AGRICULTURAL GROWTH, LANDLESSNESS, OFF-FARM EMPLOYMENT AND RURAL POVERTY IN THE PHILIPPINES *

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Abstract

Rapid agricultural growth has been suggested as an alternative development strategy for low-income, less-developed countries. The paper shows that rapid agricultural growth, as demonstrated by the Philippine experience in the 1960s and 1970s, is not enough to pull the rural poor out of poverty. Economic structures and the economic policy environment must likewise have to be conducive to a rapid growth of productive employment opportunities, particularly in the nonagricultural sector, for the fast growing labor force. The paper also provides a consistent set of poverty estimates which are used to reinterpret (or question) a number of commonplace claims in the Philippine development literature concerning the association between economic growth, income distribution, and poverty as well as the characteristics of the rural poor.

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*Paper presented at the 35th Annual Conference of the Australian Agricultural Economics Society held at the University of New England, Armidale, Australia, 11-14 February 1991.

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1. Introduction

Rapid agricultural growth has been suggested as an alternative development strategy for less-developed countries (Mellor, 1986; Adelman, 1984; Bautista, 1988). The strategy is deemed superior to either an industry-led, import substitution development strategy or to an export-led growth, especially in the context of unfavorable environment for expanded global trade and finance. Agricultural growth is considered to provide direct as well as indirect stimulus to the setting up of new activities through linkage effects, thereby facilitating industrialization in addition to its being directly addressing the twin problems of poverty and unemployment in these countries.

In the Philippines, the Aquino administration's Medium-Term Philippine Development Plan (1987-92) identified agriculture and rural development as the central focus of development efforts aimed at reducing poverty. Although some earlier development plans (e.g., the Yulo Plan of 1950) and political regimes also emphasized agricultural development, none presented it as the major component of a development strategy directly aimed at alleviating poverty, particularly rural poverty, and at enhancing economic recovery. Previous plans tended to emphasize agricultural development in so far as this would enhance domestic food security and foreign exchange earnings.[1]

The present paper provides a critical look at the country's record with respect to agricultural growth and poverty alleviation. It argues that rapid agricultural growth, as demonstrated by the experience in the 1960s and 1970s, is not enough to pull the rural poor out of poverty as well as to sustain a rapid overall economic

growth. Economic structures and the economic policy environment must likewise have to be conducive to a rapid growth of employment opportunities, particularly in the nonagriculture sector, for the fast growing labor force. Section 2 of the paper characterizes Philippine agricultural growth in an international perspective. Section 3 then examines the historical record with respect to income distribution and poverty. Section 4 turns to issues concerning access to land, agricultural productivity, and rural poverty. Section 5 discusses the link between access to employment opportunities and rural poverty. Finally, section 6 provides concluding comments.

2. Postwar Agricultural Growth

The agricultural sector (comprising crops, livestock and poultry, fishery, and forestry) of the Philippine economy performed remarkably well during most of the post-World War II period. The sector posted an annual average growth rate of 3.9 percent between the mid-1950s and the late 1980s. The growth, however, decelerated in the 1980s. While the average annual growth rate for the period 1965-80, the height of the so-called Green Revolution, was substantially higher than the averages for the developing Monsoon Asian countries and the middle-income developing countries, and compared favorably well with those for Thailand and Indonesia, it was way below the averages for these countries in the 1980s (Table 1).

The changes in food production per capita depict the same pattern (Table 2). The increase in food production per capita in the Philippines surpassed those of the averages for the low-income economies (including India and China) and the middle-income economies in 1975-80. But by the late 1980s, food production per capita in the Philippines was 10 percent lower than the level prevailing at the start of the decade. In contrast, the average

food production per capita for low-income economies increased by 12 percent, while that for middle-income economies nearly remained the same. Among ASEAN-member nations, Indonesia had a remarkable performance -- food production per capita increased by 17 percent during the period.

Partly explaining the decline in food production per capita is the continued high growth rate of the country's population. The average population growth rate of 2.5 percent per year for the period 1980-88 was above the averages for low-income economies (2.0 percent), middle-income economies (2.2 percent), and Thailand and Indonesia (1.9 and 2.1 percent, respectively).

It is interesting to note that developing countries which have relatively high growth rates of agricultural value added also tend to have comparatively high GDP growth rates. This observation augurs well with the view that there is a strong link between agricultural growth and macroeconomic performance in developing countries (Adelman, 1984; Bautista, 1987). Indeed, in the Philippine case, the remarkably robust agricultural growth for the period 1965-80 was accompanied by a GDP growth that closely matched the averages for the developing Monsoon Asian countries and the middle-income developing countries (Table 1). This growth contributed about one-fourth of the GDP growth during the period.

The expansion of cultivated area (i.e., the opening up of new lands for cultivation) provided the major source of the production growth of Philippine agriculture (defined in the rest of this section to include crops and poultry and livestock only), at least up to the 1950s. Since the closure of the agricultural land frontier in the 1960s resulting from increased population pressure, the contribution of land productivity (output per hectare) growth has increasingly become the more important source of production growth.[2] Over the last two decades, increases in yield accounted for about 80 percent of total agricultural production growth.

Whereas cultivated area per farm worker declined by an annual average of 2.5 percent during the same period, yield grew by an annual average of about 5 percent, enabling agricultural output per farm worker to grow by about 2 percent annually (David et al., 1984). In contrast, the six decades preceding the 1960s were marked by increasing cultivated area per farm worker, decreasing output per cultivated area, and virtually unchanged per capita agricultural output (Hooley, 1968).

There exists, however, substantial differences among crops. Whereas yield growth contributed nearly two-thirds of the production growth of the major staple crops (palay and corn) and of banana and pineapple between the mid-1970s and mid-1980s, area expansion largely contributed to output growth of coconut, coffee, sugarcane, abaca, tobacco, and rootcrops.[3] In the case of rice, the rapid diffusion of the modern-variety-fertilizer-irrigation technology beginning in mid-1960s was largely responsible for the yield increases. By mid-1980s, about 85 percent of the total rice area was planted to modern varieties, and nearly 65 percent of this was irrigated. Fertilizer use on rice also rose from 8 kg NPK per hectare in mid-1960s to 40 kg NPK per hectare in mid-1980s.

3. Agricultural Growth, Income Distribution, and Rural Poverty

The conceptual and empirical difficulties surrounding the measurement of income inequality and poverty are fairly well known. In this paper, purely practical considerations, such as the availability of data and the impossibility of obtaining new data, dictated definitional and measurement choices. More importantly, the imposition of consistency of definition, and not a mixture of definitions, became the dominant factor in the choice of one concept over another.

