

What Does It Take to Win the War Against Poverty in the Philippines?

A large body of evidence supports the view that sustained economic growth has been the key factor responsible for the remarkable reduction of absolute poverty in Asia in the two decades preceding the Asian economic crisis (World Bank 1990; Ravallion and Chen 1997). Emerging evidence also now reveals that the contraction of overall economic activity during the crisis has been largely responsible for the recent rise in poverty in crisis-hit Southeast Asian countries, especially Indonesia (World Bank 1999), Thailand (Siamwalla and Sobchokchai 1998), and the Philippines (Lim 1998; Reyes et al. 1999). Evidence also shows that the rapid pre-crisis growth in East Asia accompanied improvement in income distribution, thereby accentuating the favorable effect of growth on poverty (World Bank 1993; Ranis 1995).

In contrast, the usual claim in policy discussions in the Philippines, as well as in academic fora, is that the recent episodes of growth have not benefitted the poor, either absolutely or relatively. By implication, a growth-led poverty alleviation program is inappropriate for the Philippine setting. Indeed, not a few quarters have been peddling "new" models for – or approaches to – poverty alleviation. In many of these proposals (e.g., the creation of an apex bank for the poor), generating – and then sustaining – respectable overall growth is not recognized as a priority issue for poverty alleviation.

Unfortunately, official data on poverty have not helped much in informing the discussion on the growth-poverty-inequality nexus in the Philippines. As elaborated elsewhere (Balisacan 1997, 1999), the official approach to assessing poverty appears incapable of tracking the full impact of growth on absolute

¹ He is grateful to Ms. Gemma Estrada for able research assistance.

poverty. This is so since the official poverty lines applied for various regions, areas, and years imply different levels of living standards, tending to *systematically* underestimate (overestimate) the reduction (increase) in absolute poverty in economically more progressive (backward) regions or sectors, or during periods when the overall economy is expanding (contracting).

Our aim in this paper is to reexamine the aggregate and spatial profiles of poverty using a decomposition approach to explore the sources of poverty change from the mid-1980s to the mid-1990s. This period saw economic growth (and decline) taking place in an environment of political stability, economic deregulation, and institutional reforms. It appears that this growth, especially since 1993, has a fundamentally different character from previous ones. In contrast, during most of the last three decades, each episode of boom, fueled largely by massive foreign borrowing and capital-intensive import-substituting industrialization, was soon followed by bust and stagnation. The period also witnessed heavy government regulation of the market economy, as well as political instability, natural disasters, and major shocks in global trade and finance. While the period from mid-1990s to the late 1990s is also an interesting case to examine in view of the Asian economic crisis, household data amenable to the type of analysis performed in this paper are not yet available.

In the section that follows, we will discuss some measurement issues that have important bearing on what we will know about poverty and income inequality in the Philippines. We will then explore the proximate causes of national poverty change during the period, as well as the relative importance of growth to regional poverty reduction. We will end the paper with some concluding remarks.

Measurement Issues and Data

Identification of the poor requires a broad indicator of household economic welfare (hereafter also referred to loosely as living standard). In this paper, we employ household consumption expenditure.² Standard arguments in microeconomic theory suggest that since welfare level is determined by "life-cycle" or "permanent" income, and since current consumption is a good approximation of this income, current consumption is an appropriate measure of not only current welfare level but also *long-term* average well-being.³

² In contrast, the official choice in the Philippines is current household income.

³ Put differently, within a single period, the appropriate argument of the household welfare function is current consumption rather than current income (Deaton and Muellbauer 1980)

The National Statistics Office's *Family Income and Expenditures Survey* (FIES), the main source of data for income distribution and poverty studies in the Philippines, captures a wide range of implicit household expenditures, such as use value of durable goods (including owner-occupied dwelling units), consumption of home-produced goods and services, and gifts and assistance or relief in goods and services received by the household from various sources. Thus, these data are valid even for household welfare comparisons between urban and rural areas, as well as among socioeconomic groups.

The chosen indicator of living standards has to be adjusted for differences in household needs as well as scale economies in consumption. Conceptually, this is achieved by using appropriately constructed household equivalence scales. An equivalence scale indicates at reference prices the cost differential for a household, due to demographic composition and other relevant household attributes, to reach the welfare level of the reference household. Viewed as a true-cost-of-living index, it represents in one summary measure the changing needs of a family, as well as any economies in consumption, as it expands and/or changes attributes. Several procedures have been suggested in the literature to estimate equivalence scales from household expenditure survey data. However, any particular procedure involves cardinal assumptions about which there may not be general agreement. Put differently, there exists many different utility functions which may be consistent with the observed data, implying that the estimation of equivalence scales always involves an element of arbitrariness (Pollak and Wales 1979; Fisher 1987). Thus, for our purposes, we stick to the common practice of adjusting the chosen household welfare indicator (in this case, consumption expenditure) only for household size, i.e., we use per capita expenditure in our welfare comparison.⁴ In taking this track, we are also assuming that each individual in a household gets a welfare value equal to the per capita consumption for that household.⁵

Another difficulty in comparing expenditures across different households is that prices may vary significantly over different regions of the country. A household welfare measure must take into account regional price variation. Previous income inequality studies on the Philippines, as well as official releases of income distribution, have been largely unsuccessful in making this adjustment, owing

⁴ But for the sensitiveness of poverty and income inequality profiles in the Philippines to equivalence scales, see Balisacan (1999).

⁵ Kakwani (1986) argues that for most practical purposes, this is a valid assumption.

largely to the absence of appropriately constructed regional cost-of-living indices. We have calculated Laspeyre regional cost-of-living indices for 1994 by matching prices of 400 product categories in the National Statistics Office consumer price data—the same data used in the construction of official CPI—with FIES expenditure for 50 food and 61 nonfood categories. The calculation of the indices used quantity weights of the average Philippine household, as well as nationwide average commodity prices as base prices. Thus, the price indices for 1994 measure differences in price levels in the 13 regions relative to the average for all of the Philippines. Since our analysis involved intertemporal welfare comparison, we have incorporated price increases over time to the regional cost-of-living index. This was done by applying the official CPI to the regional cost-of-living index. The resulting indices for 1985-1997, summarized in Table 1, indicated substantial regional price variation in any given year, as well as marked regional differences in rates of price increases during the period.

The setting of poverty line invites even more disagreement. But when the aim is to inform policy choices for reducing absolute poverty, an appealing property of a poverty line is that it should not depend on the subgroup to which the person with that standard of living belongs (Ravallion 1994). Put differently, poverty lines constructed for various subgroups must be fixed in terms of a given living standard. Thus, two persons deemed to have exactly the same standard of living in all relevant aspects but located in different regions would have to be treated as either both poor or both nonpoor. The poverty lines are then said to be *consistent*; they imply the same command over basic consumption needs.

