GETTING THE STORY RIGHT: GROWTH, REDISTRIBUTION, AND POVERTY ALLEVIATION IN THE PHILIPPINES

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The available data on poverty are inadequate in informing policy discussions on the growth-inequity-poverty nexus in the Philippines. The approach employed to generate the data yields inconsistent ranking of spatial and intertemporal poverty profiles. This paper uses a spatially consistent approach to estimating poverty standards for the Philippines. It employs these standards to examine the proximate causes of the changes in sectoral and spatial poverty from the mid-1980s to the early 1990s, focusing particularly on the relative impact of growth and distributional changes. It finds that, contrary to popular perceptions, recent episodes of growth have not been anti-poor. The bulk of the poverty reduction in recent years has come from the beneficial effects of growth on the poor, though the importance of growth in poverty alleviation varies greatly across administrative regions and sectors of the economy.

1. Introduction

The current episode of economic growth in the Philippines appears to have a fundamentally different character from previous ones. 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 saw heavy government regulation of the domestic economy, as well as political instability, natural disasters, and major shocks in global trade and finance. In contrast, the current growth is taking place in an environment of political stability, economic deregulation, and institutional reforms. While policy coordination problems (e.g., in public investments) still persist, it can not be denied that the country is now closer to a market economy than it ever was in the past.

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Doubts linger, however, as to whether the present growth has th desired quality consistent with poverty alleviation and equity objec tives. Indeed the common themes in policy discussions of the growth inequity-poverty nexus are that (i) economic growth has not beei broadly based and that (ii) the growth has not been benefiting the poor Unfortunately, official data on poverty have not helped much in inform ing the discussion. As elaborated in this paper, the official approach to assessing poverty appears to be yielding not only relatively high pov erty lines but also inconsistent ranking of spatial and intertempora poverty profiles—"inconsistent" in the sense that two persons with the same command over basic consumption goods are not treated the sam way. The official estimates show, for example, that poverty incidence i about thrice higher in the Philippines than in Indonesia, even thougl the former is either ahead of (or at par with) the latter in terms o almost all other aspects of human development.[1] These estimates als suggest a country that is as poor as Bangladesh, even though the latte has an average income per head of only one-fifth of that of the Philip pines and has levels of human development that are considerably lowe than those for the Philippines.

The quality of poverty data has a direct bearing on policy choice vis-á-vis poverty alleviation. The data may, for example, influence th level and/or composition of public spending for anti-poverty program versus that for long-term overall economic growth. The informatioi may also have adverse implication for direct foreign investment. I poverty is reported to be higher than it actually is (i.e., in relation to what this would have been if, say, an "international" practice is fol lowed), foreign investors of nonfood-consumer goods may be dissuadec from locating in the Philippine market and move instead to othe markets that are perceived to be supported by populations with greate purchasing power.[2]

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[1] The official estimate of the proportion of the population deemed poor was abou 14 percent in 1993 and 11 percent in 1996 for Indonesia, while this was 40 percent i 1994 for the Philippines. Using an internationally comparable poverty line of one U dollar (at 1985 purchasing power parity) per capita per day, the World Bank (199€ estimated the poverty incidence in the early 1990s to be about 15 percent for Indonesi and 20 percent for the Philippines.

[2] What is invariably quoted in policy briefs, country reports, and popular publica tions (e.g., *Far Eastern Economic Review* and *Wall Street Journal*) are official estimate of poverty.

This paper reexamines the nature and proximate causes of poverty in the Philippines. The second section provides a consistent approach to estimating poverty standards for the Philippines. The third section uses these standards to describe the levels and changes in aggregate poverty from the mid-1980s to the early 1990s. The fourth section then examines the proximate causes of the changes in poverty during this period, focusing particularly on the relative impact of growth and distributional changes. Finally, the fifth section discusses the implications of the study for policy and future research.

2. Poverty Measurement: Contrasting Approaches

The National Statistical Coordination Board's methodology (hereafter referred to as the official methodology) for estimating the poverty incidence starts with the construction of representative food menus for urban and rural areas of each region of the country. The menus consider local consumption patterns and satisfy a minimum nutritional requirement of 2,000 kilocalories per person per day. Evaluated at local prices, the menus form the *food thresholds*. The expenditure pattern of households within the ten percentile of the food threshold in the income distribution is then utilized to determine the average food expenditure share which is used to derive the poverty line. The household's per capita income is compared with the poverty line specific to a region or area to determine whether the household is poor or not. Finally, the magnitude of national poverty is obtained by adding the number of poor families in each region and expressing the total as a percent of the total number of families.

The various price surveys of the National Statistics Office and the food consumption surveys of the Food and Nutrition Research Institute comprise the basic data for the construction of regional food thresholds. The Family Income and Expenditures Survey (FIES), on the other hand, provides the basic data for the construction of food shares and poverty profiles.

It is useful to discuss the official methodology in light of the current literature on poverty assessment and of the approach adopted in this paper. This literature is described briefly below. The description is not meant to cover all the relevant conceptual and measurement issues; the intention is simply to point out the major departures of the

official methodology from the conceptually "correct" approach.[3] Thes departures have shaped what is known about the profiles of poverty-magnitude of poverty, demographic and spatial distributions of pov erty, etc.—in the Philippines.

Indicator of Living Standards

Identification of the poor requires the use of a broad indicator of person's standard of living. Current income is a popular choice in large number of welfare assessments. However, income may overest mate or underestimate living standards. If a person can borrow or us his savings, his level of living is not constrained by current incom Even in underdeveloped regions, households typically have some capa bility to buffer their welfare from temporary variations in income, suc as by saving money or goods. Moreover, a household that can share i the income of others may have a higher welfare level than its curren income would permit.[4] Current consumption would thus be a bette indicator of welfare level than current income. Indeed, using standar arguments in microeconomic theory, it can be claimed that since we fare level is determined by "life-cycle" or "permanent" income, an since current consumption is a good approximation of this incom current consumption can be justified as a better measure of curren welfare. This does not, of course, suggest that consumption does nc vary over time. It does, and the change over the life cycle is sometime large. This is especially true among the poor who do not have access t capital markets (or to interhousehold transfers) and whose curren consumption is thus constrained by current instead of life-cycle incom But even in this case, current consumption is as good an approximatio of life-cycle income as current income.

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[3] For an extensive discussion on conceptual and empirical issues in povert assessment, see Ravallion (1994, 1996).

[4] Cox and Jimenez (1995) found evidence of substantial interhousehold incom transfers typically from the relatively rich households to poor households in the Phili pines.

In this paper, we use consumption as an indicator of the welfare levels of households. The FIES consumption data capture a wide range of implicit 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. This makes this welfare measure valid even for comparisons between urban and rural households.

In contrast, the official methodology makes use of current income in its poverty assessment. As shown later in this section, the choice of this indicator, combined with the adoption of official poverty lines, leads to a much lower poverty than what would be the case using consumption expenditure. Interestingly, the preference for income over consumption as indicator of level of living has not been well justified in any official publication.