The statistical base for the analysis in this section is

mainly the various rounds of Family Income and Expenditure Survey (FIES). These surveys were undertaken in 1961, 1965, 1971, 1975, 1979, 1985, and 1988. The 1975 and 1979 surveys, however, were not published due to some technical problems, one of which was the implausibility of the data generated arising from substantial undercoverage. Excluding 1975 and 1979, it appears that the FIES provides a reasonably good series--and the *only* one available--for the analysis of trends in income inequality and poverty over the last three decades. Unfortunately, we have been limited to published tabulations for 1961, 1965, and 1971, and have acquired data tapes only for 1985 and 1988. Given the imprecision of the data, particularly for earlier years, the results should be interpreted as indicating trends rather than precise magnitudes.[4]

3.1 *Has Income Distribution Gotten Worse with Agricultural Growth?*

It is often desirable to use more than one summary index of inequality, since some indices are more sensitive than others to changes in the different parts of the size distribution of income. The Gini (G) index, the summary measure commonly employed in the Philippines, is relatively more sensitive to changes in the middle ranges than in the extreme ranges of the size distribution of income. This is so since G depends on the rank order weights of income recipients and on the number of recipients in a given range. The coefficient of variation (CV), on the other hand, is more sensitive to changes in the upper ranges of the distribution, since it attaches equal weights to transfers at all levels of income. The standard deviation of logarithms (SD), derived when incomes are expressed in logarithms, is one measure which is more sensitive to changes in the lower ranges than in the other parts of the distribution. That is, the fact that a logarithmic transformation staggers the income levels tends to soften the blow in reflecting

inequality. Looked at differently, each of these measures is most sensitive to a particular type of inequality: G for inequality among the less extreme incomes, the CV for inequality due to extreme wealth, and SDL for inequality due to extreme poverty (SDL).[5]

Table 3 shows the estimates of these measures for the five rounds of FIES.[6] All the above measures exhibited little changes over the years. Considering that per capita GDP grew by an annual average of nearly 2 percent between 1961 and 1971, the relatively small change was rather unusual in relation to the growth and income distribution experience of East Asia's newly industrialized countries (NICs) where economic growth was accompanied by considerable improvement in income distribution.[7] Even the "growth spell" in the latter half of the 1960s when GDP grew by about 5 percent -- although low in relation to the average for middle-income economies and ASEAN countries -- and the "economic recovery" in the latter part of the 1980s barely improved income distribution. One may argue that this is hardly a surprise when viewed in the context of the so-called inverted U-shaped relationship between economic growth and income distribution.[8] While plausible, such relationship has, however, received little empirical support. Fields (1988, p. 469), in surveying the available evidence from the experiences of various countries, concludes "that whether inequality increases or decreases with economic growth depends on the type of growth rather than on the level of GNP or the rate of GNP growth per se". Many others (e.g., Fei and Ranis, 1964; Adelman and Morris, 1973) also emphasized that income inequality is determined as much or more by the type of economic development, including policies followed, as by the level of development per se.

It bears noting that the inequality of income in rural areas was somewhat less than in urban areas. This difference could be

larger than the figures shown in Table 3 when one takes into account the undercoverage of residential enclaves of rich families, particularly in Metro Manila, in FIES rounds. Notice, however, the narrowing of the gap (e.g., the difference of the Gini index for urban and rural areas) from 1961 to 1971, and the widening of it in 1985.. The trend in the first period was mostly associated with decreased income inequality in urban areas and increased inequality in rural areas. The widening of the gap in 1985 (relative to 1971) resulted largely from the improvement of income equality in rural areas.

The increase in income inequality in rural areas between 1961 and 1971 deserves a closer look. This period was characterized by a fairly rapid agricultural growth, especially in the rice sector where the adoption of high-yielding modern varieties was unusually rapid vis-a-vis many other Asian countries. Indeed, the average real family income in rural areas increased by 19 percent between 1961 and 1965 and by another 19 percent between 1965 and 1971 (Table 4). In contrast, while average real family income in urban areas increased by 21 percent in the first period, it stagnated in the second period. Thus, the rural-urban income ratio increased from about 40 percent in 1961 and 1965 to 48 percent in 1971. Then, when the growth of agriculture slowed down, along with the rest of the economy, in the 1980s, income distribution in the rural areas somewhat improved, even though rural-urban income ratio was almost steady between 1971 and 1988. Herdt (1987) and others observed that the adoption of modern technologies in the 1960s and early 1970s tended to be initially concentrated among large farmers, with small farmers catching up in later years. This fact, along with the highly skewed distribution of agricultural landholdings in the Philippine and the slow growth of more productive employment opportunities in off-farm areas in relation to the growth of the labor force, partly explains the pattern of

income inequality in rural areas.

3.2 *Has Agricultural Growth Trickled Down to the Poor?*

The identification of the poor and the attendant aggregation which brings together the data on the poor into an overall measure of poverty, almost always involve a construction, albeit imprecise, of a poverty line or threshold.[9] For practical purposes, we define a poverty threshold as the critical minimum amount of income below which a person cannot attain a predetermined consumption bundle of goods and services, as judged necessary for the fulfillment of certain basic consumption needs, most importantly (in the context of this study) adequate nutrition. We have adopted the NEDA-FNRI-NSO technical working group's estimates of poverty lines for 1985 for the country's 13 regions subdivided into rural and urban areas.[10] We have adjusted these estimates for inflation to obtain poverty thresholds (at current prices) for 1961, 1965, 1971, and 1988. Although necessarily still imprecise, these estimates take into account regional price differences and consumption patterns (and thus avoid a major shortcoming of previous studies) as well as the desirability of imposing consistent definitions of poverty thresholds throughout the period of analysis.[11]

The commonly used summary measure of poverty in the Philippines is the headcount index, expressed as the proportionate number of households whose incomes fall below the poverty line. The drawback of this measure is that it is entirely insensitive to changes <u>below</u> the poverty line. A poor person may become poorer but measured poverty will remain the same. Furthermore, an income transfer from a person below the poverty line to one above it does not change measured poverty -- indeed an absurd property of a summary measure of poverty.

In addition to the headcount index, we have employed the following summary measures:

(1) Income gap, measured as the average income shortfall of the poor (expressed in proportion to the poverty line);

(2) Poverty gap, measured as the arithmetic mean of the income shortfall (expressed in proportion to the poverty line) over the whole population. This measure is sensitive to both the number of the poor and to how poor they are, although the various poverty deficits of the poor are weighed equally. Moreover, poverty gap has the added advantage, at least from a policy viewpoint, of measuring the actual amount of income necessary to bring every unit below the poverty line up to the poverty line. One objection to it, however, is that it is insensitive to redistribution of income within the poor units;

(3) FGT (α=2) index, measured in the same way as poverty gap except that the weights are simply the squared income shortfalls themselves.[12] Unlike that in the headcount and poverty gap measures, measured poverty in FGT (α=2) decreases whenever a transfer of income takes place from a poor household to a poorer one; and

(4) Sen index, a well-known distributionally sensitive measure that takes into account the poor's income shortfalls as well as the inequality of income among the poor.

All the poverty measures show a decline in poverty incidence from 1961 to 1988 (Table 5). Headcount poverty declined from 75 percent in 1961 to 49 percent in 1988. The average income shortfall of the poor is 53 percent of the poverty line in 1961 and 36 percent in 1988. Note that although income inequality hardly changed between 1961 and 1971, the headcount declined by an annual average of 1.3 percentage points.[13] This shows that the benefits of relatively modest growth of GDP per capita -- averaging about 2 percent per year -- during this period *trickled down* to the poor, although only minimally compared to the experience of other Asian countries. Moreover, the often asserted argument that the post-

World War II economic growth completely bypassed the poor (see e.g., ILO (1974) and Oshima (1990)) is not supported by the figures in Table 5. Note too, however, that the relatively fast growth of the population -- averaging 2.9 percent per year between 1961 and 1971 and 2.6 percent per year between 1971 and 1985 -- meant a 57 percent increase in the total number of poor families from 3.3 million in 1961 to 5.2 million in 1988.