The Philippine Government's approach to constructing poverty lines fails this property, even as its avowed policy goal is the elimination of absolute poverty. As noted above, the official poverty lines applied for various regions, areas, and years imply different levels of living standards, tending to *systematically* underestimate (overestimate) the reduction (increase) in absolute poverty in economically more progressive (backward) regions or sectors, or during periods when the overall economy is expanding (contracting). The problem arises from its use of region-specific (and, within region, area-specific) poverty line based on the prevailing consumption pattern of that region (area).⁶

⁶ It is well known that as household incomes rise, consumption of cheap sources of calories tends to decline as consumers shift to higher quality and more varied—but not necessarily more nutritious—food sources. Put differently, the income elasticity of demand for calories is typically much lower than that of food as a group (Bouis and Haddad 1992; Subramanian and Deaton 1996). The shift is invariably associated with improvement in standard of living.

We have constructed a new set of regional poverty lines which embed the consistency feature for a poverty norm, i.e., the poverty lines are fixed for various population subgroups and periods in terms of the level of living they imply.⁷ The construction involves (i) obtaining a national-average food bundle satisfying the minimum nutritional requirement of 2,000 calories per day for each person in the population, (ii) estimating the nonfood component from the consumption patterns of all households whose total expenditures are just adequate for meeting the food threshold, and (iii) adjusting the total food and nonfood components for regional cost-of-living differences. The resulting poverty lines (hereafter referred to as "absolute" poverty lines since they roughly represent essential basic needs), are about 1 percent to 35 percent lower than the official poverty lines, depending on the region and area. Using regional population share as weights, the average absolute poverty line is about 25 percent lower than the average official poverty line of 8,885 pesos (in 1994 prices). Thus, in this paper, we also refer to our estimates as "low" poverty lines and the official figures as "high" poverty lines. In the next section, we will employ the former in constructing poverty profiles, and the latter in examining the robustness of these profiles to assumptions about the poverty norm. Annex A provides in greater detail the implication of the choice of approach to constructing poverty lines on poverty monitoring and indicator system.

Another controversial issue in poverty measurement concerns the aggregation of the information on the poor into a single measure of poverty. A common procedure is to simply count the proportionate number of the population deemed poor. The resulting *head-count index*, conventionally interpreted as a measure of the "incidence" of poverty, is what appears in official reports on poverty in the Philippines, as well as in most international poverty comparisons. This measure, however, is silent about the depth and severity of poverty. Two other popular measures are reported below to capture these aspects of poverty. The *poverty-gap index*, defined by the mean distance below the poverty line as a proportion of that line (where the nonpoor are counted as having zero poverty gap), gives a measure of the "depth" of poverty, while the *distribution-sensitive measure*, defined as the mean of the squared proportionate poverty gaps, reflects the "severity" of poverty. The latter index pertains to the familiar FGT (Foster-Greer-Thorbecke) measure incorporating a society's "moderate" aversion to poverty (Foster et al. 1984).

⁷ This set is based on a much richer consumer price data than those reported in Balisacan (1997, 1998a, 1998b, 1999).

Poverty Change and Proximate Causes

Figure 1 provides a backdrop to the discussion of poverty profile that follows. Note that real per capita GNP in the late 1990s is only as high as that achieved in the early 1980s. The sharp economic contraction in 1984 and 1985 was soon followed by a period of recovery, but this was cut short by political instability, natural calamities, and incompetence in economic governance, leading to economic stagnation in the late 1980s and early 1990s. Growth recurred in 1994 and lasted up to 1997, but the aftermath of the Asian economic crisis, together with severe drought in the country's major food-producing areas, sent average income spinning down in 1998.

Table 2 provides our estimates of poverty for the 1980s and 1990s. All the poverty indices show significant reductions from 1985 to 1988, significant increases (except for incidence) from 1988 to 1991, and significant reductions from 1991 to 1994 and again from 1994 to 1997. These changes appear to be related to the growth (and stagnation) of real mean consumption. The highest 3-year poverty reduction was achieved during the "economic boom" of 1985-1988 when real consumption per capita rose by 9.6 percent. On the other hand, the period of rising poverty saw the change in mean consumption to be statistically insignificant (at 5 percent level). But another "proximate" cause for the observed poverty changes during the 1980s and early 1990s may well be the changes in the distribution of living standards. After falling to 38.6 percent in 1988 from 39.8 percent in 1985, the expenditure Gini rose to 41.1 percent in 1991. It fell back to 1985-level in 1994. The same pattern emerged for the income Gini.

The changes in poverty may be also related with movements in price levels. Inflation in 1983-1985 averaged 25 percent. The rate dropped from 18 percent in 1985 to 9 percent in 1988, possibly benefiting the majority of the poor who tended to be fixed-income earners as well as self-employed workers in rural areas. Inflation resurged to an average of 15 percent a year at the end of the decade. Inflation decelerated to only 8.5 percent a year during 1992-94 and 8.3 percent a year during 1994-97. As shown elsewhere (Balisacan 1995), high inflation during a period of low growth increases aggregate poverty, as what happened in 1989-1991. Particularly vulnerable to commodity (particularly food) price increases are the numerically-large small agricultural producers and landless workers who are net buyers of food.

Poverty Ordering

As indicated earlier, poverty ranking may be influenced by the choice of poverty indices, as well as the construction of (assumption about) poverty lines. To check whether the intertemporal poverty ordering is robust to the choice of poverty indices and poverty lines, we have employed the dominance criteria suggested by Jenkins and Lambert (1997). The approach involves constructing cumulative distributions of income shortfalls from the poverty line z and checking plots of these distributions—the TIP curves, so named because each curve simultaneously portrays the 'Three "I"s of Poverty', i.e., incidence, intensity, and inequality—for consistency with the dominance criteria. Figure 2 compares pairs of TIP curves for the 1980s and 1990s; two non-intersecting TIP curves indicate that the change in poverty during the period is unambiguous for a wide class of poverty indices suggested in the literature—including the FGT class of poverty indices for $\alpha \geq 1$)—and for all poverty lines set at z or lower.⁸ For purposes of TIP curve construction, we have employed the set of high poverty lines (i.e., official poverty lines), thereby allowing the application of the dominance criteria for a wide range of plausible poverty lines, including the low poverty lines estimated in this paper. The incidence aspect of poverty is given by the length of each TIP curve's non-horizontal section. The intensity (depth) aspect of poverty is indicated by the height of the TIP curve: the vertical intercept at 100 percent cumulative population share is the aggregate poverty gap of the population. The severity dimension of poverty is summarized by the degree of curvature of the non-horizontal section of the TIP curve.⁹

Clearly, as shown in Figure 2, poverty was higher in 1985 than in 1988 according to a wide class of poverty indices and for all poverty lines equal to or less than the official poverty lines. The inference made earlier that the intensity and severity of poverty increased in 1991 appeared to be also robust: the TIP curve for 1991 was virtually always above that for 1988. The TIP curves for 1991 and 1994 also revealed an unambiguous poverty ordering: poverty was higher in 1991 than in 1994.