The chosen indicator of living standards has to be adjusted for differences in household demographic characteristics. The existence of scale economies in household consumption, for example, may be particularly bothersome for meaningful interhousehold comparison of living standards. There have been numerous suggestions as to how equivalence scales could be constructed from observed household behavior (Blundell and Lewbel, 1991; Pollak and Wales, 1992). The suggested approaches could, however, yield very different equivalence scales for the same data, making interhousehold comparison even wielder than it already is. For practical purposes, we only adjust household expenditure for differences in family size; henceforth, our indicator of household level of living is given by household expenditure per capita.

Poverty Lines

International practice varies in terms of the information used in setting the poverty norm or standard. The "best practice" is to allow for differences in demographic characteristics and relative prices faced by spatially dispersed (or intertemporally separated) households. One convenient method is to set this norm as a constant proportion of the mean consumption (or income) for each sub-group or date. However,

this method does not provide much relevance for anti-poverty policies, since it ignores welfare considerations in terms of absolute levels of living.

When the aim is to inform policy, one 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 the level of living implied. 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 appeal of this type of consistency may be at odds with another desirable feature of a poverty line: the idea that the chosen basic-needs bundle should reflect local perceptions of what constitutes poverty in each subgroup. Cast differently, the poverty line needs to conform with the living conditions and amenities which are customary in the society to which the households belong (often referred to as participation standard). If one is interested in a purely descriptive assessment of poverty by various subgroups of the population, this feature might be useful. However, as further argued below, an insistence of this feature in the construction of poverty line may result in either (i) absurd conclusions about spatial poverty profiles, or (ii) inappropriate policy choices vis-á-vis poverty reduction, or both.

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 (Bouis, 1995; Subramanian and Deaton, 1996). 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 each of the 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). In short, the food poverty lines are not comparable since they imply different levels of living standards.

A related source of inconsistency is in the estimation of the non-food 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 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 standard than that for the economically backward regions. This source of inconsistency amplifies that coming from the construction of the food threshold, which is based on separate surveys.

The inconsistency also affects intertemporal comparison of living standards. Increases in real household incomes over time tend to reduce food shares in household expenditures since the income elasticity of food is typically less than unity. The poverty line then shifts upward over time, that is, the poverty line is sensitive to overall mean expenditure (income). This suggests that what is partly captured by the poverty assessment is *relative* poverty. Put differently, poverty is intimately identified with the distribution of living standards. Poverty assessment in developed countries is commonly anchored on such notion of poverty. However, for developing countries where the immediate policy concern is the reduction of *absolute* poverty, this concept is not quite relevant. A relative measure of poverty may underestimate the progress being made in the reduction of absolute poverty.

From a policy viewpoint, the two concepts of poverty have different implications for the choice of poverty reduction strategies. Redistribution programs (e.g., social welfare payments) 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 the overall expansion of employment opportunities sustained over a long a period

of time. In this case, development policy anchored on poverty reductic has to focus on creating a favorable environment for sustained emplo ment growth (e.g., investment in infrastructure and human capital).

The approach adopted in this paper imposes the consistency fe ture for a poverty norm, fixing the poverty lines for various subpopul tion groups and periods in terms of the level of living they imply.[5] Tl approach, hereafter referred to as fixed-level-of-living (FLOL) a proach requires (i) obtaining a *reference* food bundle satisfying tl minimum nutritional requirement of 2,000 kilocalories per person p day, (ii) adjusting this bundle for regional cost-of-living differences, a1 (iii) estimating the nonfood component from the consumption patter: of households whose total expenditures (incomes) are just adequate f meeting the food threshold (though not actually preferring to alloca all these incomes to food). The reference food bundle pertains to tl national average food consumption of a population subgroup meetii the minimum nutritional norm. The determination of the nonfo component of the poverty line involves estimating the parameters of ; "almost ideal" demand function relating food shares with measures command over basic consumption needs, household demographic a1 socioeconomic characteristics, and spatial factors. For each region, t. cost of nonfood basic needs implied by the food threshold and t. regression estimate of food share is then added to the food threshold obtain the poverty line. The appendix provides details of the estim tion.

Since the FIES does not provide information on prices, the vario price surveys of the National Statistics Office were used to adjust t reference food bundle for regional cost-of-living differences. Unfort nately, these surveys do not provide price information separately 1 urban and for rural areas. It is thus not possible to adjust the bundle 1 cost-of-living differences between urban and rural areas. To the exte that cost of living is considerably lower in rural areas than in urb areas, estimates of national poverty measures are expected to be on t high side.

Figure 1 shows the FLOL estimates and the official estimates 1991 poverty lines for the country's 15 regions, including the Natio1

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[5] The approach builds on the framework suggested by Ravallion (1994) ; Ravallion and Bidani (1994) for constructing spatially consistent poverty lines.

Capital Region (NCR) and the two autonomous regions of Cordillera (CAR) and Muslim Mindanao (ARMM). The regions are arranged in ascending order of mean per capita expenditure in 1991. Two major points are evident in the figure. First, FLOL estimates are consistently well below the official figures, though the difference varies considerably from as low as 19 percent for Region VIII to as high as 54 percent for NCR. Second, the difference between the two estimates tends to rise with regional mean per capita, as expected. Indeed, the FLOL estimates show little variation across regions. What might appear surprising is the relatively low poverty line estimated for NCR even though this region is not a major producer of agricultural products. Food prices are, however, lower in Manila than in some of the other regions (e.g., ARMM, CAR, and Region IV). Since the country is a net importer of food, and since the concentration of major ports and food processing facilities is in NCR and neighboring regions, consumer prices are lower in Manila than in some regions. Moreover, owing to political economy considerations, the national government pays much more attention to food prices—their levels and movements—in NCR than in other regions of the country.

Figure 1 - FLOL Estimates vs Official Poverty Lines

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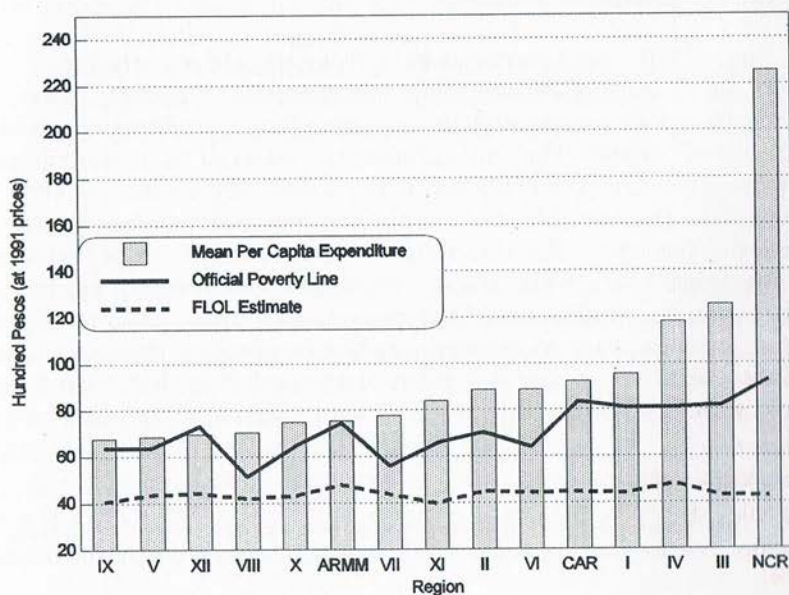
Aggregate Poverty Measure

In aggregating 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* is what appears in official reports on poverty in the Philippines. This index, however, has shortcomings. It is insensitive to the depth of poverty: A poor person may become poorer but measured poverty will remain the same. Moreover, the index is insensitive to transfers: An income transfer from a poor person to a less poor one whose post-transfer income is (still) below the poverty line does not change measured poverty. Its advantage is that it is easily understood and communicated.

