Philippine Review of Economics and Business
Volume XXIII, Nos. 3 & 4, September & December 1986

RISING NATIONAL INCOME PER WORKER AND FALLING REAL WAGES IN THE PHILIPPINES IN THE 1970s

By Harry T. Oshima,* Elizabeth de Borja** and Wilhelmina Paz**

One of the unsettled issues in Philippine economic development is the decline in real wages per worker while GNP/national income per worker was rising. This divergence in the Philippines is unusual in the postwar experience of Asia as in both Taiwan and South Korea, growth was accompanied by rising real wages in agriculture and industry, even when there was considerable unemployment.

The paper is divided into two sections. In the first part, the statistics of national product and real wages are discussed. In the second part, three hypotheses are examined. The first deals with the labor supply side, the second with labor demand and the last is about prices and money supply aspects.

High underemployment rates in the '70s coupled with the rapid growth of the labor force due to relatively high population growth rates and increasing labor force participation rates especially of women may have exerted a downward pressure on real wages. This was aggravated by the slow growth of productivity per worker in the agricultural sector. On the other hand, the urban-industrial sector did not perform as expected and failed in terms of employment generation to some extent due to government policies which were largely distortionary. Although some degree of growth was achieved, it was not as impressive compared to that of other Asian countries and was attained at the expense of labor.

Introduction

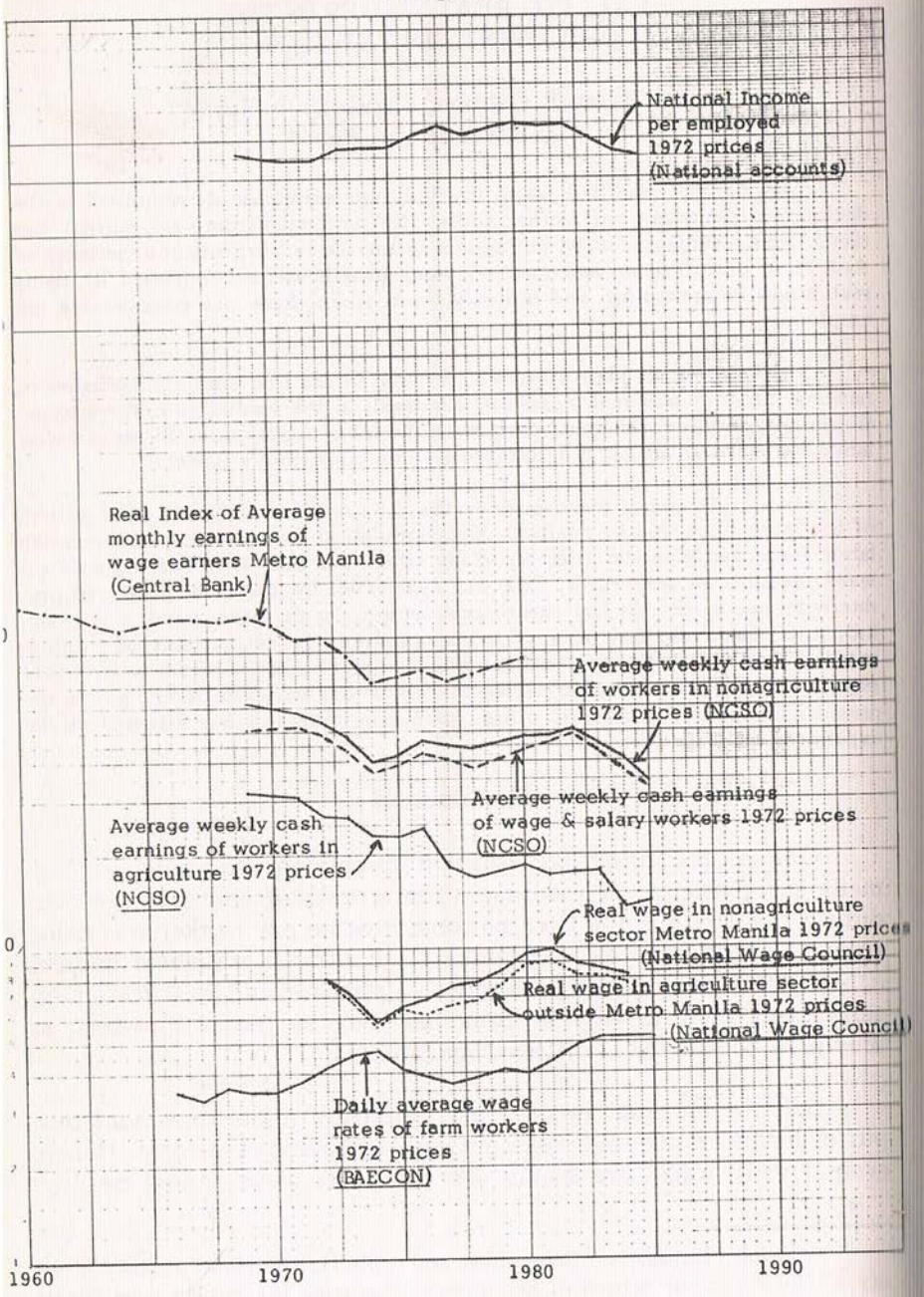
One of the unsettled issues in Philippine economic development is the decline in real wages per worker of about 10 per cent during the 1970s while GNP/national income per worker was rising about 25 per cent as recorded in the official statistical sources (Chart 1). This divergent movement is puzzling and calls for an examination, even though in principle they are not impossible, as they refer to somewhat different magnitudes.

GNP or national income per employee refers to *annual* output or income while real wages are *daily* (or weekly) earnings. Hence, even if daily wages are falling over the years, total annual employ-

---

*Visiting Professor of Economics, and **Ph.D. candidates at the University of the Philippine School of Economics. Assisting the project were Gloria Lambino and Maria Theresa Sanchez.

Chart 1—Growth Rates of Income, Compensation, Wages, 1972 Prices for the Philippines



ment measured by *aggregate* days worked per worker per year may be rising so that the increased number of days worked can more than offset the decline in daily wages. But this implies that aggregate days worked per year must increase substantially. This is unlikely because it implies that underemployment per worker measured in aggregate days worked was large, something like 50 per cent or less in the early 1970s compared to the late 1970s.