The incidence of poverty was higher in rural areas than in urban areas, although the difference tended to narrow down since 1961. This tendency paralled the increase in the ratio of average rural family income to average urban family income. Based on the headcount index, rural poverty accounted for the bulk of overall poverty (nearly three-fourths in 1965 and 1971 and about two-thirds in 1985 and 1988), mainly because of the greater number of families residing in rural areas. This contribution appeared to be even larger if poverty gaps were used as weights (i.e., consideration is given to poverty aversion), simply because poverty gaps were larger in rural areas than in urban areas.

It bears noting that despite the noticeable increase in income inequality in the rural areas between 1961 and 1971 (see Table 3), all the indices of rural poverty showed a decline Table 5 during this period, further supporting the argument that rural (mainly agricultural) growth itself, even if it initially increases income inequality, is a powerful stimulus to poverty reduction.

The vast majority (62-68 percent) of the rural poor are engaged in farming (Table 6). About two-thirds of all farming families were considered poor in 1988; this group had an average income shortfall of about 40 percent of the poverty line. The incidence of poverty was equally high among families whose incomes depended mainly on fishing. Their contribution to total rural poverty, however, was much lower (11 percent) than that for farming families, simply because this group accounted for only 9 percent of

all rural families. Families dependent mainly on incomes earned outside farming, fishing, and forestry comprised another single block (37 percent) of families in the rural areas.[14] The incidence of poverty among this group was much lower -- about 40 percent of the families were poor and the average income shortfall for the group was 31 percent.

The traditional characterization of the rural poor is that the poorest of them are the landless and those who are dependent mainly on wage incomes.[15] Surprisingly, Table 6 shows that the intensity of poverty, as indicated by their income shortfalls, among the self-employed is as severe, if not more severe, than "wage" households (although there are differences across occupations, as shown below). In agriculture, the poor self-employed heads of households include primarily lessees, tenants, and small owner-cultivators.

Within agriculture (farming, fishing, and forestry), among the poorest were (i) farm workers in sugarcane, rice, corn, coconut, and forestry, and (ii) corn and "other crop" farmers, coconut farmers, and fishermen (Table 7).[16] Rice producers had lower average income shortfall and smaller proportion of their group below the poverty threshold, but they contributed almost one-fourth of overall poverty in agriculture owing to the large proportion (28 percent) of rice farmers in agriculture.

The poor families in agriculture are characterized by a high level of underemployment, inadequate access to or use of modern technology (partly because of lack of access to credit), high dependence on incomes in agriculture, and little access to social services, including health care and family planning services. The high level of underemployment in agriculture arises partly from the monsoon-dependent nature of agricultural production. The access of the poor to land is limited by the high concentration of landholdings (especially in sugarcane, coconut, and "export crops"

such as banana and pineapple) and, ironically, by land reform programs covering only tenanted rice and corn farms.[17] For the large number of poor owner-cultivator farmers, farm size is small and the farm is often located in unfavorable areas (e.g., outside of irrigated areas). Their ability to improve their lot is substantially limited by their low incomes and little access to credit. With the sluggish growth of productive employment opportunities outside the farm, the main bulk of the incomes of the poor in agriculture comes mainly from the sector. Their limited access to social services, on the other hand, is due to the concentration of these services in urban areas, to lack of information, to ill-designed composition of publicly provided services, or to intimidation by officials.

Rural poverty is also common in areas where agricultural productivity is low and where droughts and typhoons occur frequently (e.g., in the Bicol Region). In these areas, rural nonfarm employment forms an important source of supplementary household income. However, the poor are concentrated in traditional industries with low skill and capital requirements and very low labor productivity. Moreover, the pressure of the very rapid growth of the labor force in rural areas has led to the decline in real wages, especially for the unskilled workers (see section 5 below). But in areas (e.g., Central Luzon) where agricultural productivity growth is high, the substantial growth of nonfarm employment slows down the fall in real wages.

4. Agricultural Productivity, Land Resources, Land Tenure, and Poverty

In the Philippines, as elsewhere, rural poverty and rural insurgency problems have often been tied to access to land and to tenurial relations. As shown in section 3, among the poorest of the poor have been the landless agricultural workers. Moreover, in

regions where the concentration of land ownership is relatively high, the incidence of poverty is correspondingly high. Rural insurgency in these regions has tended also to be more pronounced than in other regions. These associations do not, of course, imply that limited land access is, by itself, the only factor that has contributed to existing rural poverty, nor do they suggest that it is the sole factor that has spawned rural insurgency. The limited growth of productive employment opportunities outside of agriculture and the country's relatively high population growth have been equally important determinants of rural poverty. Nonetheless, it remains true that institutional and policy changes concerning access to land resources have an important bearing on poverty alleviation. Moreover, these demonstrate the government's resolve to address the issue of income inequality.

The various indicators of agricultural productivity, particularly for the disaggregated level such as crop farming, appear to be negatively correlated with poverty incidence in agriculture. Based on the 1985 FIES, both average poverty gaps and the proportion of poor families in total farm families were lowest in Central Luzon, Southern Tagalog, and the Ilocos Region where agricultural productivity levels were higher than the national average. In contrast, poverty incidence was highest in the Bicol Region and Western Visayas where productivity levels were also lowest. In some regions, however, agricultural productivity is a poor indicator of rural poverty incidence: productivity levels were relatively high in Northern Mindanao due to its high-value forestry and pineapple activities, and in Western Visayas primarily arising from large sugar plantations. But in these regions, the incidence of poverty was also high.

Farm size and land/labor ratio have also often been associated with rural poverty, but as Table 8 shows, the correlation is rather weak. The Ilocos Region, Central Luzon, Cagayan Valley, and

Central Visayas had the lowest average farm sizes in 1980, but average poverty gap in these regions was among the lowest. Similarly, in the Bicol Region and in the Northern and Southern Mindanao where average farm sizes were relatively large, poverty gaps were above the national average. This only shows that while farm size is an important factor determining households earnings from land, other factors are likewise crucial, among which are farm tenure, cropping intensity, land quality, rural infrastructure, and the availability of nonfarm employment. The low poverty incidence in Central Luzon, for example, was a combined effect of high cropping intensities facilitated by the availability of irrigation and short-maturing varieties, and of the availablity of nonfarm employment primarily owing to its proximity to Metro Manila. These more than compensated for the region's relatively high tenancy rate (at least in the 1970s) and small farm size. The Ilocos Region somewhat exhibited the same characteristics as Central Luzon, but farm sizes were smaller and tenancy rates higher. Southern Tagalog and Central Mindanao had slightly lower yields and cropping intensities than those in the Ilocos and Central Luzon, but their agriculture was more diversified and farm sizes larger. Western Visayas, on the other hand, had high tenancy rates owing to the plantation mode of production in the region, although the average farm size was close to the national average.

The incidence of poverty in agriculture appears to have a sharper association with the size-distribution of operational landholdings than that with average farm size. This is, of course, not surprising now considering that landlessness is highly correlated with landholding concentration and that the landless agricultural workers are among the poorest groups and have low employment opportunities outside of agriculture. Southern Tagalog and Cagayan Valley do not seem to fit this generalization, but note that agriculture has been more diversified in the latter than most

of the regions and that, for Southern Tagalog, employment opportunities outside of agriculture are available partly due to its proximity to Metro Manila.

After World War II, land reform programs have focused on improving tenurial relations, including the setting up of limits on output and input sharing arrangements and the conversion of share tenants to amortizing owners.[18] The argument has been that farmers are poor because of the high incidence of tenancy (the proportion of farms under tenancy to total farms), considered one of the highest in Asia, and which changed only minimally since 1960. The census of agriculture in 1960 indicates that only about 45 percent of the total crop and livestock farms (and 53 percent of the total physical area) were fully owned by the operators themselves. In the 1980 census, this was about 59 percent. The proportion of rented or leased farms, on the other hand, hardly changed, from 37 percent in 1960 to 38 percent in 1980. Tenancy has persisted and has grown in number, partly because of strong population pressure on land and of the slow growth of employment opportunities outside of agriculture.