Another familiar measure of aggregate poverty is *poverty gap*, which is the aggregate income shortfall of the poor as a proportion of the poverty line and normalized by population size. This measure is sensitive to both the number of the poor and the depth of their poverty. Its advantage is that it gives an indication of the potential savings that can be made from targeting transfers to the poor (Ravallion, 1994). One objection to it, however, is that it is insensitive to a redistribution of income within the poor group owing to the equal weights attached to the various income shortfalls.

Sen (1976, 1981) contends that an aggregate poverty index must convincingly capture differences in the severity of poverty. This concern is captured by the distribution-sensitive P_2 index suggested by Foster et al. (1984). The index, hereafter referred to as *distribution-sensitive measure*, is calculated in the same way as the poverty gap except that the weights are simply the squared income shortfalls.[6] Measured poverty using this index decreases whenever a transfer of income takes place from a poor household to a poorer one, thereby overcoming the limitation of the poverty-gap index. Its drawback is that it is not as easy to interpret as the head-count and poverty-gap indices. Nonetheless, the key point to remember is that a ranking of dates, socioeconomic groups, or policies in terms of the distribution-

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[6] This measure has been popular in recent empirical work owing to its appealing properties. See, for example, Besley (1990), Datt and Ravallion (1992), and Grootaert (1995).

sensitive measure should reflect well their ranking in terms of the severity of poverty. It is not the precise number per se that makes the measure useful, but its ability to order distributions in a better way than the alternative measures.

Each of the above measures is in fact a member of the Foster-Greer-Thorbecke (FGT) class of measures P_α defined by

(1)
$$P_\alpha = \sum_{y_i < z} [(z - y_i)/z]^\alpha / n$$

where z is the poverty line, y_i is the per capita income or expenditure of the ith person, n is the population size, and α is a non-negative parameter denoting the society's aversion to poverty. The larger α is, the greater is the emphasis given to the poorest individuals. The headcount index is obtained when $\alpha=0$; the poverty gap index is obtained when $\alpha=1$; the distribution-sensitive index is obtained when $\alpha=2$.

One appealing property of the P_α class of poverty measures is that they are additively decomposable in the following sense: the aggregate poverty level is simply a weighted average of the subgroup poverty levels, the weights being their population shares. This property proves to be extremely useful for the purposes of the present study. For example, for a policy change that increases the income of group i and reduces those of group j, one can work out the impact of the change on each group's average poverty level, and then use the group's respective population shares to estimate the new aggregate poverty level.

Decomposition of Changes in Poverty

The relative importance of growth versus redistribution to changes in poverty is at the center of policy discussions in the Philippines. As noted in section one above, the recent recovery of economic growth has been accompanied by popular claims that the growth is not benefiting the poor. Similar claims have been made with respect to past episodes of growth. Moreover, it is often alleged that the pain attendant with the implementation of a series of structural adjustment programs since the early 1980s has been disproportionately borne by the poor (Balisacan, 1995a).

The observed change in a poverty measure during a given period is the result of two effects: the change in mean consumption and the change in the size distribution of consumption. The P_α class of poverty measures is amenable to decomposition, i.e., it allows the identification of the relative contribution of growth versus redistribution to the observed change in poverty measures. Let the poverty measure in year t be

$$P_{\alpha,t} = P_\alpha(z/\mu_t, L_t)$$

where z is the poverty line, μ_t is mean consumption in year t, and L_t is the distribution of per capita consumption (fully described by the Lorenz curve) at date t. Then, following Datt and Ravallion (1992), the change in poverty measure between t and $t-k$ (say) can be written as

$$P_{\alpha,t} - P_{\alpha,t-k} = G(t,t-k;r) + D(t,t-k;r) + R(t,t-k;r)$$

where G is the growth component, D is the distribution component, R is the residual component, and r is the reference year. The G component is simply the change in the poverty measure due to a change in mean consumption while holding the consumption distribution constant at some reference level (here, $t-k$). This is given by

$$G(t,t-k;r) \equiv P(z/\mu_t, L_r) - P(z/\mu_{t-k}, L_r).$$

The D component is the change in poverty due to a change in consumption distribution while keeping the mean consumption constant at some reference level. This can be expressed as

$$D(t,t-k;r) \equiv P(z/\mu_r, L_t) - P(z/\mu_r, L_{t-k})$$

The residual R can be interpreted as the difference between the growth (redistribution) component 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. Following standard practice, we choose the initial date of the decomposition period as the reference date.

3. Poverty Changes and Proximate Causes

Table 1 summarizes poverty estimates based on both the FLOL approach and the official poverty norms. At least four major observations can be made. First, poverty in the Philippines is much lower than what official figures indicate and is broadly comparable to that for other countries at similar stage of economic development (e.g., Indonesia and China). The proportion of the population deemed poor in 1994 was, for example, 40 percent for the official approach and 23 percent for the FLOL approach. Estimates for Indonesia and China for the early 1990s were approximately 15 percent and 27 percent, respectively.[7] Second, applying the official poverty lines to household data on consumption expenditure, which is the preferred level-of-living indicator, yields higher poverty than what the official figures indicate, suggesting that the large difference between the FLOL and the official estimates is attributable to the manner in which the poverty lines are constructed. Third, while the change in poverty for the whole period (1985-1994) is almost similar for the two approaches, the reduction displayed by the FLOL approach is considerably more "impressive" considering that the initial-year poverty level is much lower in the FLOL than in the official approach. Finally, estimates based on the FLOL approach suggest that a good deal of the poverty reduction took place between 1985 and 1988 (a period of considerably high consumption growth), while those based on the official approach show that this occurred from 1991 to 1994 (a period of low consumption growth).

Clearly, the construction of poverty norm affects greatly the profile of aggregate poverty. But how robust are the observed changes in poverty over time? To check whether the intertemporal poverty pattern is robust to the choice of poverty lines and of poverty index, a first-

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[7] Based on World Bank (1996) estimates. These are not, of course, strictly comparable to the FLOL estimates reported in this paper owing to differences in methodology. The World Bank approach employs an international poverty line of one US dollar (at 1985 purchasing power parity) per capita per day as poverty line. If this approach is applied on Philippine data, poverty incidence in the early 1990s would be about 20 percent.

