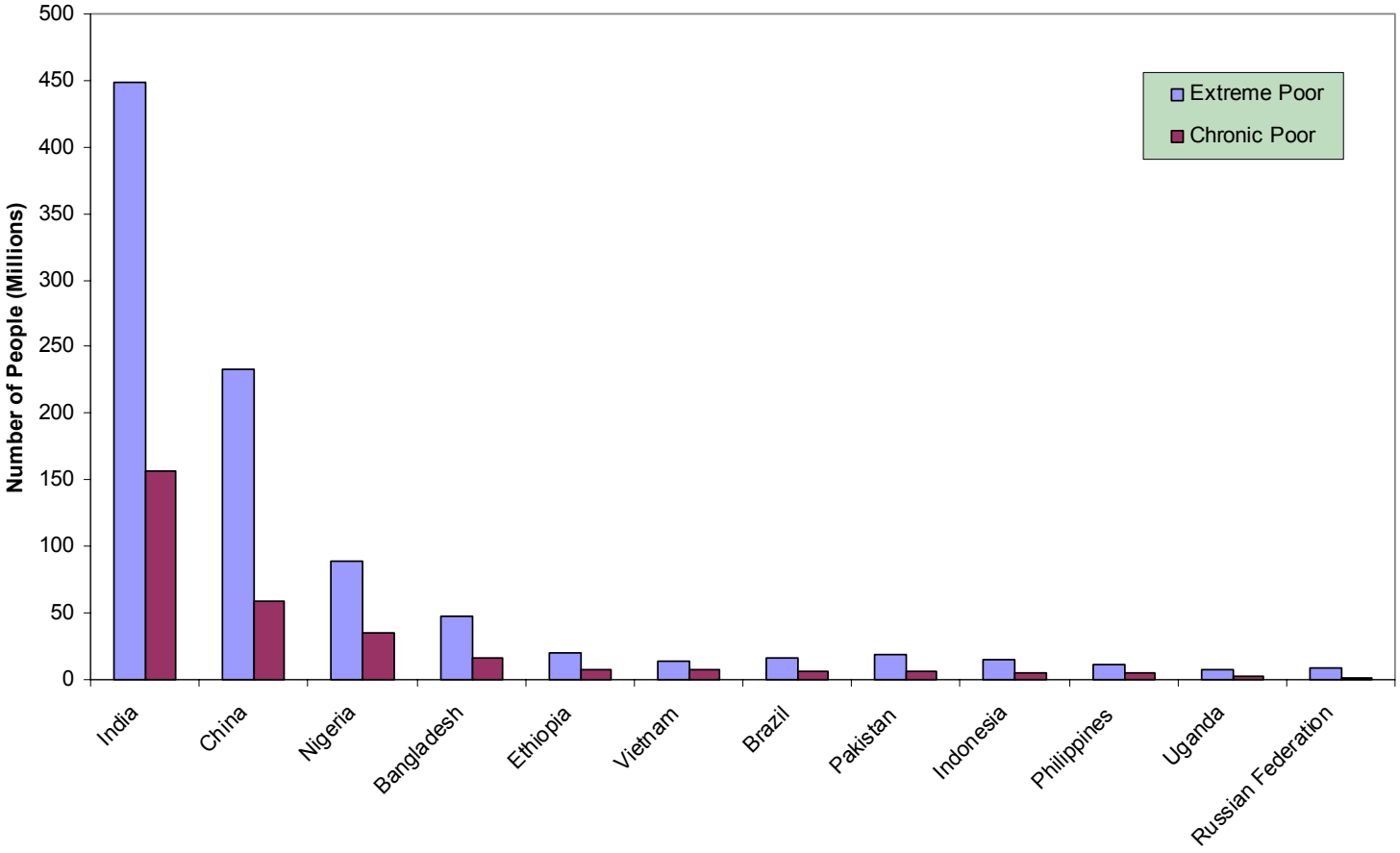


Figure 1 shows the regional distribution of chronic and extreme poverty in terms of the shares of global poverty different regions account for. South Asia accounts for the same share (44%) of both chronic and extreme poverty in these graphs. However, because of its higher percentage of people who stay poor, Sub-Saharan Africa's share of global chronic poverty is some 9% higher than that of East Asia, despite their similar shares of extreme poverty. We would hypothesise that Sub-Saharan Africa's generally disappointing growth performance combined with the land-locked geography of many of its nations, plays a major role in explaining this contrast.