As shown in section 3, the incidence of poverty is high for households whose major sources of incomes (whether from wages or entrepreneurial incomes) are from palay, corn, coconut, and sugar farming. In rice and corn farms, the incidence of tenancy is higher than in other major crop farms (except tobacco and sugarcane) as well as in livestock farms. Moreover, in rice and corn farming, the average farm size cultivated by operators under share tenancy was not only lower than that under full ownership but also lower than the national average for all farm operators. On the other hand, the incidence of share tenancy is also high in pineapple and other permanent crops, but farm sizes tended to be larger for these farms.

What the above observations, as well as other recent empirical

and theoretical studies, suggest is that tenancy by itself is not as important and compelling correlate of poverty as expected: the variation in incomes within tenure classes (reflecting the effect of farm size, yield, cropping intensity, land quality, etc.) has been found to be much greater than the variation between classes.[19]

5. Labor Supply and Employment Growth

New entrants to the labor force reached about 600,000 in the late 1980s, of which about 40 percent was contributed by the rural areas. The growth of the labor force, particularly from among the female population, was relatively high (averaging 3.8 percent annually) in the latter part of the 1970s and early part of the 1980s, although it decelerated in the latter part of the 1980s. The level of this growth closely matched the expansion of employment in the 1970s, but was slightly higher than employment growth in the 1980s, particularly in the 1983-85 economic crisis. Interestingly, while employment growth was persistently lower than output growth in the 1970s (the implicit employment elasticity with respect to output for this period was close to 0.65), such was not the case in the early part of the 1980s. Employment continued to expand at an extraordinarily high rate of 3.5 percent per year in 1981-85 even though GDP contracted by an annual average of 1.9 percent. However, the number of visibly underemployed workers (defined as those working less than 65 days in a quarter and reporting their willingness to work additional time) was high, averaging 25.8 percent of the total number of employed workers during the period, in contrast with the average of 19.7 percent for the period 1976-80 (Table 9).

The economic recovery in 1986-89 which pulled GDP growth to an annual average of 5.5 percent also brought with it an expansion of employment, although at a rate hardly sufficient to absorb the new

entrants to the labor force. Thus, the open unemployment rate continued to increase from about 4.6 percent in the 1970s and 6.6 percent in 1983-85, to 8.6 percent in 1986-89. By 1989, there were 2.0 million unemployed individuals, more than half of them in the rural areas. Of the employed, a large number of them were underemployed in the urban informal sector (mostly services) and in subsistence agriculture.

The rate of unemployment in the rural areas was only about one-half of that in the urban areas. However, the ratio of the visibly underemployed to the total labor force was nearly two-fold greater in the rural areas than in the urban areas, although the difference tended to diminish in the latter part of the 1980s. The seasonality and irregularity of monsoon agriculture partly explain the high underemployment in rural areas. Moreover, as shown below, average labor productivity in agriculture has been much lower than the average in manufacturing or urban industries.

While agriculture accounted for nearly one-half of the total employment in the late 1980s, it contributed only about one-fourth of the total national output (Table 10). Services, on the other hand, accounted for 40 percent of output and also about 40 percent of total employment. Although the shares of agriculture in output and employment were comparable to those of other countries of similar income levels, the same can not be said for services. In other countries, the average share of services in national output was about 45 percent while its share in total employment was about 25 percent, thereby implying a much higher relative labor productivity.[20] It is apparent that a large part of the "employment" in services (as well as in agriculture) reflects a forced adoption by the sector of redundant workers and a high degree of underemployment in the sector.

Equally disturbing is the fact that the expansion of the share of industry in GDP was not matched by an increase in its share of

employment. Industrial output growth, albeit low in relation to the country's Asian neighbors, rose from about 26 percent in the mid-1950s to 33 percent in the late 1980s. The rise is, of course, expected, as this is a well-known stylized pattern in development (Chenery and Syrquin, 1975). But between the mid-1950s and the late 1980s, the industry's share in total employment remained relatively low at about 15 percent. Employment in this sector grew at an average of only 2.9 percent during the 1956-89 period. The growth of its major subsector, manufacturing, was even poorer -- only 2.3 percent during the period. The residual labor force and the new entrants to the labor force were thus absorbed largely in agriculture and informal services sectors where self-employment was more common and wages more flexible. This process, however, limited the growth of labor productivity and real incomes in these sectors.

The patterns of labor productivity growth and real wages are reflective of the structural bottlenecks in the economy, particularly on its persistent inability to absorb the growing number of underemployed members of the labor force. Figure 1 shows the trends in average labor productivity in the three major sectors of the economy -- agriculture, industry, and services -- since the mid-1950s. At least three major observations can be noted. First, average labor productivity in agriculture has consistently been lower than that in industry and, not until the latter part of the 1980s, services. Second, labor productivity in the services sector was comparable to that in manufacturing in the latter part of the 1950s, remained virtually stagnant in the 1960s and early 1970s, and then dropped steadily in the latter part of the 1970s and in the 1980s. This occurred in tandem with the substantial increase in the share of the services sector in total employment -- from 25 percent in the mid-1950s to 39 percent in the late 1980s. Third, although labor productivity in industry managed to rise in the

1960s and 1970s, the growth soon petered out and labor productivity fell for the most part of the 1980s. Average labor productivity in industry in 1986-89 was even lower than during the economic crisis of 1983-85. It is apparent that not only has industry failed to absorb an increasing proportion of the labor force, as was the case in other countries of similar income levels and in newly industrializing countries, but it was likewise unable in recent years to reverse the decline in labor productivity.

The rapid growth of the labor force and the slow pace of employment generation in productive areas combined to create a large pool of unemployed and underemployed. Because the rural sector failed to absorb the additional labor force members and to provide full employment to its workers, pressure built up for laborers to move out from the farm to rural nonfarm and to urban areas. This tended to depress real wages outside the farm, especially those of unskilled occupations (mainly in the services sector). Figure 2 which shows the trends in real wages for skilled, unskilled, and agricultural workers over the last 2½ decades, lends support to this claim. The persistent fall in labor productivity in the services sector was matched by a persistent fall in real wages for both skilled and unskilled workers. Moreover, although real wages in agriculture were lower in the 1980s than in the 1960s, the drop was not as sharp as those for skilled and unskilled workers. This implies that the unskilled and skilled occupations outside the farm might have born the larger proportion of the adjustment on real wages.

As shown in section 3, the incidence of poverty declined between 1961 and 1988 despite the overall fall in real wages. Other than the slight reduction in income inequality in the 1980s, two other factors partly explain the decline in poverty -- the increased participation rate of the labor force, particularly among women, and the substantial rise of the share of non-wage, non-

entrepreneurial incomes in total household incomes. Comparable estimates of labor force participation rates rose from 60 percent in the mid-1970s to 65 percent in the late 1980s.[21] Based on the various rounds of the Family Income Expenditure Survey, the share of rent, remittances, gifts, support assistance, and relief in total household income swelled from only 17 percent in 1961 to 32 percent in 1985 and 27 percent in 1988. The proportion of households mainly dependent on these incomes rose substantially from about 5 percent in 1961 to 19 percent in 1985 and 16 percent in 1988. Finally, the proportion of families reporting remittances, support assistance and relief increased from 22 percent in 1961 to 88 percent in 1985.[22]

It bears noting that persistent declines in real wages and the rise in per capita income were rather unique in the Philippines. In the postwar experience of Asia, particularly Taiwan and South Korea, growth was accompanied by rising real wages in agriculture and industry, even when there was considerable unemployment (Oshima 1986, p. 151). Not that these countries had effective laws on minimum wages; labor productivity growth and expansion of employment accompanied the growth of GDP per capita in these countries. Government policies in the Philippines, on the other hand, tended to undermine both productivity growth and the generation of productive employment opportunities for its expanding labor force.