⁸ The same exercise could not be performed for the 1994–1997 pair owing to the non-availability of the 1997 FIES raw data as of this writing.

⁹ There are other criteria for unanimous poverty orderings suggested in the literature (e.g., Atkinson 1987, Foster and Shorrocks 1988), but the TIP curve provides a more revealing picture of poverty and distribution. Moreover, its construction permits the strength of poverty comparison to be tested.

Accounting for Poverty Change

As noted above, both consumption growth (stagnation) and changes in the distribution of consumption appear to have influenced the changes in poverty over the economic cycle. It is possible to determine the relative importance of these two factors to poverty measures through some simple counterfactual experiments. One such experiment would be: What would have been the change in poverty during a given period if all consumption groups had shared equally in the growth that occurred? Another would be: How much further would poverty have increased (decreased) during the period if not for the growth (decline) that did occur?

The two experiments correspond to components of a poverty change, i.e., the growth and redistribution components of the observed changes in the poverty measures employed in this paper.¹⁰ Put differently, the growth component is the change in the poverty measure due to a change in mean consumption per capita while holding the consumption distribution constant at some reference level. The redistribution component, on the other hand, is simply the change in consumption distribution while keeping the mean consumption constant at some reference level. In this paper, we follow the procedure suggested by Kakwani (1998) to decomposing a poverty change into these components. The advantage of this procedure over other approaches suggested in the literature (e.g., Datt and Ravallion 1992) is that it gives an exact decomposition in which growth and inequality effects are evaluated consistently, i.e., the sum of the two effects is exactly equal to the total change in poverty. Moreover, the approach yields symmetric results with respect to the choice of reference-year distribution for defining the growth and inequality effects.

Table 3 summarizes the results of the decomposition.¹¹ The growth component accounted for a disproportionately greater share of the poverty change during the period of relatively rapid growth (1985-1988), as well as during the entire 1985-1994 period. Moreover, when the increase in mean consumption was significant (1985-1988 and 1991-1994), the redistribution component was negative, indicating that the redistribution augmented the favorable effect of

¹⁰ A poverty change may not be decomposable exactly into these two components. That is, there may be a "residual" component, which can be interpreted as the difference between the growth (redistribution) components evaluated at the terminal and initial consumption distribution (mean consumption). The residual vanishes if either mean or distribution does not change over the decomposition period.

¹¹ The decomposition uses the consistently-defined absolute poverty lines described in section 2.

growth on poverty.¹² The reduction in poverty incidence in 1991-1994 when the increase in mean consumption was comparatively small (though significant at 5 percent level), would have been only about 1 percentage point, instead of the observed 3.3 percentage points, if not for the observed decline in inequality. On the other hand, when consumption stagnated during a period of high inflation (1988-1991), the redistribution component was positive and accounted for the bulk of the observed increase in poverty (depth and severity). This shows that economic stagnation hurt the poor mainly through its negative effect on the distribution of household welfare. Note, again, that during this period inflation was high, averaging over 10 percent per year.

How Important Is Growth to Regional Poverty Reduction?

Mean living standard, as proxied by per capita consumption-expenditure (adjusted for cost-of-living differences), varies substantially across regions of the country. Metro Manila, which accounts for about 14 percent of the population, has the highest mean expenditure. In the early 1990s, its mean consumption was almost double the national average or about three times the averages for Bicol and Eastern Visayas, two of the poorest regions of the country. Not surprisingly, poverty also varies considerably between regions (Table 4).

The data set for the four survey years and 13 geographic regions of the country shows a strong negative relationship between the consumption mean and the three poverty indices (Figure 3). It is also apparent that the relationship is not linear. Taking logs of the variables deals well with this nonlinearity; the regression coefficient of the logarithm of a poverty measure on the logarithm of real consumption per capita is -2.0 for the head-count (incidence) regression, -2.8 for the poverty-gap (depth) regression, and -3.3 for the distribution-sensitive measure (severity) regression. These estimates indicate a highly elastic response of poverty to changes in average living standards. It is well known, however, that such regressions are likely to be biased since cross-region comparisons of levels are quite prone to problems of measurement and related errors. For example, any omission of region-level fixed effects correlated with the consumption variable will bias the estimate of the impact of consumption growth on poverty. Moreover, since the estimation of poverty uses the information on

¹² In contrast, the redistribution component was positive though comparatively small in Balisacan (1999).

consumption, any errors in measuring consumption are reflected in the estimates of poverty and, hence, of the regression parameters.

A convenient way to resolve these problems is to focus on *rates* of growth in poverty and consumption, rather than on levels. Differencing eliminates region-level additive fixed effects that may bias conventional regressions. Instead of using survey consumption means, we employ the (largely independent) estimates of the growth rate in mean consumption per capita reported in the national income accounts. This should take care of the measurement problem noted above. The regression results are:

$$H_t/H_{t-1} = 1.844 - 0.875(C_t/C_{t-1}), \quad R^2 = 0.35$$

(9.34) (-4.65) Mean of dep. var. = 0.929

$$PG_t/PG_{t-1} = 2.355 - 1.379(C_t/C_{t-1}), \quad R^2 = 0.39$$

(8.12) (-5.00) Mean of dep. var. = 0.912

$$DSM_t/DSM_{t-1} = 2.727 - 1.743(C_t/C_{t-1}), \quad R^2 = 0.37$$

(7.24) (-4.86) Mean of dep. var. = 0.903

Evaluated at mean values (mean of indepvar = 1.046), the implied elasticities of the poverty measures with respect to per capita consumption are -1.5 for the incidence (head-count) index, -1.9 for the depth (poverty-gap) index, and -2.1 for the severity (distribution-sensitive) measure. The higher absolute values of the elasticity for poverty measures that are sensitive to the depth and/or severity of poverty indicate that the effects on the poor of growth (and contraction) in average living standards are not confined to those living near the poverty lines. Thus, contrary to popular perception, the growth process across regions of the Philippines in recent years has not had strongly adverse impact on the position of the poor.