Or because national income includes incomes other than wages, the divergence may be due to shifts in the distributive shares from employee compensation to property incomes (rent, interest, corporate profits), proprietor's and public incomes. To be plausible, structural changes must be large enough to enable the shift away from wages to be substantial. But there is no evidence of such large structural changes; in fact, growth in the 1970s was accompanied by minimal structural change, as noted elsewhere.[1] Or a combination of employment and shift effects may account for the divergence.

A priori, the above combination is rather exceptional. When real wages are falling secularly, it is likely that productivity in the economy is not rising. As found in the standard growth studies of Kuznets, Abramovitz, Kendrick, R.C.O. Matthews (for Britain), Malinvaud (for France), Ohkawa and Rosovsky (for Japan), economic growth in the postwar decades was accompanied by productivity increases. Explicit in the neoclassical model of growth is the rise in wages relative to capital returns and this accelerates the substitution of capital for labor. Even in the Lewis model, despite unemployment, real wages do not fall but remain constant as productivity per worker rises and the economy expands. There is a shift to profits but aggregate wages are also rising as employment increases. In the Classical model, growth comes to a stop when food prices rise as population outpaces food supply and real wages fall.

The divergence in the Philippines is unusual in the postwar experience of Asia. In Taiwan and South Korea, growth was accompanied by rising real wages in agriculture and industry throughout the 1960s, even when there was considerable unemployment. In the case of Japan where wage data are available from the 1950s, real wages rose despite unemployment.[2] In Malaysia and Sri Lanka

[1] Employment share in agriculture declined from 55 per cent in 1970 to 52 per cent in 1980 with virtually no change in the industrial share. This compares with Malaysia where changes were 13 per cent and 7 per cent, respectively. See Oshima (1977).

[2] See charts and data in Oshima (1986).

real wages were constant in the 1960s but began to rise in the 1970s. In India real wages were constant in the 1960s and fell in the 1970s and GDP per worker rose by 4 per cent in the 1960s but slowed down to 0.8 per cent in the 1970s (compared to 2.1 per cent in the Philippines).[3]

Thus, it is of general interest to look into the Philippine divergence and see to what extent it was a statistical artifact and to what extent it was due to some exceptional features in the pattern of Philippine growth. It is of special interest to the Philippines to get a more accurate picture of what happened to growth in the 1970s and into the 1980s if only to assess the implications for the rest of the 1980s and into the 1990s. Moreover, there are some puzzling features not only on the production side of national development but also on the population side. In 1984, total fertility rate was as high as 4.4 compared to 4.2 for Indonesia, 3.7 for Malaysia and 3.3 for Thailand, with population growth reaching nearly 3 per cent per year (International Board for Reconstruction and Development, 1986). And yet the Philippines in the 1950s started with fertility and population no higher than the others and probably lower. Since there is an interrelation between growth of production and population, we need to pay some attention to the latter. And there are other challenging aspects in understanding the growth of the Philippines. Agricultural production statistics show substantial growth of about 4.5 per cent per year in the 1960s and 1970s, but calorie intake appears to be very low at 1800 per day per capita and unchanging (from 1978 to 1982). Despite many decades of large enrollments in education, literacy rates appear to be much lower than in Taiwan and South Korea with which the Philippines was at par in educational attainment in the early 1950s. Many of these puzzles can be explained in part by assuming the distribution of income over the decades to be worsening but the available family income surveys do not show any significant changes from the early 1960s. Despite the greater supply of data, it is easier to understand the pattern of economic growth in the other ASEAN countries than in the Philippines.[4] If so, much remains to be done to put the pieces of the puzzle together to get a clearer picture of past growth which cannot be ignored in thinking about future growth.

---

[3] See wage charts in Oshima (1971) and data on GNP per worker in Oshima (forthcoming).

[4] It may be that the martial law regime, in an effort to obtain as much loan as possible from international bankers, manipulated the data to show that the economy was growing robustly. Underway at the present time is a comprehensive revision of 1970 estimates of the national accounts by the NEDA staff. These revisions will take some time to be completed.

The paper is divided into two sections. In the first part, the statistics of national product and real wages will be discussed. In the second part various hypotheses explaining the divergence will be analyzed and an attempt to arrive at an overall explanation will be made.

Real Wages per Worker and National Income per Employed

This section will be revised and rewritten in greater detail after the completion of revisions by the NEDA national accounts staff of the national accounts in the 1970s. The discussion in this section will be based on the estimates as published in the 1985 *Philippine Statistical Yearbook*, and as issued by the NEDA staff in April 1986. These are presented in our appendix table on national income.

Income Data

In the Philippines, as well as in other countries in Southeast and South Asia, the national accounts data are mainly based on production statistics which are more plentiful than income and expenditure statistics. Income data are difficult to obtain in less developed countries because of the large number of proprietors (whether in the rural or urban sectors) whose incomes are obtained residually, i.e., deducting production expenses from total production. Moreover, most workers are employed in a variety of jobs and wage statistics are difficult to obtain from the small firms which operate intermittently and irregularly. Expenditure statistics are also not easily collected from households, particularly estimates of consumption which comprises the largest portion of GNP. Hence, consumption expenditures are largely based on production statistics. Therefore, it is the production data which are crucial in determining the total GNP and other aggregates and their movements over time.

Agricultural production data used in the national accounts are based on the data collected by the Bureau of Agricultural Economics of the Ministry of Agriculture and Food. The Bureau's estimates come close to those collected by the 1980 Census of Agriculture for rice and a few other crops. For most of the other crops they are considerably higher than the Census totals. Moreover, the estimates of food consumption from various nutrition surveys conducted by the Nutrition Council are substantially lower than those of the Agricultural Bureau. For example, in the Nutrition Council's national surveys for 1978 and 1982, calorie intake is

1,800 per day per capita, compared to 2,200 in 1978 and 2,400 in 1982. The data from the national accounts indicate however, that between 1978 and 1982 real production originating from agriculture rose by 18 per cent and food consumption rose by 16 per cent. Finally, it is unexpected that though the Philippines showed higher per capita dollar incomes than Thailand in the early 1980s, its Engel coefficient (share of food consumption in national income) was higher, 43% compared to 33% for Thailand. We conclude that the estimates of agricultural production and product in the national accounts may be on the high side.[5]