Postwar government policies tended to run against the dictum of comparative advantage (although public pronouncements often called for efficient use of scarce capital resources) by unduly promoting capital-intensive, import-substituting industries and, in the process, severely penalizing labor-intensive exports and backward integration.[23] While these policies led to an initial spurt in overall economic growth (such as during the "easy import substitution" period in the early part of the 1950s), they

subsequently constrained the country's capacity to earn foreign exchange required for the importation of capital goods for continued growth. Macro pricing policies tended to severely overvalue the exchange rate, particularly in the 1950s when import and exchange controls were the primary means of trade and payments adjustments and in the 1960s when a cascading tariff structure replaced import and exchange controls. The overvalued exchange rate depressed the relative prices of labor-intensive tradable goods, encouraged the movement of scarce resources towards less-labor intensive nontradable or home goods production, and thus put a downward pressure on real wages.[24]

Moreover, generous fiscal incentives provided a window for the development of export-oriented manufacturing establishments, but for the most part, "the new export sector functioned almost as export processing zone and bonded warehouse 'enclave' ... which had little interaction with, and provided little benefit to, the domestic economy except primarily through the (limited) employment of labor" (Intal and Power 1990, p. 42). Government interventions, especially in the 1970s and early 1980s, also tended to diminish the role of market mechanism in favor of regulations by parastatals as well as promoted a monopolistic structure in important sectors of the economy. The use of governmental functions to dispense economic privileges to some select group close to the ruling elite was rampant. Fiscal and monetary policies thus tended to be expansionary in the 1970s and early 1980s. All told, the intermittent balance of payments crises during the postwar period (in late 1949, at the turn of the 1960s, in 1983-85, and at the present) and the persistence of widespread poverty and unemployment (and underemployment) have been a reflection of the weaknesses of the economic structure engendered by policy regimes.

6. Conclusion

Rapid agricultural growth has contributed to the reduction of measured rural poverty in the Philippines. The incidence of poverty, however, remains high. Although the rural poor as a proportion of the total rural population diminished from 80 percent in 1961 to 54 percent in 1988, the average income shortfall for all poor rural households hovered high at 35 percent of poverty threshold. Moreover, the absolute number of the rural poor, who comprised about 70 percent of the country's total poor population, increased from 2.9 million families in 1971, to 3.6 million in 1988.

In the rural development literature, it is common to characterize the landless and those who are dependent mainly on wage incomes as the poorest group among the rural poor. The paper shows that the intensity of poverty for the self-employed households, as indicated by their average income shortfall, is as severe, if not more severe, than that for wage-dependent households. In agriculture, the poor self-employed heads of households include primarily lessees, tenants, and small owner-cultivators. This group constitutes the single largest block of the total poor, regardless of the summary measure of poverty used, in rural areas. One implication of this finding is that, from the viewpoint of poverty alleviation policies, the payoffs -- in terms of the reduction in measured overall poverty per peso investment -- to targeting this group appears high relative to other groups in rural areas.

Finally, we have argued that the root causes of the "rural problem" in the Philippines -- low productivity, landlessness, high underemployment, and high incidence of rural poverty -- go beyond agriculture. The economic welfare of the rural population can be secured only by a comprehensive economywide policy reform aimed at correcting the disincentives against the production (and

consumption) of labor-intensive goods, particularly labor-intensive exports, and at promoting backward integration. This allows the expansion of productive earning opportunities for the relatively fast growing labor force. In particular, the reform has to allow a rapid, sustained growth of agriculture, *combined* with equally rapid employment growth outside of agriculture. The importance of the latter is clearly demonstrated by the country's experience in the second half of the 1960s and in the 1970s: rapid agricultural growth did occur but the linkages of this growth with the rest of the economy were weak owing partly to the failure of economic policies and structures to allow a similarly rapid, sustained overall economic growth along the lines of the country's comparative advantage. The failure of industry's share in total employment to grow despite the rapid expansion of its share in GDP meant that the services and the agriculture sectors were the primary sources of employment generation for the rapidly expanding labor force. In large parts of these sectors, however, labor productivity is low and underemployment is high.

NOTES

1. For an overview of postwar development planning, objectives, and strategies, see Balisacan (1990a).

2. As Hayami et al. (1976) pointed out, population pressure pushes the cultivation frontier into marginal lands, thereby causing the marginal cost of production via expansion of cultivated area to rise relative to the marginal cost of production via more intensive land use. The intensification of irrigation and the adoption of land-saving modern rice technology can thus be seen as efforts to augment land in response to the increasing cost of land relative to labor. David et al. (1984) also noted the influence of other factors in promoting land intensification in lowland areas of the Philippines. Among the principal ones are the suitability of early modern varieties to irrigated conditions, the worsening peace-and-order situation in Mindanao and upland areas, and the economic policy bias against agriculture and labor use.

3. For a decomposition of the sources of commodity production growth into yield and hectarage growth, see Balisacan (1990a).

4. See Balisacan (1990a) for a detailed discussion on the limitations and comparability of the various rounds of FIES.

5. See Champernowne (1974) for a comparison of the various indices, in measuring the inequality displayed by given frequency distributions of income. Atkinson (1970) and Sen (1973) characterize the form of the social welfare function implicit in each of the most common measures.

6. It should be noted that since these estimates are obtained from grouped data, they tend to be less than what would be obtained from individual observations. For 1961, 1965, and 1971, grouped data are reconstruction of published official tabulations. For 1985 and 1988, grouped data are based on FIES tapes.

7. Based on Bautista's (1990) compilation of Gini estimates obtained from several studies. See also the earlier comparison of Gini ratios in selected Asian countries by Oshima and Barros (1976).

8. Most often associated with Simon Kuznets, the inverted U-shaped hypothesis depicts a development path whereby income inequality increases in the early stages of development and decreases in the later stages.

9. For a discussion of the many conceptual and empirical issues involved in poverty measurement, see Srinivasan (1990), Atkinson (1987), and Kanbur (1987).

10. For details on the estimation, see Balisacan (1990a).

11. The poverty line can be argued to be positively related with correlates of development (e.g., urbanization). Ravallion et al. (1990), however, has demonstrated that, for a large number of low-income countries, real poverty lines tend to increase with growth, but they will do very slowly for the poorest countries.

12. The FGT index is a class of additively decomposable poverty measures (Foster, Greer, and Thorbecke, 1984). The headcount and the poverty gap are special cases of this index, i.e., for $\alpha=0$ and $\alpha=1$, respectively. These measures are <u>additively</u>

decomposable in the following sense: the aggregate (population) poverty level is simply a weighted average of the subgroup poverty levels, the weights being their population shares. Moreover, a distributionally sensitive FGT measure ($\alpha>1$) satisfies the main axioms for a desirable summary measure of poverty (Foster, 1984).