Table 1 - Poverty Estimates, 1985-1994
(in percent)

|	Head count (P_0)	Poverty gap (P_1)	Distribution-sensitive measure (P_2)
FLOL poverty lines/ Expenditure measure			
1985	32.7	9.4	3.8
1988	26.9	6.9	2.5
1991	26.6	7.1	2.7
1994	23.4	5.9	2.1
Official poverty lines/ Expenditure measure			
1985	53.9	18.5	8.4
1988	54.1	18.0	7.9
1991	53.9	18.8	8.6
1994	48.5	16.2	7.2
Official poverty lines/ Income measure			
1985	49.2	17.0	7.9
1988	45.3	15.0	6.7
1991	45.2	15.4	7.0
1994	40.2	13.2	6.0

order dominance test is applied.[8] Figure 2 compares pairs of cumulative distributions of per capita consumption; two non-intersecting cumulative distribution (CD) curves indicate that the change in poverty during the period is unambiguous. This is the case for 1985 and 1988 as well as for 1991 and 1994. In both periods, poverty fell unambiguously, regardless of the assumed (but plausible) poverty norm and the chosen poverty index. Notice that the vertical distance between the 1985 CD curve and the 1988 CD curve is wider for almost all levels of per capita expenditure than that between the 1991 CD curve and the 1994 CD curve, suggesting that the poverty reduction in 1985-1988 is greater than in 1991-1994. The possibility of disagreement on the direction of poverty change applies to 1988 and 1991 where the CD curves intersect. Indeed, both the FLOL and the official estimates indicate inconsistent ranking of 1988 and 1991 by the three poverty indices.

The growth and stagnation of real consumption per capita may well have been an important factor in the changes in poverty measures observed in table 1. The 3-year increase in real mean consumption per capita was 10.3 percent for 1985-1988, 6.0 percent for 1988-1991, and 1.6 percent for 1991-1994. But another "proximate" cause may well be changes in the distribution of consumption over the economic cycle. The consumption Gini ratio was 0.43 in 1985, 0.42 in 1988, 0.45 in 1991, and 0.43 in 1994. Thus 1985-1988 can be roughly referred to as a period of "boom" characterized by a slight change in inequality, 1988-1991 as "downturn" accompanied by a moderate increase in inequality, and 1991-1994 as "deeper downturn" attended by slight decrease in inequality.[9]

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[8] On the application of stochastic dominance theory to poverty assessment, see Atkinson (1987) and Foster and Shorrocks (1988).

[9] 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. As shown elsewhere (Balisacan, 1995; Mangahas, 1995), high inflation during a period of low growth increases aggregate poverty. Particularly vulnerable to commodity (particularly food) price increases are the numerically-large small agricultural producers and landless workers who are net buyers of food.

Figure 2 - Cumulative distribution of real per capita consumption (at 1988 prices)
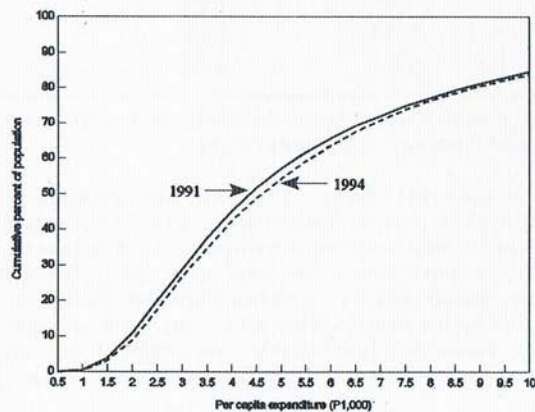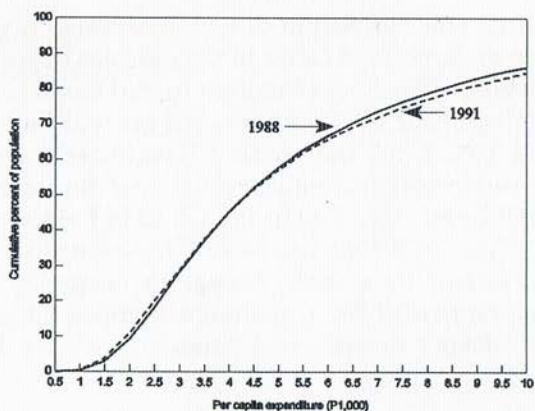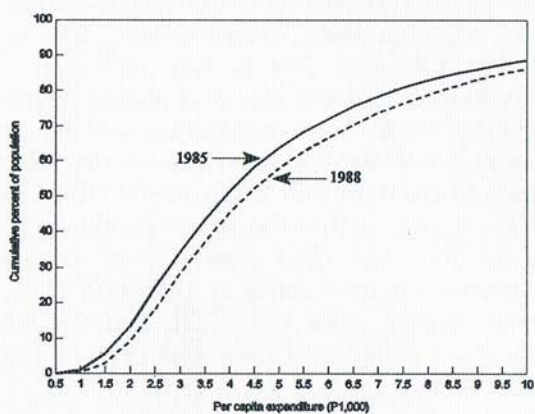
Table 2 gives the relative importance of growth and distributional change to the three poverty measures. The decomposition uses the FLOL poverty estimates reported in table 1.

Table 2 - Sources of Poverty Change
(in percentage points)

Period	Growth component	Redistribution component	Residual	Total change
Head count				
1985-1988	-8.50	3.56	-0.81	-5.75
1988-1991	-2.02	1.73	-0.33	-0.62
1991-1994	-5.11	2.11	-0.33	-3.33
1985-1994	-15.88	6.64	-0.46	-9.70
Poverty gap				
1985-1988	-3.22	1.08	-0.34	-2.48
1988-1991	-0.77	1.03	-0.09	0.17
1991-1994	-1.81	0.69	-0.15	-1.27
1985-1994	-5.39	3.12	-1.31	-3.58
Distribution-sensitive measure				
1985-1988	-1.45	0.40	-0.18	-1.23
1988-1991	-0.32	0.53	-0.08	0.13
1991-1994	-0.80	0.33	-0.07	-0.54
1985-1994	-2.33	1.58	-0.89	-1.64

Clearly, the redistribution components were all negative, indicating that poverty would have been higher at the end of each period if not for the modest growth. If there were no growth of real mean consumption but the observed changes inequality prevailed, then poverty incidence at the end of the period would have been higher by 3.6 percentage points in 1985-1988, 1.7 percentage points in 1988-1991, and 2.1 percentage points in 1991-1994. For the entire 1985-1994

period, poverty incidence in 1994 would have been higher by 6.6 pe
centage points than that in 1985. Note, however, that these increase
are lower, in absolute value, than the declines that would have pr
vailed if the observed growth was distribution-neutral (i.e., not accon
panied by changes in the Lorenz curve). These declines would ha\
been 8.5 percentage points (instead of the observed 5.7 percentag
points) in 1985-1988, 2.0 percentage points (instead of 0.6) in 1988-9
and 5.4 percentage points (instead of 3.3) in 1991-1994. It is thus th
changes in real mean consumption, rather than changes in its distribu
tion, that have mainly accounted for the observed changes in povert
incidence in recent years. The other two poverty indices show general
comparable qualitative results, except during 1988-1991 when th
redistribution component dominated the growth component.