For the countries for which we have reliable panel data, it is instructive to consider national estimates of the number of people who are chronically and extremely poor. Figure 2 shows our high estimates of chronically poor people against the World Bank's estimates of extreme static poverty for the same countries as were included in Table 1. The impact that India and China have on the global magnitude of both chronic and extreme poverty can be appreciated from this figure. India and China account for almost a half (49 to 51%) of chronic poverty worldwide and just over a half (55%) of extreme poverty. India accounts for a higher share of global chronic poverty than extreme poverty than China because of the higher probability of staying poor in India. The other countries that feature prominently in Figure 2 are Bangladesh, Ethiopia, Pakistan and Vietnam – all countries which combine large poor populations with moderate or high levels of poverty persistence. If data were available, we would expect Nigeria, the Congo, Myanmar and Sudan (in roughly that order) to feature prominently in Figure 2 – because of the absolute size of their populations together with our perception of the chronicity of poverty in these countries.

Finally, an analogous exercise using national poverty lines instead of the $1/day poverty line produced a very similar range (270 to 410 million) for the magnitude of chronic poverty in the world. Using national poverty lines rather than the $1/day poverty line does, however, produce a somewhat different geographic distribution of chronic poverty. Using national poverty lines, our estimates of chronic poverty in the "Rest of the World" are higher, while those for South Asia and Africa are lower than when the $1/day line is used. This reflects the fact that the non-food component of the poverty line tends to be more generous in less poor countries, so their static poverty rates are also likely to be higher. Another point of difference is that PPP exchange rates are not used for national poverty line computations.

Figure 2: Chronic Poverty and Extreme Poverty for Selected Countries



Conclusions and Caveats

Our best "guesstimate" is that there were between 300 and 420 million chronically poor people in the world in the late 1990s. These are the numbers of people with expenditures or incomes below the World Bank's $1/day poverty line for five years or more. We would tend towards the higher estimate of the range because of the impact that measurement error has on the probability of staying in poverty. When national poverty lines are used, our global poverty estimates are remarkably similar (270 to 410 million). In both cases, chronic poverty is heavily concentrated in South Asia and Sub-Saharan Africa, which together account for about three-quarters of the global total.

It should, however, be stressed that our estimates of the global magnitude and distribution of chronic poverty are both preliminary and inherently imprecise, as we only have reliable information on poverty dynamics for 10 developing countries (which fortunately include the most populous, low incomes ones) and on static extreme poverty for 79 countries. As the number of countries for which representative panel data is collected increases, it will be possible to extend the number of countries and regions for which estimates of chronic poverty can be made. This will be particularly valuable in Latin America, West Africa, North Africa and low income economies in Central Asia, where very few panels currently exist and our current estimates are very approximate. Similarly, as the World Bank extends, updates and strengthens its $1/day poverty estimates, so our regional poverty estimates can be refined.[8] The provision of poverty estimates for the four populous low income countries which do not currently have $1/day poverty estimates (the Democratic Republic of the Congo, Myanmar, North Korea and Sudan) are likely to have the most impact on our estimates of chronic poverty.

Methodologically, three issues need to be resolved for future issues of the *Chronic Poverty Report*. First, the impact that measurement error has on existing estimates of poverty dynamics needs to be better assessed. The few studies that do exist (Luttmer, 2001; McCulloch and Baulch, 2000) suggest that its influence is pervasive and leads to an upward bias in the number of poverty transitions. Second, a more systematic way of adjusting the unconditional probabilities of staying in poverty over a five year period needs to be found. Maximum entropy methods (Golan *et al.*, 1996) offer considerable promise in this regard—as they can be used to adjust existing transition matrices to take time elapsed and other priors concerning poverty dynamics at the national level into account. Finally, we believe it would be useful to conduct a global 'stock take' on how different countries' national poverty lines are constructed. Our impression is that the food components of the national poverty lines in most low-income developing countries are based on remarkably similar, although not identical, methods. This might furnish an alternative basis to the World Bank's $1/day poverty line for making cross-country poverty comparisons.