13. These rates of decline were, however, lower than those for other countries of similar income levels, based on data in the World Bank's *World Development Report 1990* (pp. 45-48).

14. There is some over-representation here, considering that some families whose occupations were not declared were lumped into the "other occupation" category.

15. See, e.g., Hayami, Quisumbing and Adriano (1990) and Mangahas (1985).

16. Unlike the 1985 FIES, the 1988 FIES does not allow for a disaggregation of agricultural families by main occupation (i.e., self-employed rice farmers, sugarcane workers, etc.).

17. The limitation of land transfer programs to tenanted rice and corn lands encouraged eviction of tenants by landlords and the hiring of landless workers. Moreover, it induced landlords to shift to crops other than rice and corn. See Otsuka (1988) for an evidence on tenant eviction in selected rice-growing villages in the Philippines.

18. For an overview of postwar land reform programs, see Hayami, Quisumbing and Adriano (1990) and Balisacan (1990b).

19. For an excellent discusssion of this literature, see Otsuka and Hayami (1988) and Otsuka, Honma and Hayami (1989).

20. Based on figures from the World Bank's *World Development Report* and ILO's *International Labour Statistics*.

21. Oshima (1988, p. 160) noted that the average number of earners per family rose from 1.83 to 2.0 in the 1970s. This, in turn, might have accentuated the fall in real wages as the rise in the female participation increased labor supply.

22. See Balisacan (1990a) for a discussion of the trends in functional and personal distribution of income.

23. Indeed, this is a common theme in the writing of serious students of Philippine development. See, for e.g., Power and Sicat (1971), de Dios (1984), Bautista (1987), and Montes and Sakai (1989).

24. Lal (1986) provides a systematic explanation of the movements of real wages in the Philippines in terms of the standard trade-theoretic Stolper-Samuelson-Rybcznski model.

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Table 1

Relative Contribution of Agriculture to Economic Growth in Developing Monsoon Asia and Middle-Income Developing Countries

Country	1988 Per Capita GDP (US $)	Share of Agriculture in GDP (%)		Annual Growth Rate (%)				Relative Contribution of Agriculture to GDP Growth a/ (%)	
				GDP		Agriculture			
		1965	1988	1965-80	1980-88	1965-80	1980-88	1965-80	1980-88
Developing Monsoon Asia	1,019	39	28.8	5.4	5.5	2.3	2.9	39.0	27.2
Malaysia	2,052	28	21.1	7.3	4.6		3.7	28	-
Thailand	1,063	32	17.0	7.2	6.0	4.6	3.7	32	17
Indonesia	476	56	24.0	8.0	5.1	4.3	3.1	56	24
Philippines	655	26	23.0	5.9	0.1	4.6	1.8	26	23
Sri Lanka	386	28	26.0	4.0	4.3	2.7	2.7	28	26
Pakistan	320	40	26.0	5.1	6.5	3.3	4.3	40	26
India	292	44	32.0	3.6	5.2	2.5	2.3	44	32
Bangladesh	177	53	46.0	2.4	3.7	1.5	2.1	53	46
Nepal	159	65	56.0	1.9	4.7	1.1	4.4	65	56
China	342	44	33.0 b/	6.4	10.3	2.8	6.8	44	32
Burma	192 b/	35	37.0 b/	2.9 c/	5.3 d/			34 c/	39 d/
Taiwan	6,113	18 e/	4.8	10.3 f/	9.8 g/			18 e/	5
Middle-Income Developing Countries	174,761								
	2,061	20	12.0	6.1	2.9	3.6	2.7	20	12

a/ Ratio of the growth rate of agriculture multiplied by the share of agriculture in GDP, to the growth rate of GDP.
b/ 1985. c/ 1965-73. d/ 1973-86. e/ 1970. f/ 1975-79. g/ 1986-89.

Sources: Asian Development Bank, Key Indicators of Developing Asian and Pacific Countries, July 1990.
World Bank, World Development Report, 1990.

Table 2

Food Production Per Capita and Population Growth Rate

	Index of Food Production Per Capita (1980=100 a/)		Percent Change		Average Annual Growth Rate of Population (%)	
	1975 a/	1987 a/	1975-80	1980-87	1965-80	1980-88
Low-Income Economies	90	112	11	12	2.3	2.0
Middle-Income Economies	91	99	10	-1	2.4	2.2
East Asia	..	123	..	23	2.3	1.5
South Asia	..	100	..	0	2.4	2.3
ASEAN-3						
Philippines	79	90	27	-10	2.9	2.5
Thailand	81	101	23	1	2.9	1.9
Indonesia	84	117	19	17	2.4	2.1

a/ Three-year average, centered on the year shown.

Source: World Bank, World Development Report, various issues.

Table 3

Indices of Income Inequality, 1961-1988

Index	1961	1965	1971	1985	1988
All Families					
Coefficient of variation	1.094	1.076	1.003	0.963	0.949
Standard deviation of logarithm	0.409	0.445	0.436	0.373	0.374
Gini Index	0.486	0.491	0.478	0.446	0.445
Rural Families					
Coefficient of variation	0.797	0.797	0.920	0.772	0.769
Standard deviation of logarithm	0.318	0.366	0.396	0.310	0.310
Gini Index	0.386	0.410	0.448	0.378	0.378
Urban Families					
Coefficient of variation	1.116	1.129	0.893	0.945	0.910
Standard deviation of logarithm	0.462	0.448	0.395	0.373	0.363
Gini Index	0.506	0.503	0.440	0.442	0.431

Table 4

Average Real Family Income of Urban and Rural Households, 1961-88

	Average Family Income a/ (in 1978 Pesos)					Percent Change			
	1961	1965	1971	1985	1988	1961-65	1965-71	1971-85	1985-88
Philippines	7,452	8,582	9,386	8,804	9,907	15.2	9.4	-6.2	12.5
Rural	4,971	5,928	7,080	6,204	6,939	19.3	19.4	-12.4	11.9
Urban	12,262	14,873	14,730	13,082	14,700	21.3	-1.0	-11.2	12.4
Rural/Urban Ratio	40.5	39.9	48.1	47.4	47.2				

a/ For 1961 and 1965 average family income is deflated using the consumer price index for Metro Manila. For all other years the CPI for the Philippines is used.

Source of basic data : NSO, Family Income and Expenditure Surveys, various issues.

Table 5

Indices of Poverty Incidence, 1961-1988
(In %, unless otherwise indicated)

Year and Area	Total Number of Families (1,000)	Share of Area in Total Families	Head-count	Income gap	Poverty gap	FGT (a=2)	Sen Index	Contribution to Total Poverty		
								Head-count	Poverty gap	FGT (a=2)
A. Total										
1961	4,426	100.00	75.02	52.78	39.60	25.62		100.00	100.00	100.00
1965	5,127	100.00	67.08	50.29	33.74	21.33		100.00	100.00	100.00
1971	6,348	100.00	61.63	48.81	30.08	18.29		100.00	100.00	100.00
1985	9,847	100.00	59.65	40.23	24.00	12.00	24.00	100.00	100.00	100.00
1988	10,533	100.00	49.52	36.35	18.00	8.00	19.00	100.00	100.00	100.00
B. Rural										
1961	2,920	65.97	80.19	53.62	43.00	28.00		70.52	71.64	72.10
1965	3,606	70.33	71.15	52.00	37.00	24.00		74.60	77.13	79.13
1971	4,434	69.85	66.08	51.45	34.00	21.00		74.89	78.95	80.21
1985	6,121	62.16	63.30	39.49	25.00	13.00	25.00	65.97	64.75	67.34
1988	6,548	62.17	54.08	35.13	19.00	9.00	20.00	67.89	65.62	69.94
C. Urban										
1961	1,506	34.03	65.00	50.77	33.00	21.00		29.48	28.36	27.90
1965	1,521	29.67	57.43	45.27	26.00	15.00		25.40	22.86	20.87
1971	1,914	30.15	51.32	40.92	21.00	12.00		25.11	21.05	19.79
1985	3,726	37.84	51.98	38.48	20.00	10.00	20.00	31.52	30.14	30.14
1988	3,985	37.83	39.95	35.04	14.00	6.00	14.00	30.52	29.42	28.37