The poverty elasticities estimated above are, however, somewhat low (in absolute values) by "international" standards. Using reasonably comparable data based on national household surveys for 67 countries (of which 42 had at least two surveys during the period since 1980) and employing US\$1 a day poverty line (at 1985 purchasing power parity), Ravallion and Chen (1997) estimated the elasticity to be -3.1 for the incidence index and -3.7 for the poverty-gap index. Thus, *while poverty in the Philippines responds elastically to growth,*

*the economy's ability to translate growth to poverty reduction appears weaker than for the "average" developing country.*¹³ Indeed, the (above) regressions of the rate of change in poverty on the rate of growth of real per-capita consumption could account for only 28-35 percent of the observed variation in poverty changes across regions during the second half of the 1980s and early 1990s.

Concluding Remarks

The new evidence on poverty, redistribution, and growth (recession) presented in this paper shows that the Philippines is not an exception to the usual story about growth and poverty reduction in East Asia. As in East Asia, poverty in the Philippines has been quite responsive to economic growth, at least to the extent that this growth has caused household consumption-expenditure to likewise grow. Furthermore, growth does not tend to be inequalizing. The results of the decomposition analysis show that the growth component accounted for a proportionately greater share of the poverty change during the period of relatively rapid consumption growth (1985-1988), as well as during the entire 1985-1994 period (and possibly up to 1997). Moreover, when the increase in mean consumption was significant (1985-1988 and 1991-1994), the redistribution component was negative, indicating that the redistribution augmented the favorable effect of growth on poverty. On the other hand, when consumption stagnated during a period of high inflation (1988-1991), the redistribution component was positive and accounted for the bulk of the observed increase in poverty. This shows that economic stagnation hurt the poor mainly through its negative effect on the distribution of household welfare.

It appears then that the main reason for the relatively high poverty in the Philippines is primarily the short duration of growth and the slowness of this growth. What the relatively fast pre-crisis growth – sustained for over 20 years – in East Asia (especially China, Thailand, and Indonesia) means is that these countries were able to reduce absolute poverty by more than half in a relatively short period of just two decades. This is a remarkable achievement

¹³ It should be noted, however, that the choice of poverty lines may partly account for the difference in the elasticities obtained in this paper and those by Ravallion and Chen. Kakwani (1993a) in fact conjectured that the elasticity of poverty has to do with the density of people around the poverty line: the larger the difference of the poverty line from the mode, the smaller the absolute magnitude of the poverty elasticity.

unprecedented in recent history (and unlikely to be eroded by Asia's economic and financial crisis).

The importance of growth in poverty alleviation varies greatly, however, across administrative regions and sectors of the economy. For the entire country, the agricultural sector led the way to poverty alleviation during the 1980s and early 1990s despite its sluggish growth (Balisacan 1997). The self-employed workers, the large majority of whom were dependent on agriculture, gained more than proportionately to the overall growth, mainly because their consumption grew more rapidly than those of other groups. For faster poverty alleviation, the development of agriculture and the rural sector, which still accounts for over three-fourths of the poor, has to be a central element of the country's development strategy. Priority should be given to rural infrastructure development, human capital formation, agricultural research and small- and medium-scale industrial development, and improvement of access to land. As the East Asian experience demonstrates, these investments, together with sound "fundamentals" (i.e., fiscal and monetary restraint), are critical to the building of initial conditions for broad-based growth and development.

An additional note on the government's poverty monitoring and indicator system is in order. At present, the system falls short of enabling decision-makers to assess program performance as well as sharpen the focus of efforts toward the attainment of poverty alleviation objective (see Annex A). The official approach to poverty measurement, for example, cannot be suitable for either national poverty monitoring or assessing comparative performance across regions or areas of the country, even more so *if the policy objective is to reduce absolute poverty*. The approach proposed in this paper is a modest step to improve the system.

Finally, it should be also noted that the current poverty monitoring system is incapable of responding to the demands for urgent responses to adverse macroeconomic shocks (e.g., Asian economic crisis) and natural calamities (e.g., El Niño phenomenon). The establishment of the *Annual Poverty Indicator Survey* is a step in the right direction, but it remains to be seen whether it will get adequate, regular funding for timely execution and sustainability.

Annex A

The Need for an Appropriate Poverty Monitoring and Indicator System¹⁴

Too often, disagreements and controversies in program assessments have their roots in disparate assumptions about policy objectives. It is, for example, often tacitly assumed that the sole objective of public policy is to reduce poverty, whereas a typical public program has a multiplicity of objectives. Even when poverty alleviation is the sole objective, it is often difficult to reach a consensus on what precisely this should be. Should poverty, for example, be seen as a failure to secure income sufficient to meet basic needs, or as a lack of certain basic capabilities such as avoiding hunger and illiteracy? Is the prime objective of policy to reduce absolute poverty, or is it to reduce economic inequality? Needless to say, judgement on the relative efficiency of different policies depends crucially on the sharpness with which the policy objective is defined. Thus, the first step in any assessment of poverty measurement and monitoring is to define clearly the welfare objective against which outcomes are judged.

Perhaps the most controversial issue in poverty measurement and monitoring pertains to the construction of poverty norm against which a person is deemed either poor or not-poor. The official approach to constructing such norm and assessing poverty is, for example, argued to be deficient in tracking the full impact of growth on absolute poverty. As elaborated below, this is so since the poverty lines applied for various regions, areas, and years imply different levels of living standards, tending to systematically underestimate (overestimate) the reduction (increase) in absolute poverty in economically more progressive (backward) regions or sectors, or during periods when the overall economy is expanding (contracting).

When the objective of poverty measurement is to inform policy choices for reducing absolute poverty, a desirable feature of a poverty line is that it should not depend on the subgroup to which the person with that standard of living belongs (Ravallion 1994). Put differently, poverty lines constructed for various subgroups must be fixed in terms of a given living standard. Thus, two persons deemed to have exactly the same standard of living in all relevant aspects but located in different regions would have to be treated as either both poor or both nonpoor. The poverty lines are then said to be consistent; they imply the same command over basic consumption needs.

¹⁴ This annex is based largely on Balisacan et al. (1998).

On the other hand, when the objective is to have a purely descriptive assessment of poverty by various subgroups of the population, it may be desirable to have a poverty line (i.e., a chosen basic-needs bundle) reflecting local perceptions of what constitutes poverty in each group. Cast differently, the poverty line may need to conform with the living conditions and amenities which are customary in the subgroup to which the households belong (often referred to as participation standard). Since the poverty line in each subgroup reflects that subgroup's overall living standard, any subgroup differences in poverty lines, after making allowance for subgroup cost-of-living differences, should reflect differences in living standards of the various population subgroups. Thus, poverty assessment appealing to this notion of poverty lines yields *relative* poverty considerations.