[8] The World Bank's next major revisions to its $1/day poverty estimates are expected to be released later in 2004.

Appendix: Poverty Transition Matrices for Selected Developing Countries

India 1970/71-1981/82 Rural Areas

		1970/71	1981/82 Poor	1981/82 NonPoor	1981/82 All
Average Welfare Change 1971/72-1981/82	-	**Poor**	25.3%	22.8%	48.1%
National Poverty Headcount 1971/72	-	**Non-Poor**	13.3%	38.5%	51.8%
National Poverty Headcount 1981/82	-	**All**	38.6%	61.3%	

Source: Bhide and Mehta (2003) based on 1970/71 to 1981/82 NCAER panel
Notes: Panel contains 3139 households in 261 villages. Welfare measure is real per capita consumption. Indian Planning Commission poverty line.

China (Sichuan), 1991-1995 Rural Areas

		1991	1995 Poor	1995 NonPoor	1995 All
Average Welfare Change 1991-1995	-	**Poor**	9.6%	15.2%	24.8%
National Poverty Headcount 1991	15.5%	**Non-Poor**	7.3%	67.9%	75.2%
National Poverty Headcount 1995	10.4%	**All**	16.9%	83.1%	

Source: McCulloch & Caldrino (2003) based on Rural Household Survey
Notes: Panel contains 3,311 households. Welfare measure is per adult equivalent consumption expenditure CBN poverty line based on 2,100 Kcal/person/day + allowance for non-food expenditure

Bangladesh, 1998-2000 Rural Areas

		1988	2000 Poor	2000 NonPoor	2000 All
Average Welfare Change 1998-2000	-	**Poor**	31.4%	25.8%	57.2%
National Poverty Headcount 1998	49.7%	**Non-Poor**	17.7%	25.1%	42.8%
National Poverty Headcount 2000	43.6%	**All**	49.1%	50.9%	

Source: Sen (2003) based on BIDS/IRRI village panel.
Notes: Panel contains 379 households in 21 districts. Welfare measure is per capita income. Poverty line based on CBN method

Ethiopia, 1994-1997 Urban Areas

			1997 Poor	1997 NonPoor	1997 All
Average Welfare Change 1994-1997	-24.5%	**1994 Poor**	25.0%	9.2%	34.2%
National Poverty Headcount 1994	34.4%	**Non-Poor**	17.9%	47.8%	65.7%
National Poverty Headcount 1997	42.9%	**All**	42.9%	57.0%	

Source: Kedir and Mckay (2003) based on household survey data collected by Addis Ababa Univeristy
Notes: Panel contains 1500 households. Welfare measure is "real total household expenditure per adult per month" CBN poverty line based on 2200 Kcals/person/day + allowance for non-food expenditures

Pakistan, 1986-1990 Rural Area

Average Welfare Change 1986-1990	-20.3%
National Poverty Headcount 1986	-
National Poverty Headcount 1990	-

1986 \ 1990	Poor	NonPoor	All
Poor	10.4%	9.9%	20.3%
Non-Poor	19.5%	60.2%	79.7%
All	29.9%	70.1%	

Source: Baulch and McCulloch (2003) based on IFPRI household food security survey
Notes: Panel contains 686 households located in 52 villages.
Welfare measure real income per adult equivalent
Relative poverty line equal to 20th percentile of income distribution in 1986.