Table 6

Poverty Incidence By Industry, Rural Families, 1988
(In %, unless otherwise indicated)

Industry	Total Number of Families (1,000)	Share of Group in Total Families	Head-count	Income gap	Poverty gap	FGT (a=2)	Sen Index	Contribution to Total Rural Poverty		
								Head-count	Poverty gap	FGT (a=2)
All Rural Families	6,548.1	100.00	55.03	36.84	20.27	9.41	20.00	100.00	100.00	100.00
Farming										
Wages	614.6	9.39	69.40	38.90	27.00	13.00	27.00	11.84	12.50	12.96
Self-employed	2,853.3	43.57	63.17	39.58	25.00	12.00	25.00	50.02	53.74	55.56
Forestry	72.2	1.10	50.46	39.64	20.00	10.00	20.00	1.01	1.09	1.17
Fishing	592.5	9.05	66.77	35.94	24.00	11.00	24.00	10.98	10.71	10.58
Agricultural Services	25.6	0.39	52.69	37.96	20.00	10.00	20.00	0.37	0.39	0.42
Other Occupation										
Wages	1,217.5	18.59	38.19	29.80	11.00	4.00	11.00	12.90	10.09	7.90
Self-employed	172.4	17.[illegible]	39.58	32.84	13.00	6.00	13.00	12.88	11.48	11.41

Table 7

Poverty Incidence in Agriculture by Main Occupation of Household Head, 1985
(In %, unless otherwise indicated)

Main Occupation of Household Head	Total Number of Families (1,000)	Share of Group in Total Families	Head-count	Income gap	Poverty gap	FGT (a=2)	Sen Index	Contribution to Total Poverty		
								Head-count	Poverty gap	FGT (a=2)
All Agricultural Families	3,962.3	100.00	72.86	41.36	30.13	15.82	30.58	100.00	100.00	100.00
Rice Farmers	1,103.9	27.86	66.21	39.27	26.00	13.00	26.48	25.32	24.04	22.90
Corn Farmers	596.4	15.05	83.49	49.11	41.00	24.00	41.04	17.25	20.48	22.84
Sugarcane Farmers	19.4	0.49	60.73	29.64	18.00	7.00	18.12	0.41	0.29	0.22
Other Crop Farmers	203.4	5.13	84.40	42.65	36.00	22.00	39.80	5.95	6.13	7.14
Coconut Farmers	360.9	9.11	75.46	41.08	31.00	16.00	31.38	9.43	9.37	9.21
Fruit Tree Farmers	17.6	0.44	56.29	26.85	15.00	7.00	15.30	0.34	0.22	0.20
Livestocks & Poultry Farmers	23.4	0.59	61.38	34.21	21.00	9.00	20.98	0.50	0.41	0.34
Other Farmers	9.2	0.23	73.04	38.34	28.00	13.00	28.36	0.23	0.22	0.19
Rice & Corn Workers	215.2	5.43	81.07	44.41	36.00	20.00	36.18	6.04	6.49	6.87
Sugarcane Farm Workers	88.5	2.23	93.81	43.71	41.00	20.00	40.83	2.88	3.04	2.82
Other Crop Farm Workers	16.4	0.41	84.69	42.51	36.00	20.90	36.17	0.48	0.49	0.52
Coconut Farm Workers	61.6	1.55	83.70	41.82	35.00	17.00	34.69	1.79	1.81	1.67
Livestock & Poultry Workers	13.8	0.35	62.69	33.50	21.00	8.00	20.63	0.30	0.24	0.18
Other Crop & Animal Husbandry	80.1	2.02	51.42	35.01	18.00	9.00	18.25	1.43	1.21	1.15
Forestry Workers	46.6	1.18	82.60	39.95	33.00	16.00	33.03	1.33	1.29	1.19
Fishermen	515.4	13.01	76.70	40.42	31.00	16.00	31.06	13.69	13.38	13.16
Other Occupation	590.5	14.90	61.74	35.63	22.00	10.00	22.43	12.63	10.88	9.42

Table 8

Incidence of Poverty in Agriculture (1985), Agricultural Productivity Measures (1980), and Land Resources By Region

	Poverty Incidence (1985)		Value Added in Agriculture, Fisheries & Forestry			Gross Value of Crops			Land/ Labor Ratio a/	Average Farm Size (ha)	Percent of Physical Area Above 10 ha
	Head-count (%)	Poverty gap (%)	Per labor	Per hectare	% in regional GDP	Per farm	Per person	Per hectare			
Philippines			2,705	2,697	29.18	4,805	301	1,690	0.62	2.84	2.6
NCR b/	43.9	24.0	-				-	-	0.28	0.73	-
Ilocos Region	53.9	18.0	2,767	4,361	46.90	4,577	349	3,158	0.46	1.45	11.9
Cagayan Valley	56.2	19.0	2,233	2,117	57.04	3,724	373	1,470	0.80	2.53	23.3
Central Luzon	47.0	15.0	3,160	4,439	29.07	5,855	253	2,746	0.79	2.13	8.8
Southern Tagalog	55.8	22.0	3,936	3,100	30.29	4,969	280	1,572	0.51	3.16	27.6
Bicol Region	72.4	31.0	1,975	1,751	58.55	3,396	269	1,014	0.43	3.35	35.4
Western Visayas	73.8	33.0	2,462	3,620	42.17	5,722	314	2,084	0.55	2.75	37.6
Central Visayas	68.0	30.0	1,599	2,496	23.22	1,637	133	958	0.48	1.71	21.7
Eastern Visayas	70.8	31.0	1,510	1,800	59.18	3,036	268	1,103	0.37	2.75	22.7
Western Mindanao	63.5	26.0	3,428	2,626	64.68	4,001	300	1,071	0.77	3.73	24.6
Northern Mindanao	66.7	29.0	3,062	2,213	44.35	6,395	531	1,747	0.93	3.66	28.4
Southern Mindanao	62.1	24.0	3,272	2,812	49.70	9,287	694	2,348	0.63	3.96	31.9
Central Mindanao	54.3	25.0	3,714	2,412	57.65	5,993	587	1,816	1.05	3.30	15.7

a/ Including arable land only. Labor includes only employed labor in agriculture.
b/ National Capital Region

Sources: NSO, Census of Agriculture, 1980.
NEDA, Philippine Statistical Yearbook, 1989 and 1986.
DOLE, Yearbook of Labor Statistics, 1984.
Balisacan (1990a).