From a policy viewpoint, the two concepts of poverty have different implications for the choice of poverty-reduction programs. Redistribution programs (e.g., social welfare payments, asset redistribution) characterize a development policy focused on reducing relative poverty. Economic growth alone may not help much in reducing this type of poverty. On the other hand, absolute poverty reduction may require no less than overall expansion of employment opportunities sustained over a long period of time. In this case, development policy anchored on poverty reduction has to focus on creating a favorable environment for sustained employment growth (e.g., investment in infrastructure and human capital).

The two concepts have also important bearing for poverty monitoring. For example, for monitoring progress in *national* poverty reduction, or for assessing comparative performance in poverty reduction across regions or areas, it may make more sense to fix the poverty line to a certain standard of living, regardless of the differences in living standards across areas or regions and over time. On the other hand, in a decentralized governance structure, where local government units (LGUs) take an active role in poverty alleviation, poverty monitoring may also have a *local* dimension: It may be sensible to let the poverty line conform with the LGU's living conditions and amenities. Each LGU, in a sense, may be made responsible in defining a poverty standard that it can comfortably associate itself with, given its perception of "minimum basic needs."

The official approach to constructing poverty lines starts with the construction of representative food menus for urban and rural areas of each region of the country. The menus, prepared by the Food and Nutrition Research Institute, consider local consumption patterns and satisfy a minimum nutritional

requirement of 2,000 kilocalories per person per day and 80 to 100 percent of recommended daily allowance for vitamins and minerals. The menus for 1985 were based on FNRI's 1982 Food Consumption Survey, while those for 1988 were on the 1987 Food Consumption Survey. Menus for 1991 and 1994 were the same as those for 1988. Evaluated at local prices, the menus form the *food poverty thresholds*.¹⁵ The Family Income and Expenditures Survey (FIES) is then utilized to determine the average expenditure share of households whose incomes fall within a ten percent band around the food threshold. This share is used in deriving the total poverty line from the food threshold.

By construction, the official methodology tends to yield poverty lines that are not consistent, that is, the standard of living implied by the poverty lines varies for each of the regions as well as over time. It is well known that as household incomes rise, consumption of cheap sources of calories tends to decline as consumers shift to higher quality and more varied—but not necessarily more nutritious—food sources. Put differently, the income elasticity of demand for calories is typically much lower than that for food as a group.¹⁶ The shift is invariably associated with improvement in standard of living. Hence, since the official methodology starts with the local consumption pattern in the construction of food threshold for the urban/rural area of each region of the country, estimates of food thresholds tend to be higher for the economically more progressive regions (areas) than for the economically backward regions (areas). Moreover, since consumption patterns prevailing in various years inform the construction of food thresholds, estimates of food thresholds also tend to rise with improvement in overall living standards (as what may happen during episodes of economic growth). In short, the food poverty lines employed for the various regions and years are not comparable since they imply different levels of living standards. They cannot be, therefore, suitable for either national poverty monitoring or assessing comparative performance across regions or areas of the country, even more so *if the policy objective is to reduce absolute poverty*.

A related source of inconsistency is in the estimation of the nonfood component of the poverty line. The average food share used to derive the total poverty line is expected to be lower in progressive areas or regions of the country than in backward regions or areas. Yet, it is also well known that food share correlates well, albeit not perfectly, with standard of living. That is, for two

¹⁵ It should be noted that the food menus have not been validated by any of the statistical agencies.

¹⁶ See, for example, Bouis and Haddad (1992) and Subramanian and Deaton (1996).

households with different food shares, the one with the higher food share tends to have lower standard of living, regardless of their demographic differences (Deaton and Muellbauer 1980). Thus, by construction, the nonfood component of the poverty lines in economically progressive regions also implies higher level of living than that for the economically backward regions.

Suppose instead that the regional poverty lines conform to the consistency feature for a poverty norm, e.g., adjusting the all-Philippines expenditure cutoff for cost-of-living differences across regions or areas but not for general living conditions and amenities across regions or areas. This paper uses such lines (referred to earlier as low estimate, or "consistent CBN" poverty lines, since the derivation is akin to the familiar "Cost of Basic Needs" approach). The derivation requires (i) obtaining a national *reference* food bundle satisfying the minimum nutritional requirement of 2,000 kilocalories per person per day, (ii) adjusting this bundle for regional cost-of-living differences, and (iii) estimating the nonfood component from the consumption patterns of households whose total expenditures (incomes) are just adequate for meeting the food threshold (though not actually preferring to allocate all these incomes to food). The reference food bundle pertains to the national average food consumption of a population subgroup meeting the minimum food energy norm. By construction, the nonfood component must surely be regarded as "essential" nonfood expenditures since basic food intakes have to be sacrificed to purchase such non-food items.

By no means it is suggested that the above approach is the only way to construct consistent poverty lines. There are other, albeit even more arbitrary, approaches. For example, one can fix the poverty line simply as, say, half of the mean (or median) income for the entire population and then adjust it for cost-of-living differences between regions or areas (and for inflation for poverty comparison over time). This is the common practice employed in European countries when the interest is to monitor or compare poverty performance across countries, across states or regions within a country, or over time. Serious work on poverty comparison in developing countries also follows this track.¹⁷ The World Bank (1990, 1996) approach to quantifying trends in absolute poverty across developing countries also imposes the consistency feature of a poverty norm, using \$1.00 per capita per day (at 1985 purchasing power parity) as the

¹⁷ See, for example, Kakwani (1993a), Hapi and Ravallion (1991), and Grootaert (1995).

absolute poverty line.¹⁸ In contrast, in developed countries where the policy issue is intimately related with inequality in living standards rather than with absolute poverty, the common practice is to set the poverty line as a certain proportion of mean/median income/expenditure.¹⁹

Does the approach to the construction of poverty norm matter to poverty comparison (trends over time, regional poverty differences)? It does and the conclusions drawn from a poverty comparison could be misleading. This is the case for the Philippine poverty profile (Table A1). The use of official poverty lines gives the impression that the response of poverty to the economic turnaround from 1985 (the bottom of the recession) to 1988 (the peak of economic expansion) was quite weak (poverty incidence declining by only about 4-

Table A1

POVERTY LINES AND POVERTY PROFILE

Poverty Line	1985	1988	1991	1994
Official	49.2	45.4	45.2	40.6
Consistent CBN	41.5	35.0	35.5	32.2
50% of mean income*	51.2	41.8	41.0	38.4

*Based on 1994 FIES.

percentage points), while the use of consistent CBN poverty lines indicates that the reduction was relatively high (about 6.5-percentage points), even more so when one notes that the initial poverty level is much lower for the consistent CBN than for the official figures. The other poverty lines fixed at 50 percent of the mean income in 1994 also show quite strong poverty response (10-percentage point decline) during the period. This result is robust to other assumptions about the level of the fixed norm. As noted earlier, the official poverty lines employed for this period were not consistent: the food thresholds for 1985 pertained to the consumption patterns in 1982 and those for 1988 to the consumption patterns in 1987. It is hard to maintain that the living standard implied by both consumption patterns is the same.²⁰ The assumption here is, of

¹⁸ The use of purchasing power parity (PPP) rates, instead of official exchange rates, takes care of intercountry differences in cost of living.