Another problem is the estimation of product in the small industry and service sector in the national accounts. In the case of manufacturing, the number employed in the unorganized sector was multiplied by the gross value-added per worker among firms with 1 to 4 workers from the quinquennial Census of Establishments. But this census covered only a tiny portion of the unorganized manufacturing sector, so that the issue of how representative census value added per worker is, comes to the fore. It is likely that the small firms reporting in the Census may be the better organized, more efficient, higher value-added firms compared to the much larger portion of the small firms not reporting to the Census. It should be kept in mind that most of small firms with 1 to 4 workers are household units operating intermitently and irregularly (often seasonally especially during the dry seasons of the monsoon), and it is unlikely that annual value-added can be high. Similar procedures were adopted in estimating value-added per worker in the commerce and other service sectors. Here, data on the larger number of peddlers, vendors, stallkeepers, small storeowners, and so on could not be collected in the censuses of establishments as most of these units had no fixed business location because of their mobility. The workers in the small units of these sectors are known to be those with the lowest per capita incomes in the urban sector.[6] Besides, the level of value-added appears to be on the high side, about 3 per cent per year. Since there was stagnation in the growth of output in the organized sector, as shown in the annual surveys of manufacturing,[7] it is difficult to believe that value-added per worker in the unorganized sector could have grown at a 3 per cent rate.

---

[5] In Table 6 of my paper, "Sector Sources of Philippine Postwar Economic Growth," (1983) the annual average growth rates of crops such as banana, various diversified crops and poultry of 10 per cent and more look suspiciously high.

[6] See various issues of the *Integrated Survey of Households Bulletin*.

[7] See data in the Appendix Table, *ibid.*, p. 41.

The agricultural and the unorganized nonagricultural sectors engage nearly four-fifths of total employment of the economy. Thus, the overstatement of the growth of gross value-added in the national accounts when corrected, may substantially reduce the growth rate of national income and GNP of the Philippines in the 1970s, perhaps even by one-half.

Real national income or net product per employed population in the national accounts may have risen by about 2 per cent per year (1970 to 1980) not only because product rose but the number of days and hours worked per employed population increased over the years. From the labor force surveys, we have estimated the number of hours worked during each year from 1962 to 1985 as shown in the Appendix table.

Hours worked per employed population rose from 40 hours in the early 1960s to 43 in the early 1970s. Labor force surveys shifted from collecting data on hours worked to days worked from 1977. For the 3rd and 4th quarters (a period when the overall demand for labor rises in monsoon economies), average days worked per quarter per employed population were 65.0 in 1977, 64.2 in 1978, (no data available for 1979), 56.5 in 1980, 55.1 in 1981, 56.4 in 1982, 54.3 in 1983, (no data available for 1984), and 39.3 in 1985. In the latter 1970s and into the 1980s, days worked of the employed labor force did not rise but, if anything, were declining. Hence, rising real national income or net product per employed population could not be due to aggregate hours worked per employed population during the year.

Wage Data

On wage statistics, the Philippines has more surveys than other countries in ASEAN, in part due to the need to implement minimum wage laws. But the results of the different surveys are often conflicting and it is not easy to sort them out to get a clear picture of national trends. There are four major sources of wage data in the 1970s, namely: the Central Bank of the Philippines, the Bureau of Agricultural Economics (BAECON) of the Ministry of Agriculture and Food, the National Census and Statistic Office (NCSO) and the Wage Council/Wage Commission. The estimated averages are presented in Chart 1 and these are based on data shown in the appendix tables for each of the sources.

The Central Bank series is the oldest and longest but is based on a small sample selected haphazardly and is for Metro Manila only.

The Wage Council series is a short one beginning from 1972, and refers to legislated minimum wage plus the cost of living allowances and the 13th month pay. Probably the best series are that of NCSO which collects weekly earnings data from its regular labor force surveys, and the BAECON series on agricultural wages, which begins in 1966. The combination of trends in NCSO's nonagricultural series and BAECON's agricultural series may give the best picture of wage trends although the NCSO data refer to weekly earnings for both wage and salary workers. The movements in the NCSO nonagricultural series agree with those of the Central Bank series (for Metro Manila) in the 1970s. These show that between 1970 and 1980 there was a drop in real wages/earnings of slightly more than 10 per cent. The BAECON series for farm workers also shows a decline of a little above 10 per cent. In contrast, national income per employed stood at ₱3,500 in 1970 (1972 pesos) and rose to ₱4,500 in 1980, a rise of more than 25 per cent.

Employee compensation as a share of national income rises steadily from 41 per cent in 1971 to 48 per cent in 1970 (and drops in the recession year of 1980 to 47 per cent). This implies that the combined share of the other incomes in national income declines from 59 per cent to 53 per cent. If the divergence between national income per employee and real wages is to be explained as a shift from the wage bill to non-wage incomes, one would expect the share of employee compensation to be falling rather than rising.

To conclude from the foregoing survey of the existing data, there may have been some degree of divergence between the trend of national income per employed and real wages even though the data are not entirely convincing.

Possible Causes of the Divergence

If we accept, though tentatively, the conclusion that there was some degree of divergence between the trend of national income per employed and real wages, we need to look at various factors in operation during the 1970s which explain the divergence. In what follows three hypotheses are examined. The first examines the labor supply side, the second, labor demand, and the last, prices and money supply aspects.

The Labor Supply

An analysis of the supply side of the Philippine labor market would give an insight as to why real wages had been declining while

national income per worker had been rising in the 1970s. It is contended that the large population and labor force expansion especially in the rural areas put a downward pressure on nominal wages. While the population and the labor force were expanding very rapidly, the agricultural sector failed to absorb these increases in the labor force, pushing rural workers out to the urban areas for employment, thereby pulling down wage levels of unskilled workers. The lower real wages, especially for low paid unskilled occupations induced secondary workers specifically the housewives to enter the labor market to maintain subsistence levels of family income. An examination of the data will show whether these forces have been at work during the 1970s.

Population grew at a rate of 2.8 per cent and 3.3 per cent per annum during the latter 1950s and early 1960s, respectively (*Philippine Statistical Yearbook*, 1985). Crude birth rates were still high in the 1960s, around 42-46 births per thousand population while crude death rates were low at 15 per thousand population (ESCAP, 1978). Birth rates were even higher in the rural areas where the demand for children was high especially during the peak seasons. This rapid growth of the population was translated into a rapid growth of the working age population and labor force in the 1970s when those babies born in the 1960s became members of the working age population. The working age population, defined prior to 1976 as those who are 10 years and over and 15 years and over thereafter, grew by 3.6 per cent and around 4.0 per cent per annum during the early and late 1970s, respectively. The labor force expanded rapidly from a level of 13,068 thousand in 1971 to 17,077 thousand in 1980 or at an average annual growth rate of 3.4 per cent (see Appendix Table 9).