4. Spatial and Sectoral Profiles of Poverty

Community, neighborhood, or sector-specific characteristics pla
an important role in poverty alleviation. Given limited information c
the poor (as well as the nonpoor) and the potentially enormous admii
istrative costs involved in acquiring this information, it is sometim
more efficient to target poverty alleviation budgets through the use
easily observable household characteristics, such as area of residen
or sector of employment. Efficiency here is defined in terms of th
maximum reduction in aggregate poverty that can be achieved with
given budget for poverty alleviation. Put differently, the targetir
problem is to choose a particular design of income transfer in such
way that a maximum reduction in aggregate poverty is achieved.

As demonstrated by Kanbur (1987), for a case where the polic
instrument is a set of lump-sum transfers differentiated by easi
observable characteristics, the budgetary rule for minimizing aggr
gate poverty is quite simple: Maximum program benefit should I
directed to the population group with the highest poverty. Specificall
if the objective of anti-poverty program is to minimize the aggrega
poverty gap (i.e., the average depth of poverty for the entire popul
tion), then the head-count index is the appropriate indicator for budg
allocation, with maximum benefit directed to the group with the higl
est head-count index. In the case where even the only informatic
available is the regional profile of poverty, a regionally based targetir
scheme proves to be far more efficient than, say, a universal incom

transfer scheme in which everybody in the population, regardless of income, receives a transfer. Put differently, a regionally targeted income transfer costs much less than a universal transfer scheme in achieving the same reduction in aggregate poverty; its cost advantages are not likely to be wiped out by the administrative cost of targeting. This is the case for Indonesia (Ravallion, 1993) and the Philippines (Balisacan, 1994a) where there is considerable regional variation in both the incidence and severity of poverty.

Apart from cost-effectiveness consideration, there may be also important dynamic externalities that can arise from targeting by area or sector-specific characteristics (Bardhan, 1996; Ravallion and Jalan, 1996). Investment in physical infrastructure (like roads, communications, and irrigation) in backward areas, or in the rural sector in general, may improve the productivity of private investment, influence fertility through its effect on labor allocation and educational investment decisions, promote the development of intangible "social capital" (in the form of social networks, peer group effects, role models, etc.), and mitigate erosion in the quality of life in urban areas through its effect on rural-urban migration decisions. In Taiwan, public investment in rural areas appears to have induced such externalities, thereby contributing to the country's broadly based pattern of economic growth during the last three decades (Park and Johnston, 1995).

If dynamic externalities are significant, anti-poverty programs would need to be directed not only to poor individuals or households per se but also to communities, sectors, or groups as a whole. This would advance both efficiency and equity goals. Unfortunately, empirical work assessing the importance of these externalities has been very few; none at all exists on the Philippines. This paper is not intended to fill that gap. What is done below is merely to characterize some spatial and sectoral aspects of poverty, noting that the description provides proximate areas for the targeting of anti-poverty programs.

One usual way of characterizing the profile of poverty in developing countries is in terms of the rural-urban divide. The large majority of the poor in these countries are located in rural areas (Lipton and Ravallion, 1995; Quibria, 1993); even urban poverty is partly a spillover effect of standard-of-living deprivation in rural areas. The rural poor are mostly dependent on low-productivity agriculture or agriculture-based activities.

Poverty in the Philippines is also largely a rural phenomeno: (table 3). The proportion of the population deemed poor is much highe in rural areas than in urban areas. In 1994, poverty incidence wa about 35 percent for rural areas and 11 percent for urban areas. Whil the share of rural areas in total population was only about 50 percen1 rural areas accounted for 76 percent of the poor in the Philippines. Thi contribution could go as high as 80 percent if the severity of povert was taken into account.

The concentration of poverty in rural areas suggests that ant: poverty programs would need to be rurally focused. Experience wa: however, something else. During the past two decades, the location c basic services and income transfers (e.g., subsidized food) tended t disproportionately favor urban areas, especially Metro Manil (Balisacan, 1994b).

Table 3 - Urban and Rural Poverty, FLOL Estimates (in percent)

				Contribution to Nation: poverty	
	Population share	Head count	Distribution sensitive measure	Head count	Distributic sensitive measure
Urban					
1985	38.7	14.7	1.3	17.4	13.2
1988	38.0	10.3	0.7	14.5	10.5
1991	50.1	13.9	1.3	26.5	24.0
1994	49.8	11.2	0.9	24.2	20.3
Rural					
1985	61.3	44.0	5.3	82.6	86.7
1988	62.0	37.1	3.6	85.5	89.5
1991	49.9	38.7	4.0	73.5	75.9
1994	50.2	34.7	3.3	75.8	79.7

Note in table 3 the sudden increase in the share of urban areas in total population from 38 percent to 50 percent during the 1988-1991 period. The sampling designs of the 1985 and 1988 FIES rounds were based on the 1980 population census, while those in 1991 and 1994 were based on the 1990 population census. Many of the initially rural areas in 1980 were reclassified as urban areas in 1990 even though the economic structure of many of the reclassified areas was still largely rural (Balisacan, 1993b). Thus, for an analysis of the proximate causes of changes in rural (urban) poverty profile over time, it is not meaningful to compare FIES-based poverty estimates in the 1980s with those in the 1990s. But for estimates covering the same decade, such analysis can be fruitfully made.

Table 4 shows that, for both urban and rural areas, the major source of poverty reduction during the 1985-1988 and 1991-1994 periods was the growth in mean consumption. Note, however, that in rural areas the importance of redistribution was also considerable. The observed growth in rural areas could have reduced poverty incidence by about 11-percentage points (instead of 7-percentage points) in 1985-1988 and by 7-percentage points (instead of 4-percentage points) in 1991-1994 if not for the increase in consumption inequality during each period. If there would have been no growth, poverty in rural areas would have been higher at the end than at the beginning of each period. The decomposition results for the distribution-sensitive measure tell the same story.

There is also considerable variation in the extent of poverty across regions of the country (table 5). Metro Manila, which accounts for about 14 percent of the population, had the lowest poverty and contributed not even one percent of the national poverty in 1994. This is true for both incidence and severity indicators of poverty. On the other hand, Bicol, the Visayas regions, and Western and Northern Mindanao had much higher poverty levels than the average for all regions of the country; these regions contributed about 60-70 percent of the national poverty, depending on the year and the poverty measure employed. Poverty was particularly more severe in Bicol and Central Visayas than in any other region of the country, as indicated by the marked increase in the contribution of the two regions to national poverty when the assessment moved beyond head count to include as well the severity of poverty of the poor.