¹⁹ See, for example, Buhmann et al. (1988), Smeeding et al. (1993), and de Vos and Zaidi (1997).

²⁰ The 3-year increase in real mean income per capita during the 1985-1988 period was 17.5 percent. The adjusted income Gini slightly declined during the period. As shown above, the elasticity of poverty incidence with respect to mean income was at least, in absolute value, unity. This suggests that, even without a decline in income inequality, the poverty incidence would have fallen from 49 percent in 1985 to at least 40 percent in 1988--if the official poverty standard employed in 1988 was the same as that in 1985.

course, that the objective of poverty measurement is to gauge the progress made in the war against absolute poverty.

Regional ranking with respect to poverty indicators is also sensitive to the assumption about poverty norm (Table A2). For example, poverty estimates based on the official lines rank Region VII (Central Visayas) at near the top (among the richest) of the list, while estimates based on consistent poverty lines rank the same region at the bottom-four (poorest) regions. The correlation coefficient between the ranking resulting from the use of official poverty lines and that of consistent poverty lines is only about 0.44, indicating substantial re-ranking of regions as the poverty norm is changed. In short, the known profile of regional/provincial poverty is not robust to assumptions about poverty standard. Hence, using this profile to inform, say, national government's assistance to administrative regions (or local governments units) may not serve the policy goal of using scarce resources to maximize reduction in absolute poverty.

In summary, assuming that the main yardstick against which outcomes of national government policy are judged is the reduction of absolute poverty, it is imperative that the poverty measurement and monitoring system can track well the changes in absolute poverty over time and across administrative areas of the country. The current poverty measurement falls short of this requirement: the poverty norms employed are quite sensitive to changes in overall living standards. To measure properly the progress made in poverty reduction, the poverty lines need to be anchored on the consistency feature of a poverty norm. Indeed, for a cross section of developing countries where the main policy concern is the reduction of absolute poverty, poverty lines are not sensitive to changes in living standards (Ravallion 1994). The economic history of the now-developed countries shows that it is only in the later stage of development that the poverty lines become sensitive to the distribution of living standards in the society, i.e., the policy concern increasingly shifts from absolute poverty to relative poverty. For national poverty monitoring in the Philippines, the consistent CBN approach—or modifications of it—is recommended. However, as discussed in Balisacan et al. (1998), the current (official) methodology may be still appropriate for local poverty monitoring, especially in a decentralized governance regime. In this regime, LGUs define their own poverty standards, given their development priorities and general living conditions.

Table A2

REGIONAL POVERTY RANK AND POVERTY LINES

	Official		Consistent CBN		50% of Mean Income	
	Incidence	Region Rank	Incidence	Region Rank	Incidence	Region Rank
All-Philippines	40.6		32.2		38.4	
NCR	10.4	1	6.9	1	11.3	1
Region I	53.5	10	34.9	6	40.7	4
Region II	41.9	5	34.2	5	40.8	5
Region III	29.2	2	18.2	2	20.0	2
Region IV	35.0	3	23.4	3	29.8	3
Region V	60.8	14	47.9	11	57.4	14
Region VI	49.8	8	32.9	4	44.9	8
Region VII	37.4	4	49.8	13	53.8	12
Region VIII	44.6	6	55.1	15	57.8	15
Region IX	50.5	9	51.3	14	53.4	11
Region X	54.2	11	45.7	10	50.7	10
Region XI	45.4	7	44.9	9	42.5	7
Region XII	58.5	13	49.0	12	50.0	9
CAR	56.5	12	38.6	8	42.0	6
ARMM	65.5	15	36.2	7	55.2	13
Correlation (wrt official)		1.00		0.44		0.55

Source of basic data: 1994 Family Income and Expenditures Survey.

Table 1

REGIONAL COST OF LIVING
(All-Philippines 1994=100)

Region	1985	1988	1991	1994	1997
Philippines	46.1	51.5	78.2	100.0	124.8
NCR National Capital Region	56.1	70.1	107.7	147.0	183.9
1 Ilocos	48.9	54.7	81.7	105.6	131.7
2 Cagayan Valley	51.0	55.0	81.1	102.5	127.8
3 Central Luzon	50.1	58.8	88.3	110.1	137.3
4 Southern Luzon	51.1	56.3	86.3	107.3	133.8
5 Bicol	46.0	51.9	80.2	100.0	124.7
6 Western Visayas	44.5	50.2	78.8	97.0	121.0
7 Central Visayas	45.8	51.3	84.0	104.3	130.1
8 Eastern Visayas	47.7	52.7	78.3	99.9	124.6
9 Western Mindanao	45.9	51.0	76.6	95.5	119.1
10 Northern Mindanao	47.5	51.3	74.9	94.3	117.6
11 Southern Mindanao	52.0	56.5	78.0	97.0	121.0
12 Central Mindanao	45.7	51.5	75.7	95.7	119.3

Table 2

AGGREGATE POVERTY PROFILE

	1985	1988	1991	1994	1997
Number of households in sample	16,971	18,922	24,789	24,797	40,000
Mean expenditure per capita (at 1994 prices)	9,738	10,674 (5.87)	11,213 (0.46)	11,410 (2.79)	13,538
Mean income per capita (at 1994 prices)	11,245	13,216 (6.61)	14,008 (0.06)	13,986 (1.79)	16,694
Incidence (%)	41.5	35.0 (-13.45)	35.3 (1.42)	32.2 (-7.52)	28.4
Depth (%)	12.8	9.7 (-9.04)	10.2 (4.06)	9.0 (-4.35)	7.6
Severity (%)	5.4	3.7 (-7.18)	4.1 (4.91)	3.5 (-3.28)	2.8
Expenditure Gini (%)	39.8	38.6	41.4	39.8	
Income Gini (%)	44.1	43.7	45.6	43.5	

Notes: Figures in parentheses are *t*-ratios of values for reference year against previous period. The *t*-test for the significance of poverty differences is based on the methodology proposed by Kakwani (1993b). Per capita income and per capita expenditure (income) distributions are adjusted for regional cost-of-living differences. The calculation of the Gini indices uses real per-capita expenditure (income) distributions are adjusted for regional cost-of-living differences. Poverty estimates for 1997 are based on officially tabulated (grouped) data.