This high growth rate of the labor force was primarily due to the rapid growth of the working age population and to the rising levels of the labor force participation rates. Aside from the high growth rate of population in the 1960s, rural-to-urban migration increased the size of the working age population in the urban sector. In-migrants to Metro Manila which accounted for 30 per cent of all interregional migrants increased from 263,058 to 378,878 from the first to second half of the 1970s while net gain increased from 67,198 to 174,000 in the same period (Department of International Economic and Social Affairs, New York, 1986.) This sector had failed to absorb the migrants (see appendix table on unemployment figures in the urban sector) and thus had contributed significantly to the unemployment problem in that sector thereby pulling wages down.

Data on labor force participation rates show an increasing although erratic trend. From a level of 49.9 per cent in 1971, it increased to 60.8 per cent in 1980 with an average annual growth rate of 2.2 per cent. (For labor force participation rates data, see appendix tables 9 and 10.) Labor force participation rates of males remained steady and high at around 70 per cent. However, labor force participation rates of women increased substantially during the decade, growing at an annual rate of 3.3 per cent. Thus the increase in the labor force participation rates was largely accounted for by the growth in women's participation rate. Another striking observation is the substantial increase in the labor force participation of men and women belonging to the 65 and over age group. Labor force participation rates of women in that age bracket increased from 16 per cent to 25 per cent in the 1970s growing at 4.4 per cent per annum. Numerous theories may explain the increase in female labor force participation and labor force participation of the elderly. As real wages had been declining, females, specifically housewives and the elderly, entered the market in order to maintain the family income level. This can be supported by the fact that the average number of earners per family rose from 1.83 to 2.0 in the 1970s.[7] This in turn accelerated the increase in labor supply. Moreover, more work opportunities had been opened up to women during the 1970s.

From a close examination of the aforementioned statistics, given a demand for labor, a rapid increase in labor supply would tend to depress nominal wages.

An examination of the supply side of the labor market must be complemented by an examination of trends in the demand side. Since both forces interact to determine the wage levels, an analysis of employment, unemployment and underemployment data must be made. In the 1970s, the agricultural sector remained to be the biggest employer among the three main sectors. Around 50 per cent of the employed persons were absorbed by this sector. The industrial sector's share remained steady at around 15 per cent while the share of the service sector had been increasing.[8] The average annual growth rate of employment was 3.4 per cent (see Appendix

---

[7] See Appendix note of Oshima's "Sector Sources of Philippine Postwar Economic Growth: The Overall Record in Comparative Perspective," (1983).

[8] See various issues of the *Labor Force Survey* and *Integrated Survey of Households Bulletin.*

Table 11) with the rural sector employment growing more rapidly than that of the urban sector. The latter phenomenon can be expected since almost all members of the rural family were employed either as paid or unpaid family workers. Children helped in the fields after school, while the elderly and the housewives remained active during the peak seasons.

A comparison of the growth of the labor force per year, which was 3.4 per cent, with the growth of employment per year which was also 3.4 per cent may at first sight appear to be an indication of the economy's good performance with respect to labor absorption in the 1970s. This implies that the unemployment rates had remained relatively stable throughout the decade. However, if underemployment rates which provide a relatively more reliable indication of labor market conditions in less developed countries are considered, the equality of the annual growth rates of the labor force and employment may not imply the above mentioned conclusion. Underemployment rates had substantially been increasing from a level of 13.6 per cent in 1971 to 20.6 per cent in 1980 (see Appendix Table 12). Thus despite the relatively stable open unemployment rate of 4-5 per cent, the slack in the labor market was seen more in the increasing level of underemployment. A comparison of underemployment figures in the rural and urban sectors shows that the rates had been consistently higher in the former. The high underemployment in the rural sector was due to its failure to overcome the seasonal, unstable and irregular nature of the monsoon economy. Labor demand remained high during peak seasons while the workers remained unemployed or underemployed during the slack season. The failure to find solutions to overcome these problems allowed the high underemployment rates to persist.

Despite the high unemployment and underemployment figures prior to 1976 the corresponding figures for post-1976 which were taken from the *Integrated Survey of Households* would be underestimations. Changing the reference period from a survey week to a survey quarter increases the probability that a person has worked for a certain number of hours or days. This underscores the severity of the unemployment and and underemployment problem in the 1970s.

These high levels of underemployment exerted a depressing effect on nominal wages. Theoretically though, certain adherents of the Keynesian theory would assert that nominal wages are rigid in the downward direction. They advanced various reasons to explain the validity of this assertion. Two of these are the imposition of a

minimum wage law and the fact that nominal wages do not normally fall even in the presence of unemployment because no one would accept a wage lower than what has been paid the other workers. However the first supporting reason may be a weak one in cases where quite a substantial number of employers may be exempted from strict adherence to this law. The Philippines is no exception to this fact. Moreover, many employers may circumvent labor laws which would substantially make the policy ineffective (Tidalgo and Esguerra, 1982). The strength of the second supporting reason may weaken in cases where underemployment is a severe problem. Many part-time workers would accept jobs in the informal sector where nominal wages are very low instead of succumbing to greater poverty. The share in total employment of the service sector which has a relatively huge informal sector had been increasing in the 1970s.

To summarize, the rapid growth of the labor force and the high underemployment rates in the 1970s may partly explain why real wages had been declining in that period. The failure of the rural sector to absorb the additional labor force members and to provide full employment to its workers hastened rural-to-urban migration which tended to depress nominal wages especially in nonskilled occupations. The falling real wages pushed secondary workers to participate in the labor market which in turn aggravated the problem of rapid growth of labor supply.

A second explanation which is closely related to the first one may have not really gained the attention it deserves. Growth of productivity per worker in the agricultural sector may have been slower than the growth of the rural population and the labor force, so that rural wages rose less than prices particularly in cases where the landowners are dominant as in sugarcane production.