Table 4 - Sources of Poverty Change in Rural and Urban Area: (in percentage points)

Period	Growth component	Redistribution component	Residual	Total change
Urban: Head count				
1985-1988	-4.82	0.89	-0.48	-4.41
1991-1994	-3.09	0.74	-0.40	-2.75
Urban: Distribution-sensitive index				
1985-1988	-0.55	-0.01	-0.02	-0.58
1991-1994	-0.39	0.00	-0.02	-0.41
Rural: Head count				
1985-1988	-10.82	4.86	-0.95	-6.91
1991-1994	-7.14	3.33	-0.24	-4.05
Rural: Distribution-sensitive index				
1985-1988	-2.02	0.61	-0.27	-1.68
1991-1994	-1.20	0.64	-0.12	-0.68

It might be expected that achieving a given absolute reduction poverty would be easier (more difficult) for regions with initially hi (already low) poverty levels. The correlation, however, is rather wea Bicol and Western Mindanao, two of the poorest regions, had low poverty reduction than the average for all regions. It was not th growth was absent in the two regions. The observed consumptic growth during the period would have reduced poverty in both regio by more than the reduction achieved for the entire country if tl growth were distributionally neutral, which was not. In Weste Mindanao, the poverty-increasing effect of a rise in consumption i equality almost totally wiped out the poverty-decreasing effect growth, hence the little reduction in poverty between 1985 and 1994. Central Mindanao, the effect of growth on poverty was insufficient

Table 5 - Regional Poverty Profile, 1985 and 1994
(in percent)

| | Population share | | Poverty measure | | | | Contribution to national poverty, 1994 | |
| | | | Head count | | DSM | | Head count | DSM |
	1985	1994	1985	1994	1985	1994		
Philippines	100.0	100.0	32.7	23.4	3.8	2.1	100.0	100.0
NCR Metro Manila	14.0	13.8	3.5	0.4	0.2	*	0.2	0.3
I Ilocos	7.2	6.8	31.8	18.7	2.4	1.1	5.5	3.5
II Cagayan Valley	4.6	4.5	34.6	25.0	3.4	2.0	4.9	4.3
III Central Luzon	9.9	10.5	10.6	8.4	0.6	0.4	3.8	2.0
IV Southern Tagalog	12.5	13.0	31.4	17.5	3.3	1.3	9.9	8.0
V Bicol	6.8	7.1	47.7	39.1	5.4	4.5	12.1	15.1
VI Western Visayas	8.9	9.0	44.7	26.6	4.4	1.6	10.4	6.8
VII Central Visayas	7.6	7.2	57.3	37.8	9.3	4.6	11.8	15.7
VIII Eastern Visayas	5.4	5.2	53.0	42.3	8.1	4.8	9.6	11.8
IX Western Mindanao	5.1	5.1	38.7	33.3	4.4	3.6	7.4	8.7
X Northern Mindanao	6.1	5.9	48.3	39.2	7.0	4.1	10.0	11.5
XI Southern Mindanao	7.3	7.2	32.4	22.5	3.3	1.7	7.0	5.8
XII Central Mindanao	4.5	4.8	35.0	34.8	2.7	2.8	7.3	6.4

Note: Provinces under Cordillera Autonomous Region (created in 1987) and Autonomous Region for Muslim Mindanao (created in 1993) were lumped into their regional classification in 1985. "*" denotes less than 0.1%; DSM is distribution-sensitive measure.

offset the poverty-increasing effect of redistribution. Ilocos Region an Southern Tagalog had initially low levels of poverty vis-á-vis the ave: age for all regions, but the observed poverty reduction in the tw regions was higher than the national average. In both cases, the growt effect was considerably high vis-á-vis the redistribution effect. In Wes ern and Central Visayas, two of the poorest regions, the positive effe of improved distribution on poverty complemented that of growth.

Thus, aside from the initial condition (i.e., level) of poverty, facto influencing the speed of growth as well as the distribution of consum tion gains appear to have influenced regional performance in absolu poverty reduction.

Another common way of characterizing the profile of poverty is look at the sectoral location of the poor in the economy. Tables 7 and do this, showing the magnitude and relative importance of the variou economic sectors to the national poverty as well as the proxima causes of the observed poverty reduction in each sector between 198 and 1994.

As expected, agriculture had the highest poverty incidence, a most twice higher than for the next two highest sectors—mining ar construction. The difference was even more pronounced for the pover measure reflecting severity of poverty. The share of agriculture national poverty was very large (about 80 percent), primarily due to tl high level of poverty in the sector and to its high share (about ! percent) in total population. It thus appears that the poverty proble in the Philippines remains largely an agricultural phenomenon. Th observation contrasts markedly with popular claims that the pover problem in the country is increasingly acquiring an "urban face."

As also expected, poverty changes were not uniform across secto of the economy. The reduction in poverty incidence during the 198 1994 period was highest for manufacturing (13.0 percentage poinl and agriculture (about 11.6 percentage points) and lowest for finan (2.3 percentage points), utilities (4.2 percentage points), and transpc (4.6 percentage points). For both agriculture and manufacturin growth in real mean consumption contributed the bulk of the observ sectoral change in poverty. If consumption growth did not take place agriculture, poverty in the sector would have been higher in 1994 th; in 1985 by approximately 12 percentage points. This would ha

Table 6 - Decomposition of Poverty Change
between 1985 and 1994, Regio
(in percentage points)

	Growth component	Redistribution component	Residual	Total change
Head count				
Philippines	-15.88	6.64	-0.46	-9.70
NCR Metro Manila	-2.11	-2.22	1.19	-3.14
I Ilocos	-21.31	11.78	-3.54	-13.07
II Cagayan Valley	-17.38	12.63	-4.91	-9.66
III Central Luzon	-8.10	9.06	-3.25	-2.29
IV Southern Tagalog	-16.72	1.52	1.30	-13.90
V Bicol	-19.61	9.56	1.45	-8.60
VI Western Visayas	-20.07	-1.91	3.95	-18.03
VII Central Visayas	-16.76	-4.05	1.24	-19.57
VIII Eastern Visayas	-20.13	11.52	-2.15	-10.76
IX Western Mindanao	-18.47	17.11	-4.03	-5.39
X Northern Mindanao	-23.89	13.91	0.88	-9.10
XI Southern Mindanao	-19.87	13.04	-3.06	-9.89
XII Central Mindanao	-22.65	24.32	-1.83	-0.16
Distribution-sensitive index				
Philippines	-2.33	1.58	-0.89	-1.64
NCR Metro Manila	-0.13	-0.12	0.09	-0.16
I Ilocos	-2.03	2.13	-1.39	-1.29
II Cagayan Valley	-2.38	2.26	-1.19	-1.31
III Central Luzon	-0.45	2.60	-2.29	-0.14
IV Southern Tagalaog	-2.13	0.37	-0.30	-2.06
V Bicol	-3.20	3.54	-1.28	-0.94
VI Western Visayas	-2.57	-0.14	-0.08	-2.79
VII Central Visayas	-4.63	-0.36	0.32	-4.67
VIII Eastern Visayas	-4.32	2.17	-1.19	3.34
IX Western Mindanao	-2.92	4.00	-1.93	-0.85
X Northern Mindanao	-4.60	4.21	-2.52	-2.91
XI Southern Mindanao	-2.62	2.86	-1.84	-1.60
XII Central Mindanao	-2.10	5.47	-3.27	0.10