Indonesia, 1993-97 National

Average Welfare Change 1983-97	-
National Poverty Headcount 1993	15.2%
National Poverty Headcount 1997	19.4%

1993 \ 1997	Poor	NonPoor	All
Poor	7.8%	7.4%	15.2%
Non-Poor	11.6%	73.2%	84.8%
All	19.4%	80.6%	

Source: Alisjahbana and Yusuf (2003) based on Indonesian Family Life Survey, Rounds I and II
Notes: Panel contains 6,742 households located in 13 provinces
Welfare measure is per capita consumption expenditure
Poverty line based on FEI method

Vietnam, 1993-1998

	Rural	Urban	National
Average Welfare Change 1993-1998	34.3%	52.1%	39.6%
National Poverty Headcount 1993	63.6%	23.8%	56.1%
National Poverty Headcount 1998	39.2%	8.5%	33.5%

1993 \ National 1998	Poor	NonPoor	All
Poor	28.7%	27.4%	56.1%
Non-Poor	4.7%	39.2%	43.9%
All	33.4%	66.6%	

Rural

1993 \ 1998	Poor	NonPoor	All
Poor	33.9%	29.7%	63.6%
Non-Poor	5.4%	31.1%	36.5%
All	39.3%	60.8%	

Urban

1993 \ 1998	Poor	NonPoor	All
Poor	6.5%	17.3%	23.8%
Non-Poor	2.1%	74.1%	76.2%
All	8.6%	91.4%	

Source: Calculated for CPR1 from Vietnam Living Standard Surveys
Notes: Panel contains 4,272 households. Welfare measure is per capita consumption expenditure.
CBN poverty line based on 2100 Kcals/person/day + allowance for non-food expenditure.

Philippines, 1997-1998 National

Average Welfare Change 1997-1999	-
National Poverty Headcount 1997	36.8%
National Poverty Headcount 1999	-

1997 \ 2997	Poor	NonPoor	All
Poor	24.9%	6.4%	31.3%
Non-Poor	15.8%	52.8%	68.6%
All	40.7%	59.2%	

Source: Reyes (2002) based on Family Income and Expenditure Survey and the 1999 Annual Poverty Indicators Survey
Notes: Panel contains 17,897 households. Welfare measure is per capita income.
Poverty line based on 2000 Kcals/person/day + subsistence threshold which includes non food exp shares.

Russian Federation, 1994-1996

	Rural	Metro-politan	Other Urban	National
% Chronic Poor	17.3%	2.0%	10.7%	6.9%
% Transient Poor	51.5%	26.1%	27.3%	45.4%
% Non Poor	31.1%	71.0%	42.0%	47.6%

Source: Lokshin & Popkin (1999) based on RLMS rounds 5 to 7

Notes: Panel contains 2,887 households and 3 waves. Welfare measures is "total monthly disposable household income". Poverty line based on WHO minimum nutritional criteria for different age-gender groups for all regions.

Uganda, 1992-1999

	Rural	Urban	National
Average Welfare Change 1992-1999	31.4%	47.0%	33.7%
National Poverty Headcount 1992	59.7%	27.8%	55.7%
National Poverty Headcount 1999	39.1%	10.3%	35.0%

National

1992	1999 Poor	1999 NonPoor	1999 All
Poor	18.9%	29.7%	48.6%
Non-Poor	10.4%	41.0%	51.4%
All	29.3%	70.7%	

Rural

1992	1999 Poor	1999 NonPoor	1999 All
Poor	20.5%	30.7%	51.2%
Non-Poor	11.1%	37.7%	48.8%
All	31.6%	68.4%	

Urban

1992	1999 Poor	1999 NonPoor	1999 All
Poor	10.2%	24.1%	34.3%
Non-Poor	6.0%	59.6%	65.6%
All	16.3%	83.7%	

Source: Lawson, McKay and Okidi (2003) based on IHS/UNHS 1992/99 panel

Notes: Panel contains 1,105 households. Welfare measure is per adult equivalent consumption expenditure. CBN poverty line based on 3000 Kcals/day/aeu (equivalent to 2000 Kcal per day)+ allowance for non-food expenditures