A close examination of data on productivity per worker as proxied by yields per hectare[9] reveals that productivity per worker had been increasing but had not improved much in the 1970s especially in sugarcane production. This may be explained partly by the nature of the monsoon economy where underemployment remained to be a serious problem. In addition, the spread of technological innovations was not hastened in the 1970s. Agricultural productivity

[9]See Figures 5-6 in Yujiro Hayami, *et. al.*, (1979). Yields per hectare could be a good proxy for agricultural productivity per worker since value added per hectare and value added per worker moved together at least in the 1950s and 1960s where data are available.

per worker in Japan, Taiwan and South Korea had been high and increasing in the 1970s due to several factors, one of which was the setting up of more irrigation facilities which increased productivity and reduced underemployment. Another factor which contributed to the high productivity per worker in these countries was the more intensive use of modern inputs such as fertilizers, pesticides and other agricultural chemicals (perhaps more than ten times the amount Filipino farmers use). The use of more machines in cultivation also increased yields per hectare, since plowing and other farming tasks were better and faster done.

Total factor productivity which could have been a better measure of a factor's contribution to the production process is difficult to measure in agriculture. The valuation of capital like roads and irrigation is very difficult to do. Circulating capital, which is a larger portion of total capital in agriculture, cannot be measured except through increases in fertilizer and seeds. However, data on agricultural inputs are not easy to find in the Philippines. Most important is that labor input is difficult to measure because of the seasonal, irregular, and intermittent nature of labor use in monsoon agriculture.

One consequence of this slow improvement in output per worker would be the inability of the agricultural sector to release agricultural workers to the urban, industrial sector. This can be supported by the fact that the share of the agricultural sector in total employment remained to be high and stable at around 50 per cent in the 1970s. Without productivity per worker increasing, real wages may not rise. In the 1970s, agricultural productivity per worker grew by 2.2 per cent annually (computed using Appendix Table 13 data). Although it had increased during the period, real wages still declined by 0.5 per cent per annum. (See Appendix Table 2 for BAECON data on wages.) The decline may be attributed to the fact that nominal wages in the agricultural sector grew by 13.4 per cent per annum while prices in areas outside the National Capital Region increased by 14.8 per cent. With nominal wages increasing at a slower rate than rural prices, real wages fell in the 1970s (see Chart I).

Labor Demand

The divergence between real wages and GDP per worker may also be explained from the demand side. As was established earlier, there was migration of workers from the rural sector into the urban sector. Also we have shown that the labor force participation of women has grown significantly. More important is that in a period

of declining real wages, women may have had to go out and work to put family income back to at least subsistence level. The above supply factors had put tremendous pressure on the urban-industrial sector to absorb the growing labor force. The situation on the demand side is what we now want to explore in order to make sense of the above divergence.

In a paper by Tidalgo and Esguerra (1982), it has been shown how disappointing was the labor absorption of the industry sector on which much hope was pinned since the 1950s to spearhead the Philippines' short-term as well as long-term development objectives. It was the service sector then which became the depository of the labor turned away by the industry sector. This was possible because the service sector was more flexible in absorbing labor though in less productive endeavors such as domestic services and petty trade. What then were the factors that caused the dismal performance of the industry sector in terms of employment generation?

In the objectives set by both business and government it seems that even on paper, employment generation did not occupy the top of the list. In the late 1970s though, more lip service was paid to employment goals. Employment as a conscious objective is important because there may exist several means of achieving output growth, e.g., through capital-intensive or labor-intensive technologies. Hence, a clear prioritization becomes necessary.

The import substitution strategy which started in the 1950s was extended up to the 1970s. Based on this strategy the industries that were encouraged were those that were capital-intensive, which practically implied that they also be large-scale in nature (Power and Sicat, 1971.) Upstream industries, being that these have more linkages, were also set up. There were many justifications for this package at the time it was instituted, but the ultimate conclusion would be that it failed to bring about the rapid growth like that experienced by other (East and Southeast) Asian countries.

The policy bias toward import substitution industries was even more evident with respect to the export sector. In fact, the export industry had even been penalized. Penalizing the export sector was unfortunate because in terms of employment generation this sector was very promising. It used to be that the bulk of our exports came from agriculture (sugar, coconut, wood and copper). Later, when prices of agricultural commodities collapsed in the world market, there was a move to promote nontraditional exports. Intentionally or not, nontraditional exports were labor-intensive

(Bautista and Power, 1979.) Data on export composition show that in 1970, 76 per cent of our exports came from 10 principal commodities (copra, sugar, bananas, logs and lumber, dessicated coconut, coconut oil, canned pineapples, gold, abaca and copper concentrates) while a meager 8.2 per cent was accounted for by nontraditional exports (such as electronic and electrical components, garments, food products and beverages, handicrafts, furniture, etc.). In 1980 nontraditional exports accounted for 36.4 per cent of total exports, while the 10 principal exports amounted to only 45.5 per cent (see Appendix Table 14).

The setting of export taxes did not augur well for the exporting firms. Alburo and Shepherd cited its role as: to stabilize prices, to raise general government revenue, to encourage further processing and to safeguard domestic supply. It has also been justified as a means of influencing the terms of trade. However, a more realistic assessment would bear out that this will not be an effective tool to manipulate the Philippines' terms of trade if our exports do not hold a dominant share of the market.

Besides the biases discussed above, the export promotion policies favored the finishing stages of production: hence minimal forward linkages were possible. On the other hand, raw materials of manufactured exports were largely imported, so this limits the backward linkages and therefore also hinders employment generation.

The capital intensity bias is manifested in the system of tariff and non-tariff barriers (NTB) as well as various Board of Investments (BOI) incentives which in effect made it easier to acquire capital goods. BOI-registered firms could avail of tax exemption on imported capital equipment, tax credits on domestic capital equipment, accelerated depreciation allowance, tax deduction of expansion reinvestment allowance, and preference in grant of government loans. The only concession to labor employment would be the deduction from taxable income of one-half of labor training but not exceeding 10 per cent of direct labor wage (Bautista and Power, 1979.) One could not help but wonder how almost inconsequential was the concession to labor employment. The low interest rates that prevailed in the 1970s also facilitated the acquisition of capital. But the problem lurks when capital ceases to be a complement to labor but poses as a threatening substitute. Although increasing capital may increase labor productivity, there are other means of increasing labor productivity that are less labor-displacing. There are also findings which cite that BOI-registered firms are generally investment intensive such that there may be sizeable opportunities foregone

by not utilizing investments for labor-intensive industries. The capital and investment intensity bias had been detrimental to employment such that indications of an inverse relationship between investment and employment exist (de la Rea and Duremdes, 1982).