Table 7 - Poverty by Economic Sector, 1985 and 1994
(in percent)

| Sector | Population share | | Poverty measure | | | | Contribution to national poverty | | | |
| | | | Head count | | DSM | | Head count | | DSM | |
	1985	1994	1985	1994	1985	1994	1985	1994	1985	1994
All Sectors*	100.0	100.0	35.05	24.83	4.03	2.31	100.0	100.0	100.0	100.0
Agriculture	52.9	49.8	50.30	38.72	3.40	1.91	75.8	77.7	84.3	82.5
Mining	0.7	0.6	29.03	22.16	0.03	0.01	0.6	0.5	0.7	0.3
Manufacturing	8.4	8.1	23.01	9.97	0.20	0.06	5.5	3.3	4.9	2.5
Utilities	0.5	0.7	8.46	4.30	0.01	0.01	0.1	0.1	0.1	0.2
Construction	5.9	7.6	27.74	21.29	0.16	0.13	4.7	6.5	4.0	5.7
Trade	9.0	9.3	17.79	10.48	0.13	0.06	4.6	3.9	3.1	2.7
Transport	6.9	8.1	16.81	12.22	0.09	0.06	3.3	4.0	2.3	2.8
Finance	2.2	1.9	5.28	2.96	0.01	0.00	0.3	0.2	0.1	0.1
Services	13.6	13.9	13.10	6.75	0.02	0.07	5.1	3.8	0.4	3.2

* Do not include households which did not report sector of employment. Sector definitions: agriculture = agriculture, fishery, and forestry; mining = mining and quarrying; utility = electricity, gas, and water; trade = wholesale and retail trade; transport = transportation, storage, and communication; finance = finance, insurance, real estate, and business; services = community, social, and personal services.

DSM = distribution-sensitive measure.

Table 8 - Growth and Redistribution Components of Poverty Change between 1985 and 1994, by Economic Sector (in percentage points)

	Growth component	Redistribution component	Residual	Total change
Head count				
Philippines	-15.88	6.64	-0.46	-9.70
Agriculture	-22.27	11.81	-1.12	-11.58
Mining	-10.01	17.18	-14.04	-6.87
Manufacturing	-12.10	-4.12	3.19	-13.03
Utilities	-4.32	8.44	-8.28	-4.16
Construction	-13.18	10.47	-3.74	-6.45
Trade	-10.34	2.91	0.12	-7.30
Transport	-10.99	9.76	-3.36	-4.59
Finance	-3.74	3.63	-2.21	-2.32
Services	-7.70	2.94	-1.59	-6.35
Distribution-sensitive index				
Philippines	-2.33	1.58	-0.89	-1.64
Agriculture	-3.82	2.86	-1.64	-2.60
Mining	-2.31	0.23	-0.96	-3.04
Manufacturing	-1.52	-0.29	0.16	-1.64
Utilities	-0.60	1.07	-0.33	0.13
Construction	-1.88	1.95	-1.05	-0.98
Trade	-0.99	0.70	-0.44	-0.73
Transport	-0.92	1.18	-0.80	-0.54
Finance	-0.23	0.24	-0.18	-0.17
Services	0.22	1.41	-1.20	0.42

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pushed up the national poverty incidence for 1994 to 33 percent, stead of 23.4 percent. This finding stands in stark contrast to the cla by some observers of Philippine agricultural development that t recent episodes of growth, albeit modest, did not benefit the largest a poorest group of the poor—the farming population.

It is highly probable that the contribution of agriculture to over. poverty reduction could have been higher if the agricultural sector ċ not substantially slow down in the 1980s and early 1990s. During tł period, the average annual growth of agriculture—a measly 2 percen year—was low by the standards of the 1960s and 1970s and of the oth developing Asian countries. The performance of the crop subsectc which accounted for about 60 percent of total agricultural output, w even more disturbing: This subsector grew by only 1 percent a ye from the early 1980s to the early 1990s.

Note that only the manufacturing sector exhibited a negati· redistribution component, indicating that redistribution contributc positively to the observed reduction of poverty in the sector. This al runs counter to the popular claim that output growth in the manufa turing sector could not be generating poverty reduction since the pr duction activities promoted by industrial policy were usually capitɑ intensive and would not be attractive to the poor who did not have tł requisite skills.

5. Concluding Remarks

The level of absolute poverty in the Philippines is much lowɛ than what official figures show. The alternative estimates based on consistent procedure of constructing poverty lines—consistent in tł sense that two households with the same command over basic coɪ sumption goods are treated the same way—are generally comparab: to those reported for other countries at similar level of economic deve opment. Moreover, the new estimates show that a good deal of th poverty reduction took place between 1985 and 1988, not between 199 and 1994 as official figures indicate.

Contrary to popular perceptions, recent episodes of growth hav not been anti-poor; the bulk of the poverty reduction in recent years ha come from the beneficial effects of growth on the poor. The importanc

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. 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 the agricultural sector, which still accounts for over three-fourths of the poor, needs to be provided a renewed push. Priority should be given to rural infrastructure development, human capital development, and agricultural technology generation and diffusion.

The finding that economic growth in recent years has been beneficial to the poor, even in the short run, is a stark contrast to earlier findings for the 1960s and 1970s when the "trickle down" effects of growth on poverty were comparatively small. It is probable that the structure of the economy has changed in ways that now allow greater participation of the poor during episodes of growth. But what has changed, and how have specific policy reforms in recent years influenced the observed outcomes on poverty? The analysis undertaken in this paper provides some answers, but the story on what explains the persistence of poverty in the Philippines is far from complete.

Appendix

Estimating Regional Fixed-Level-of-Living Poverty Lines

Household data on food quantities and consumer prices are needed to implement the methodology described in the text. The Family Income and Expenditures Survey (FIES) data files do not have this information. Retail food prices periodically collected by the National Statistics Office were used to extract the information on quantities by food items from the FIES food expenditure. This information was then translated into calories using food composition tables recommended for use in the Philippines by the Food and Nutrition Research Institute. Some expenditure items reported in the FIES could not be translated into caloric units owing to the absence of relevant price information. For these items, it was assumed that their caloric contribution was the

same as the average calorie per peso of expenditure for all food ite
with price (or quantity) information. The benchmark informa
pertains to 1991.