Table 3

DECOMPOSITION OF POVERTY CHANGE

	Total Poverty Change	Growth	Redistribution
Incidence			
1985-1988	-6.46	-6.15	-0.31
1988-1991	0.43	-3.12	3.55
1991-1994	-3.27	-1.07	-2.20
1985-1994	-9.30	-10.34	1.04
Depth			
1985-1988	-3.13	-2.62	-0.51
1988-1991	0.54	1.28	1.82
1991-1994	-1.18	-0.43	-0.75
1985-1994	-3.77	-4.33	0.56
Severity			
1985-1988	-1.69	-1.29	-0.40
1988-1991	0.37	0.61	0.98
1991-1994	-0.56	-0.21	-0.35
1985-1994	-1.88	-2.11	0.23

REGIONAL POVERTY PROFILE

	Incidence				Depth				Severity			
	1985	1988	1991	1994	1985	1988	1991	1994	1985	1988	1991	1994
Philippines	41.5	35.0	35.3	32.2	12.8	9.7	10.2	9.0	5.4	3.7	4.1	3.5
NCR	15.4	12.3	8.5	6.9	3.1	2.5	1.5	1.2	1.0	0.8	0.4	0.3
Region I	36.5	33.4 (-3.03)	34.3 (4.56)	30.8 (-2.34)	9.3	7.3 (-1.29)	8.2 (-2.70)	7.3 (-0.73)	3.2	2.3 (-0.81)	2.8 (-1.74)	2.5 (-0.48)
Region II	48.9	38.2 (-4.03)	41.1 (0.95)	37.2 (-2.00)	14.6	10.6 (-2.10)	12.1 (0.85)	9.7 (-1.75)	5.9	4.0 (-1.54)	4.9 (-0.38)	3.6 (-0.25)
Region III	20.5	19.0 (-1.16)	19.5 (0.33)	18.2 (-1.22)	4.4	3.7 (-1.35)	3.9 (0.39)	4.1 (-0.08)	1.4	1.0 (-1.19)	1.2 (-0.54)	1.4 (0.02)
Region IV	37.8	33.7 (-3.15)	28.2 (-3.99)	23.4 (-4.30)	11.0	9.5 (-1.70)	7.3 (-2.41)	5.9 (-2.14)	4.5	3.7 (-1.26)	2.7 (-1.63)	2.1 (-1.51)
Region V	56.6	52.0 (-2.73)	54.6 (2.06)	47.9 (-3.70)	17.8	14.7 (-2.15)	16.7 (1.65)	15.2 (-1.33)	7.5	5.5 (-1.95)	6.8 (1.49)	6.6 (-0.64)
Region VI	51.1	37.3 (-7.33)	37.2 (-0.29)	32.9 (-2.59)	15.0	8.8 (-4.76)	9.4 (0.56)	7.7 (-1.76)	5.9	3.0 (-3.63)	3.4 (0.67)	2.5 (1.50)
Region VII	63.6	54.3 (-5.11)	55.8 (0.99)	49.8 (-3.82)	25.3	19.1 (-3.48)	20.4 (-0.90)	17.1 (-2.40)	12.4	8.7 (-2.89)	9.6 (0.87)	7.7 (-1.93)
Region VIII	62.9	55.6 (-3.08)	54.5 (-0.62)	55.1 (0.11)	23.3	17.6 (-2.81)	17.6 (0.21)	17.3 (-0.57)	11.3	7.4 (-2.71)	7.6 (0.42)	7.4 (-0.52)
Region IX	50.2	43.9 (-2.64)	46.5 (0.86)	47.6 (0.35)	16.0	12.8 (-1.68)	14.6 (0.77)	14.4 (-0.36)	6.9	5.2 (-0.06)	6.2 (0.06)	6.1 (0.35)
Region X	51.7	38.3 (-6.79)	48.2 (4.57)	45.7 (-1.16)	17.8	10.5 (-4.44)	15.3 (2.98)	14.0 (-0.68)	8.1	4.1 (-3.53)	6.4 (2.23)	5.6 (-0.67)
Region XI	49.2	37.9 (-5.35)	42.9 (3.08)	44.9 (-5.06)	15.0	11.4 (-2.56)	12.6 (1.05)	11.7 (-2.41)	6.4	4.7 (-1.74)	5.1 (0.54)	3.7 (-1.71)
Region XII	40.1	34.9 (-3.22)	43.7 (3.86)	30.1 (1.18)	10.1	8.7 (-1.32)	12.1 (2.02)	8.7 (-0.04)	3.5	3.1 (-0.77)	4.4 (-0.13)	4.3 (1.51)

Note: Figures in parentheses are t-ratios of poverty measures for reference year against previous year.

Figure 1

REAL PER CAPITA GNP (AT 1985 PRICES)