Large-scale industries account for a greater portion — about two-thirds — of manufacturing value-added. But small and medium-scale industries (SMSI) account for a greater portion of employment growth rates (Katon, 1971). There would not be any conflict between employment and value-added if the productivity of SMSI's could be improved without substantially decreasing their labor intensity.

Moreover, if the forward and backward linkages of SMSI's could be developed, it would mean more output growth and greater labor absorption. The Japanese have proven that this is possible since Japan's SMSI's played a pivotal role in bringing about rapid industrialization.

The biases discussed above have allowed the distortion to get entrenched in the system, such that the strong interest groups which came about became difficult to ignore. Consequently, various measures of domestic protection became necessary. Both tariff and non-tariff barriers limited imports, especially of finished goods. The extent of protection afforded industry was such that high cost industries were receiving heavy protection while others more efficient in utilizing domestic resources were effectively penalized. Classified by end use, consumption goods received very high protection followed by intermediate and then capital goods. On the other hand, some studies indicate that export industries were more efficient in utilizing domestic resources. The reason often cited is that international competition forces firms to be cost-conscious while those that enjoy protection and are inward-oriented fall into complacency (Bautista and Power, 1979).

The imposition and retention of protection did not go unchallenged. The conflict between supplying and using industries centers on these very issues. The supplying, usually upstream industries hide behind the infant industry argument . The using industries, on the other hand, complain of the higher cost and low quality of products cascading from the protected industries. For example, the producers of various canned goods have complained of the high cost of tin plates and have time and again voiced their disapproval of the pricing policy of the National Steel Corporation. Tin accounts for about 40 per cent of the production cost of canned goods.

Garment manufacturers have bewailed that, with the high cost and low quality of Philippine textile, they have to import 80 per cent of their textile needs, claiming that the prices of local textiles are 80 per cent higher than imported ones. Textile millers answer by demanding a rollback of polyester staple fiber from Filsyn since they allege that it is available at lower prices from Taiwan. Import liberalization chances in this industry seem promising.

The pharmaceutical industry on the other hand contends that locally produced amoxyllin and ampicillin cost about ₱130/kilogram while imports cost between ₱50-70/kilogram. This is made possible by some monopoly privilege which Chemfields, a subsidiary of Unilab, enjoys.

In 1983 detergent manufacturers were "pressured" into putting up expensive replacement for their equipment to enable them to use locally available coconut-based fatty alcohol (CFA) produced solely by United Coconut Chemicals, Inc. Scrapping plant and equipment not fully depreciated is a very expensive move for questionable long-term benefits since this proposition is made attractive only by the currently low prices of copra in the world market. But once these pick up, CFA-based soaps and detergents may no longer be competitive with those made of alkylbenzene (AB, petroleum-based). The recent large decreases of petroleum price may have already decreased the competitiveness of CFA.

The country's bid for agricultural diversification may be hampered by the retention of corn tariffs, corn being a basic livestock feedgrain. Not far behind is the plight of the printing industry which has to contend with locally produced printing materials that are 247 per cent higher than imported raw materials (*Business Day*, January-September 1986 issues).

What is more disturbing than the direct cost and quality cascading from protected, upstream industries to the downstream small and medium industries (selling their output overseas) is the high cost of Philippine fuel and power which is 50-100 per cent higher than other Asian utilities (*Business Day*, January-December 1986). All industries (whether upstream or downstream) use fuel and power so that from the supplying upstream industries the cost becomes compounded as their products are passed on to final good manufacturers, creating a snowballing effect. A good number of these downstream industries have to compete with other Asian countries in the shrinking international market where industrialized countries are becoming more protective. Hence, the higher utility cost in the

Philippines not only decreases the competitiveness of Philippine exports but also discourages foreign investors who may find it more profitable to place their investments in countries with lower utility cost.

The promotion and protection of upsteam industries would be justified only if it promised long-run world competitiveness. But if this is done through tariffs that penalize downstream industries it may retard the growth and development of the upstream industry itself because, although it ensures sales in the domestic market, it neglects the more lucrative export market. Thus, a straight subsidy might do better by providing practically the same protection as tariffs without or with less distortionary effects (Bautista and Power, 1979).

Prices and Money Supply

The paper by Bautista and Jurado (1972) laid some groundwork for the study of the effect of currency overvaluation on employment in the context of the Philippines. Their findings show that the exchange rate has a significant effect on employment, specifically that the under-utilization of labor could be traced to the failure of factor prices to reflect relative factor endowments due to the exchange rate policy.

Early in the period, the country declared the floating of the peso. But some form of intervention was still maintained such that even with the devaluation that occurred, the exchange rate remained overvalued. The adjustments were not large enough to bring the exchange rate at equilibrium levels. With an overvalued domestic currency, imports would seem cheaper to local buyers while our exports would seem to be more expensive to foreign buyers. Hence, capital which is largely imported would appear cheaper, further enhancing the capital intensity bias, which then implies low labor utilization. In the paper by Deepak Lal (1979), a model was developed to analyze the effect of trade and monetary variables on wages and employment. He identified three types of goods namely: (1) importables which he assumes to be the most capital-intensive; (2) exportables which come next to importables in capital intensity but are also resource (land) based and (3) non-tradeable goods which are the most labor-intensive and which comprise a large portion of wage earners' commodity basket. He then showed that changes in the relative prices of these commodities may trigger changes in factor prices. Factor prices on the other hand, determine factor intensity in the production technologies adopted by firms.

Prices in general have increased in the 1970s due mainly to the expansionary macroeconomic policy of the administration at that time. This is evidenced by the large increase in the consumer price index and the wholesale price index. What is more interesting is the faster increase in the wholesale price index (See Appendix Table 15). Assume that the wholesale price index represents price changes in tradeable goods (importable and exportable) and the consumer price index represents the price behavior of non-tradeable wage goods. With the WPI increasing faster than the CPI, resources would likely shift towards the tradeable sector which is also the most capital-intensive. Thus labor is displaced since the labor released by the contracting sector (non-tradeable, labor-intensive) is greater than what is needed by the expanding sector (tradeable, capital-intensive). Appendix Table 15 also shows that wages deflated by WPI decrease much faster than wages deflated by CPI. Real wages in both cases decrease. However, on the production-wage cost side, wages have fallen more than the fall in the consumption-wage income side (Alburo and Shepherd, 1985).