Let K^r be the required calorie per person (i.e., the calorie norr
2,000 kilocalories/day) and K^* be the total calories derived from all f
items for the x percentile (say, third decile) of the expenditure distri
tion. It is expected that $K^* < K^r$; otherwise, a lower percentile wc
have to be chosen. In practice, since the relevant prices are
available for some of the FIES food items, K^* would have to be e
mated in two stages. The first stage requires estimating the t
calories from those food items with price information. This total, K
then adjusted for the caloric contribution of the remaining food ite
by dividing it with the ratio (v) of expenditures for food items with p
information to total food expenditures for the reference "househo
Based on the 1991 FIES and NSO retail price surveys, the value of
about 0.9; the ratio of K^r to K^* (for the reference household) is about

The bundle of food items associated with K (and hence with
reference household) would then have to be scaled up so that $K^* =$
This is done by multiplying each of the food items by the required
actual calories ratio, i.e.,

$$q_i^r = q_i(K^r/K^*), \ i=1,\ldots,m$$

where m is the set of food items with price information. The cost
region j of purchasing this food bundle is:

$$C_j = \sum_i \bar{p}_{ij} q_i^r,$$

where $\bar{p}_{ij}$ is the simple average price of food item i in region j (i
average of provincial prices in region j). Note that C_j is not the
capita food expenditure satisfying the calorie norm K^r since cert
FIES food items have no corresponding prices in the NSO retail pr
surveys. By assuming that the caloric contribution of these items is 1
same as the average calorie per peso of expenditure for all food ite
included in C_j, the *food poverty line* per capita in region j can
calculated as:

$$z_j^f = C_j / v$$

Obtaining the nonfood component of the poverty line requires estimating the parameters of the quadratic "almost ideal" demand model (Ravallion and Bidani, 1994):

$$s_i = \alpha + \beta_0 \ln(y_i/z_j^f) + \beta_1 (\ln(y_i/z_j^f))^2 + \sum_{j=1}^{n} \Phi_j D_{ij} + x_i \pi + v_i$$

where

s_i = food share in total household expenditure

y_i = per capita consumption (food plus nonfood) expenditure

z_j^f = food poverty line in region j

D = dummy variables for regions as well as urban and rural areas (intended to capture differences in relative prices, levels of public services, and other unobserved, spatially varying factors)

x = vector of other exogenous variables (including demographic characteristics and their interactions with expenditure)

v = error term

The value of the intercept α represents the average food share for those households that can just afford the food basic needs, i.e., those for whom $y_i = z^f$.

The *regional* poverty line, z_j, can then be estimated as:

$$z_j = z_j^f (2 - \hat{\alpha}_j).$$

where

$$\hat{\alpha}_j = \hat{\alpha} + \bar{x}_r \hat{\pi} + \hat{\Phi}_j$$

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and $\bar{x}_r$ gives the mean demographic characteristics of the referenc household group.

The *national* 1991 FIES sample (i.e., all households in all region: was used in estimating the above model. Table A1 summarizes th parameters of the estimated model, including the means for the poore: 30 percent nationally. Table A2 gives the estimates of regional povert lines. The thresholds are held fixed in real terms over time, using th consumer price index for food as deflator (inflator).

Table A1 - Parameter Estimates of "Almost Ideal" Demand Mode

Variable name	Definition	Coefficient	t-ratio	Mean f(poores 30%
Constant		0.73321	82.43	
LNY	ln(ratio of per capita expen-diture to food poverty line)	-0.08780	-15.85	0.(
LNY2	LNY squared	-0.00738	-4.60	0.(
AGE	Age of household head	-0.00088	-2.75	43.(
AGE2	AGE squared	0.00001	1.63	2,046.·
MALE	Dummy, household head is male	0.00205	0.79	0.!
EDUC1	Dummy, household head completed elementary	-0.00732	-3.86	0.:
EDUC2	Dummy, household head attended high school	-0.01624	-8.26	0.:
EDUC3	Dummy, household head attended college	-0.03273	-11.69	0.(
EDUC4	Dummy, household head is college graduate	-0.04459	-14.67	0.
MARRIED	Dummy, household head is married	-0.00024	-0.10	0.
AGRI	Agriculture dummy	0.01763	8.77	0.
MANU	Manufacturing dummy	0.01667	6.23	0.
FIN	Finance dummy	0.00758	1.49	0.
TRADTRAN	Trade & transport dummy	0.00279	1.28	0.
OTHIND	Other-industry dummy	0.00737	2.56	0.

Table A1 (continued)

Variable name	Definition	Coefficient	t-ratio	Mean for poorest 30%
CH06	Children aged 0-6 years	-0.00352	-3.23	1.64
CH714	Children aged 7-14 years	-0.0026	-2.37	1.98
CH1524	Children aged 15-24 years	-0.00657	-5.63	1.11
MORE25	Children aged more than 25 years	0.00003	0.02	2.16
CH06Y	CH06 x LNY	0.00752	4.25	0.07
CH06Y2	CH06 x LNY2	-0.00337	-4.42	0.14
CH714Y	CH714 x LNY	0.00169	1.09	0.11
CH74Y2	CH714 x LNY2	-0.00228	-3.54	0.17
CH1524Y	CH1524 x LNY	-0.00246	-1.43	0.12
CH1524Y	CH1524 x LNY2	0.00055	0.87	0.09
MORE25Y	MORE25 x LNY	-0.01124	-5.29	0.19
MORE25Y2	MORE25 x LNY2	0.00307	4.65	0.18
URBAN	Dummy, urban area	-0.00049	-0.31	0.27
TOTEMP	Employed household members	0.00441	5.55	1.74
REG1	Ilocos Region dummy	-0.03118	-9.06	
REG2	Cagayan Valley dummy	-0.02375	-6.06	
REG3	Central Luzon dummy	-0.00471	-1.74	
REG4	Southern Tagalog dummy	-0.03011	-11.81	
REG5	Bicol dummy	-0.02383	-6.87	
REG6	Western Visayas dummy	-0.03165	-10.38	
REG7	Central Visayas dummy	-0.01864	-5.88	
REG8	Eastern Visayas dummy	-0.00037	-0.10	
REG9	Western Mindanao dummy	-0.00363	-0.91	
REG10	Northern Mindanao dummy	-0.02824	-8.24	
REG11	Southern Mindanao dummy	-0.00880	-2.77	
REG12	Central Mindanao dummy	-0.02712	-6.33	
REG13	Cordillera Autonomous Region dummy	-0.02471	-4.94	
REG14	Autonomous Region of Muslim Mindanao dummy	-0.04093	-8.79	

$$\text{Adjusted R Square} = 0.587$$
$$F = 548.48$$

Table A2 - Nominal Poverty Line
(Based on FLOL Approach)

	1985	1988	1991	1994
	Pesos per person			
NCR	2,352	2,933	4,241	5,209
Reg1	2,819	3,015	4,392	5,468
Reg2	2,648	3,058	4,465	5,419
Reg3	2,556	2,856	4,261	5,255
Reg4	2,859	3,241	4,781	5,821
Reg5	2,547	2,932	4,362	5,414
Reg6	2,511	2,825	4,415	5,446
Reg7	2,491	2,857	4,349	5,314
Reg8	2,560	2,829	4,187	5,298
Reg9	2,432	2,673	4,039	4,929
Reg10	2,775	3,037	4,303	5,284
Reg11	2,587	2,926	3,959	4,855
Reg12	2,650	2,967	4,401	5,279
CAR		2,969	4,436	5,475
ARMM			4,766	5,797

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