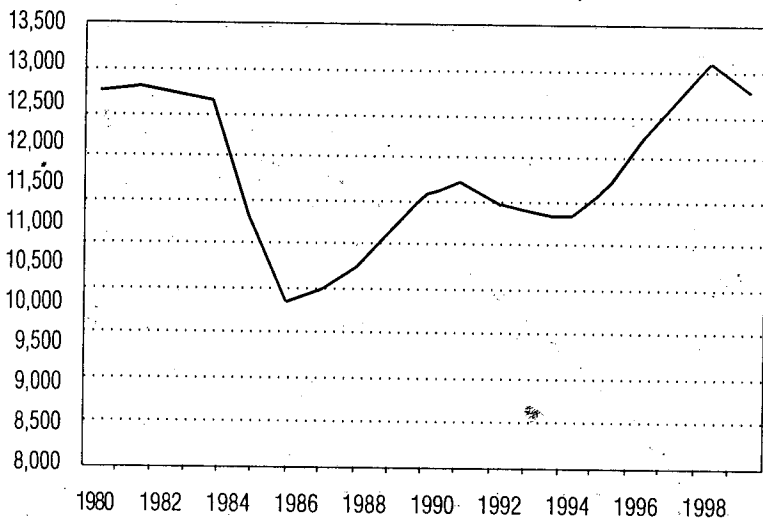


Figure 2

PHILIPPINE TIP CURVES, 1985-1994

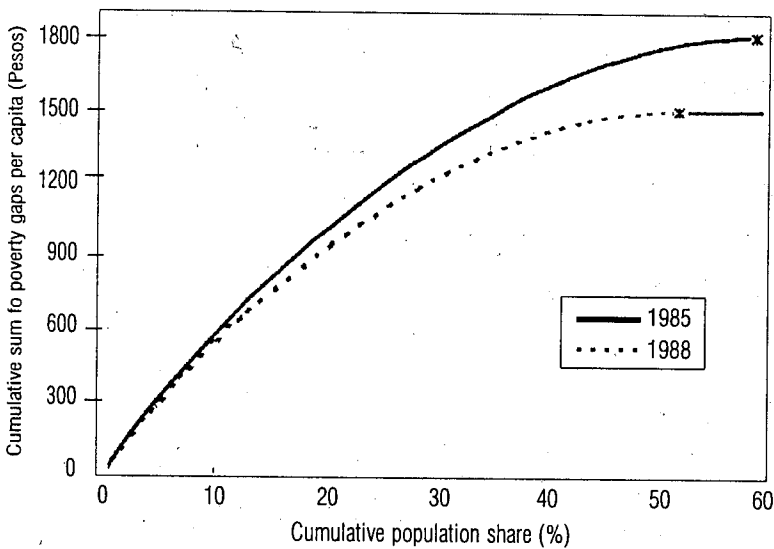


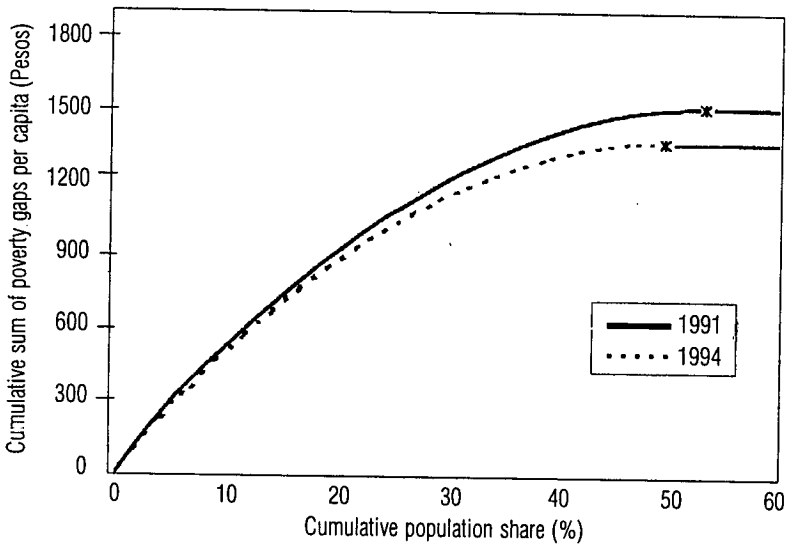
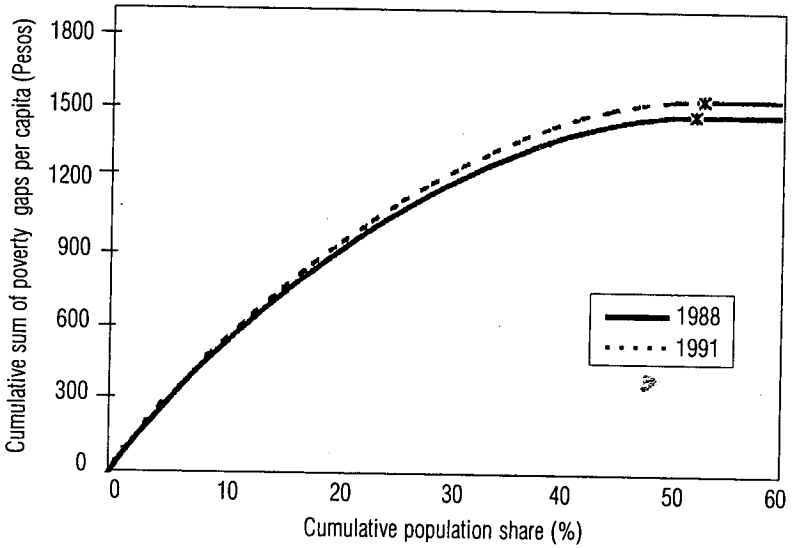
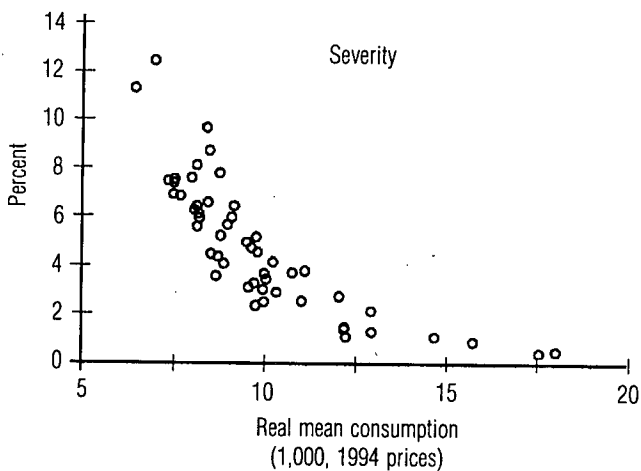
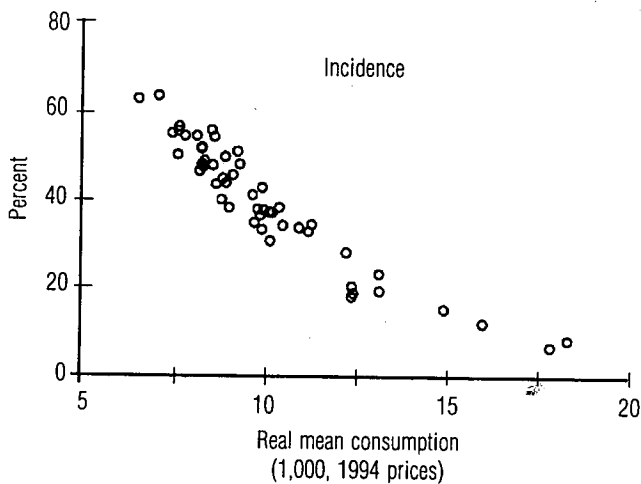
Figure 2. Philippine Tip Curves, 1985-1994 (*cont'd*)

Figure 3

MEAN CONSUMPTION vs POVERTY



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