A decrease in the price of labor should induce firms to hire more labor. If real wages adjust to equilibrium levels to maintain full employment then only a shift of factor rewards from labor to capital and land takes place. But if even a decrease in the price of labor does not induce firms to hire more labor, perhaps because of a rigidity in the technology adopted or that the reduction in the cost of labor is not enough to surmount the capital biases, or that investments are not malleable or because of some recognition lag, then besides the shift in factor rewards, more unemployment could be expected.

Deepak Lal's model could be extended to analyze the effect on external balance and macroeconomic policies. But our main concern was to show the mechanism by which real wages could decline.

The seventies was also a period of financial repression. Interest rates were kept down with the effect of cheapening capital and being less discriminatory with regard to the profitability of investments.

From the discussion above, we have shown that the demand for labor was low. The ultimate effect was to depress real wages. But at the same time national income per worker increased though not as much as was hoped, especially in comparison to the spectacular growth rates achieved by other Asian countries. National income per worker in 1972 prices increased by about 23 per cent

from 1970 to 1979 or at an average annual growth rate of about 2 per cent.

The incentives given to large-scale enterprises may have contributed to the increase in national product since they account for a greater share of value-added compared to SMSI's. The protection granted to import substituting firms allowed these firms to exist and perhaps even expand. The same protection measures coupled with some monopoly privileges granted these industries assured them of a huge chunk of the domestic market (at the expense of consumers). Certain upstream supplying industries were likewise granted concessions which enabled them to exploit the linkages with downstream using industries. The incentive bias in favor of manufacturing, being the more productive sector, may also claim a portion of the (meager) increase in national income (even if this was achieved while not only neglecting but also penalizing the agriculture sector). What we want to highlight at this point is that the measures that may have hampered employment generation in the 1970s and which led to the choice of capital-intensive technology, may also be the very factors that account for the increase in national income.

A 2 per cent annual growth rate is a mere pittance compared to the growth of other Asian economies less endowed than ours and who started later in their industrialization than we did, but who early enough opted or shifted to the labor-intensive strategy. They have achieved 5 per cent to greater than 7 per cent average annual real growth rates while at the same time achieving full employment of their labor force without having to decrease real wages. In fact, one measure by which we identify that an economy has achieved or is near the full employment level is when there is such a tightening in the labor market that the wages of unskilled workers increase, sometimes even faster than skilled workers (perhaps even improving income distribution). Even without assuming that the growth of these countries was due mainly to their pursuit of a labor-intensive strategy, the fact that this strategy was labor intensive and therefore employment-creating allowed wage earners to partake of the increase in national income.

Increasing the population's purchasing power by giving them employment allows for an expansion of demand for domestically manufactured products, which in effect facilitates greater capacity utilization and, hopefully, attracts more investments. The chain of events not only permits a sharing of economic gains but also spurs economic growth and development.

Therefore it may not be too farfetched to speculate that the Philippines could have achieved growth rates much higher than what we had in the 1970s while at the same time allowing for greater employment absorption. This is where the prioritization of economic objectives becomes imperative. Should the mere increase in GNP be the singular goal at the expense of labor? Looking back at the 1970s the answer is obvious. This should not be a dilemma because others have shown that growth in GNP need not be sacrificed for employment generation objectives. As Tidalgo and Esguerra (1982) have succintly pointed out: "Among all productive resources, labor power cannot be stored and its wastage means the inability of individuals and their households who own only labor power to get a share of total output, negating in effect the essence of the material development goal intended to at least provide everyone with the basic material needs". It also takes time to reproduce labor up to a point where it becomes productive and able to contribute to the economy.

Areas for Further Research

An attempt to measure total factor productivity would shed some light as to why agricultural productivity per worker had been low in the Philippines. Developing a good measure of the contribution of capital like roads and irrigation to agricultural productivity would be helpful, keeping in mind the difficulty of the valuation of capital in the rural areas.

An interesting follow-up to this work is to conduct a thorough investigation of the possible misallocation even within the favored industries (such as import substituting, capital-intensive and large-scale industries), as well as the timing of the setting up of these industries. If this were true, it would expose the gross disregard of efficiency and profitability considerations. This should alert policymakers not only to the problem of choosing an optimal and consistent strategy but likewise to formulate complete policies that could be implemented down to the firm level.

It would also be appropriate to test the empirical validity of the Deepak Lal model, specifically with respect to the crisis of the 1980s as this casts some doubt on the assumption that the non-tradeable good sector is labor intensive.

A more detailed and microeconomic-oriented research of the issues brought up in this paper would be very enlightening.

REFERENCES

Alburo, F. A. and Shepherd, G. (1985), "Trade Liberalization Experience in the Philippines, 1960-1984," Philippine Institute for Development Studies.

Bautista, R. (1973), "Employment Effects of Export Expansion in the Philippines," University of the Philippines, School of Economics, Discussion Paper No. 73-15.

Bautista, R. (1983), "Industrial Policy and Development in the ASEAN Countries," University of the Philippines, School of Economics, Discussion Paper No. 83-03.

Bautista, R. and Power, J. (1979), *Industrial Promotion Policies in the Philippines*, Makati: Philippine Institute for Development Studies.

de la Rea, R. O. and Duremdes, E. J. (1982), "A Comparative Study on the Investment and Employment of Both BOI-Registered and the Over-All Manufacturing Sector," Paper submitted to the Program in Development Economics, University of the Philippines, School of Economics.

Department of International Economic and Social Affairs (1986), "Population Growth and Policies in Mega-Cities (Metro Manila)," Population Policy Paper No. 5, New York.

Economic and Social Commission for Asia and the Pacific, (1978), "Population of the Philippines," Country Monograph Series No. 5, Thailand.

Hayami, Y., Ruttan, V. W. and Southworth, H. M. (eds.), (1979), "Agricultural Growth in Japan, Taiwan, Korea and the Philippines," East-West Center, Honolulu: University Press of Hawaii.

International Bank for Reconstruction and Development (1986), *World Development Report*, Oxford University Press.