References

Alisjahbana, A. and Yusuf, A., 2003, "Poverty dynamics in Indonesia", Mimeo, Padjadjaran University, Bandung

Baulch, B. and Hoddinott, J., 2000, "Economic mobility and poverty dynamics in developing countries, *Journal of Development Studies*, 36(6): 1-24

Baulch, B., and Masset, E., 2003, "Do monetary and non-monetary indicators tell the same story about chronic poverty? A study of Vietnam in the 1990s", *World Development* 31(3): 441-453

Baulch, B and McCulloch, N., 2003, "Being Poor and Becoming Poor: Poverty Status and Poverty Transitions in Rural Pakistan", *Journal of African and Asian Studies* 37(2):168-185

Bhide, S. and Mehta, A.K., 2003, "Chronic Poverty in Rural India, An Analysis using Panel Data: Issues and Findings", mimeo, National Council for Applied Economic Research and Indian Institute of Public Administration, New Delhi

CPRC, 2004, *Chronic Poverty Report 2004-05*, Manchester: Chronic Poverty Research Centre/Institute of Development Policy and Management

Deaton, A., 2001, "Counting the world's poor: problems and possible solutions", *World Bank Research Observer*, 16(2): 125-147.

Golan, A., Judge, G., and Miller, D., 1996, *Maximum Entropy Econometrics: Robust Estimation with Limited Data*, Chichester: John Wiley and Sons.

Hulme, D., and Shepherd, A., 2003, "Conceptualising chronic poverty", *World Development*, 1(3): 403-425.

Kedir, A. and McKay, A., 2003, "Chronic poverty in urban Ethiopia: panel data evidence", Paper presented at Chronic Poverty Research Centre International Conference, Manchester, April 2003.

Lawson, D., McKay, A. and Okidi, J., 2003, "Poverty persistence and transitions in Uganda: a combined qualitative and quantitative analysis", *Chronic Poverty Research Working Paper* 38, University of Manchester.

Lokshin, M. and Popkin, B., 1999, "The emerging underclass in the Russia Federation: income dynamics, 1992-96", *Economic Development and Cultural Change*, 44(1): 803-829.

Luttmer, E., 2001, "Measuring poverty dynamics and inequality in transition economies", *World Bank Policy Research Working Paper* 2549, Washington DC: World Bank.

McCulloch, N., and Baulch, B., 2000, “Simulating the impact of policy on chronic and transitory poverty in Pakistan”, *Journal of Development Studies*, 36(6): 100-130.

McCulloch, N. and Calandrino, M., 2003, “Vulnerability and chronic poverty in rural Sichuan”, *World Development* 31(3): 611-628.

Pogge, T., and Reddy, T., 2003, “How not to count the poor”, Mimeo, Columbia University, New York (http://www.columbia.edu/~sr793/count.pdf).

Ravallion, M., 2003, ‘The debate on globalization, poverty and inequality: why measurement matters”, *World Bank Policy Research Working Paper* 3038 (http://econ.worldbank.org/files/26010_wps3038.pdf), Washington DC: World Bank.

Ravallion, M., Datt, G. and Van de Walle, D., 1991, “Quantifying absolute poverty in the developing world”, *Review of Income and Wealth*, 37(4): 345-262.

Reyes, C., 2002, “Movements into and Out of Poverty”, MIMAP Research Paper 53, International Development Research Centre, Ottawa, Canada

Sen. A. K., 1999, *Commodities and Capabilities*, Oxford: Oxford University Press.

Sen, B., 2003, “Drivers of escape and descent: changing household fortunes in rural Bangladesh”, *World Development*, 31(3): 513-534

Skoufias, E., Suryahadi, A., and Sumarto, S., 2000, “Changes in household welfare, poverty and inequality during the crisis”, *Bulletin of Indonesian Economic Studies*, 36(2): 97-114

UNCTAD, 2002, *The Least Developed Countries Report 2002: Escaping the Poverty Trap*, Geneva: United Nations Conference on Trade and Development.

World Bank, 2002 and 2003, *World Development Indicators*, Washington DC: World Bank.