Table 9

Unemployment and Underemployment Rates, 1971-89 a/

	1971	1972	1973	1974	1975	1976	1977	19[illegible]	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
Unemployment Rate (%)	5.3	5.3	4.6	3.2	4.2	5.2	4.5	4.1	5.0	5.3	6.0	5.4	7.3	7.1	8.0	9.5	8.3	8.4
Urban	6.7	6.8	8.0	5.7	7.8	8.5	7.2	6.0	8.2	8.3	9.8	9.3	12.2	11.8	11.5	13.8	12.3	11.7
Rural	3.7	3.3	3.3	2.0	2.6	3.5	3.1	3.2	3.7	4.0	4.2	3.7	4.6	4.4	3.9	6.8	5.9	6.4
Underemployment Rate (%)																		
A: b/						25.5	17.4	19.2	20.9	23.9	25.5	29.0	36.4	22.2	28.4	23.9	23.6	22.7
Urban	-	-	-	-	-	21.4	15.2	15.9	19.9	19.5	24.0	29.9	34.0	16.9	27.7	18.1	24.1	17.3
Rural	-	-	-	-	-	27.3	18.5	19.3	21.4	25.8	26.2	29.8	37.7	25.1	28.8	27.2	23.3	25.9
B: c/						13.8	8.1	9.0	12.0	14.5	13.9	17.2	22.5	15.3	17.8	11.1	11.4	10.9
Urban	-	-	-	-	-	7.8	5.4	5.9	7.4	7.0	8.9	8.1	8.7	16.9	13.7	6.9	6.8	6.0
Rural	-	-	-	-	-	16.6	9.5	10.6	13.9	13.1	16.9	14.4	21.3	25.2	19.9	13.5	13.9	13.7

a/ No data available for 1979.
b/ Those who worked for the reference quarter, but still wanted additional work, expressed as a proportion of the employed.
c/ Those who worked less than 65 days in the quarter, but still wanted additional work, expressed as a proportion of the employed.

Sources: Philippine Statistical Yearbook, various issues.
National Statistics Office, Integrated Survey of Household Bulletin, various issues.

Table 10

Sectoral Composition of Gross Domestic Product
And Employment, 1955-89 a/

	1955	1965	1975	1985	1989
Gross Domestic Product					
Agriculture	33.22	30.22	26.92	28.64	27.11
Industry	25.66	28.09	33.79	32.61	32.9
(Manufacturing) b/	18.63	21.21	24.98	24.21	25.00
Services	41.12	41.69	39.29	38.75	39.99
Employment					
Agriculture	60.03	57.59	54.28	49.52	45.61
Industry	15.67	14.76	14.74	14.11	15.67
(Manufacturing) b/	12.37	11.31	10.97	9.59	10.46
Services	24.29	27.67	30.99	36.38	38.71

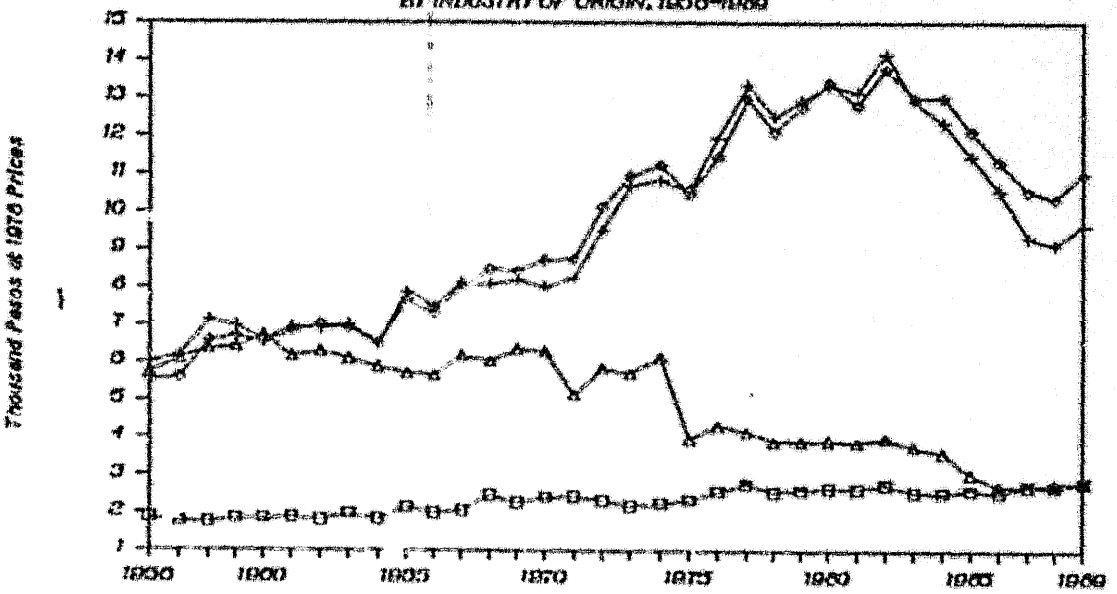
a/
Three-year averages centered on the year shown, except for 1989 wherein the figures refer to averages for 1988 and 1989.

b/
Subsector of industry.

Sources: NEDA, Philippine Statistical Yearbook, various issues.

Figure 1. REAL VALUE ADDED PER WORKER

BY INDUSTRY OF ORIGIN, 1950-1969



- Agriculture
- \+ Industry
- ◇ Manufacturing (Subsector of Industry)
- △ Services

Figure 2a. REAL WAGE INDEXES

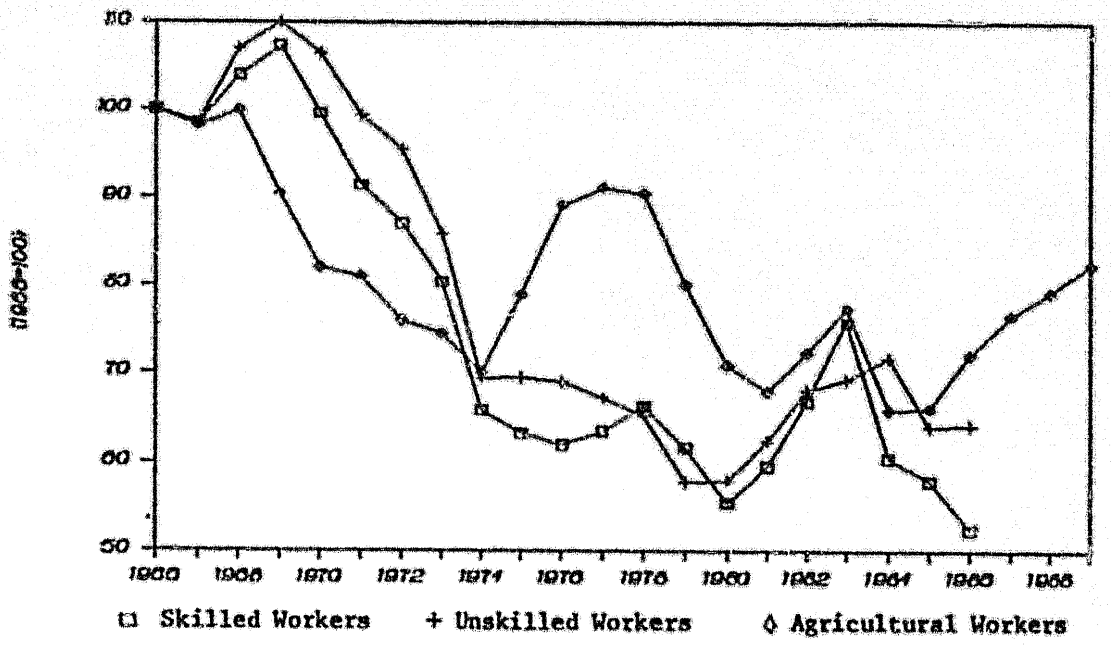


Figure 2b. REAL WAGE BY CROPS