Katon, B. M. (1981), "Employment in Small and Medium Scale Industries," M.A. Thesis submitted to the University of the Philippines, School of Economics.

Lal, Deepak (1979), "Wage and Employment in the Philippines," International Bank for Reconstruction and Development, October.

Oshima, H.T. (1977), "Notes in Differential Growth and Structural Change," *Philippine Economic Journal*, Vol. XVI, No. 3.

Oshima, H. and Yiu, C.W. (1979) "Postwar Growth of the Service Sector in Asian Countries: A Macro Comparative View," *Philippine Review of Economics and Business*, Vol. XVI, Nos. 3 & 4.

Oshima, H.T. (1981), "Lewis" Dualistic Theory and its Relevance for Postwar Asian Growth," *Malayan Economic Review*, Vol. 26, No. 2.

Oshima, H.T. (1983), "Sector Sources of Philippine Postwar Economic Growth: The Over-all Record in Comparative Perspective," *Journal of Philippine Development*, Vol. X, No. 1, First Sem.

Oshima, H.T. (1986), "Off-Farm Employment and Incomes in Postwar East Asian Growth," In *Off-Farm Employment in the Development of Rural Asia*, ed. R.T. Shand, National Center for Development Studies, Australian National University.

Oshima, H.T. (1987), "*Economic Growth in Monsoon Asia: A Comparative Survey*," Tokyo University Press.

National Economic and Development Authority (1985), *Philippine Statistical Yearbook*.

Power, J. and Sicat, G. (1971), *The Philippine Industrialization and Trade Policies*, Oxford University Press.

Tidalgo, R. L. and Esguerra, E. F. (1982), "Philippine Employment in the 1970s," Philippine Institute for Development Studies, Working Paper 92-02.

Tidalgo, R. L. (1976), "Labor Absorption in the Philippines 1956-1973," *Philippine Economic Journal*, Vol. XV, Nos. 1 & 2.

Appendix Table 1
Growth of National Income, 1969 to 1985

	In Current Prices (Billions)				In 1972 Prices[1]				
	Total employee compensation	Proprietor & property incomes	Corporate & government incomes	National income	National income (Bn)	Per employed	Growth rates (%)	Per capita GDP	Growth rates (%)
1969		28.6	1.4	30.0	40.5	3605	—	1133	—
1970		32.9	1.9	34.8	41.6	3534	—2.0	1134	0.1
1971	16.8 (41.0)	22.5	1.7	41.0	43.7	3473	—1.7	1154	1.8
1972	18.6 (40.6)	25.3	1.9	45.8	45.8	3465	—0.2	1177	2.0
1973	22.5 (38.3)	31.9	4.3	58.7	49.8	3755	8.4	1245	5.8
1974	35.7 (44.1)	40.1	5.2	81.0	52.3	3783	0.7	1272	2.2
1975	41.7 (45.4)	44.5	5.7	91.9	55.1	3796	0.3	1310	3.0
1976	50.0 (45.7)	52.5	7.0	109.5	59.1	4151	9.4	1362	4.0
1977	57.8 (46.2)	60.2	7.1	125.1	63.2	4409	6.2	1418	4.1
1978	67.4 (45.6)	66.7	13.8	147.9	66.9	4155	—5.8	1461	3.0
1979	84.1 (48.1)	74.2	16.5	174.8	70.7	4346	4.6	1503	2.9
1980	100.4 (46.8)	93.4	20.5	214.3	74.2	4315	3.9	1543	2.7
1981	117.9 (47.8)	105.6	23.1	246.6	77.1	4418	—2.1	1556	0.8
1982	136.6 (50.3)	111.4	23.5	271.5	78.1	4496	1.8	1538	—1.2
1983	152.7 (49.9)	127.7	26.8	304.9	78.2	4070	—9.5	1502	—2.3
1984	197.8 (44.9)	214.2	13.5	427.3	72.7	3695	—9.2	1363	—9.2
1985	229.2 (49.9)	230.0	14.5	481.4	69.7	3520	—4.7	1275	—6.4

Sources: Revised NEDA National Accounts, April 25, 1986; *ADB Key Indicators*, April 1983; and *Philippine Statistical Yearbook 1974* for 1969 labor force and population.

[1] Deflated by implicit price index. Number in parentheses is the ratio of total employee compensation to national income.

Appendix Table 2 — Average Daily Wages of Farm Workers (without meals)

	Palay	Corn	Coconut	Sugarcane	Nominal wage in agriculture[a]	1972 Prices	Index[b]
1969	3.23	3.06	3.31	3.17	3.21	4.91	121
1970	3.39	3.10	3.27	3.18	3.28	4.38	108
1971	3.77	3.43	4.20	3.33	3.71	3.98	98
1972	4.24	3.79	4.24	3.69	4.06	4.06	100
1973	4.43	4.17	4.65	5.13	4.55	3.94	97
1974	5.56	5.56	6.36	5.89	5.78	3.69	91
1975	6.27	6.15	6.80	6.58	6.40	3.86	95
1976	7.77	6.76	7.55	8.15	7.62	4.14	102
1977	9.67	9.34	8.72	9.77	9.46	4.67	115
1978	10.43	9.67	9.44	10.20	10.07	4.63	114
1979	11.27	10.38	9.92	10.28	10.67	4.18	103
1980	12.07	10.83	10.73	11.33	11.47	3.82	94
1981	12.24	11.36	11.78	12.37	12.03	3.53	87
1982	13.37	12.26	12.93	13.28	13.03	3.49	86

Appendix Table 2 (Continued)

	Palay	Corn	Coconut	Sugarcane	Nominal wage in agriculture[a]	1972 Prices	Index[b]
1983	14.74	13.81	15.03	15.49	14.78	3.57	88
1984	21.68	17.58	21.86	19.85	20.68	3.33	82
1985	29.14	22.00	26.56	24.62	26.62	3.45	85

Sources: 1966-1973: "Analysis of Agricultural Wage Rates in the Philippines", Agricultural Diversification and Markets in the Philippines (ADAM) Working Paper No. 10, December 1975.
1974: Data on Agricultural Labor Wage Rates, Philippines, 1970-1981, MAF, BAECON.
1975-1983: "Daily Wage of Farm Workers in the Philippines," Economic Research Report No. 3, July 1984, Ministry of Agriculture and Food, Bureau of Agricultural Economics (BAECON).
1984-1985: "Preliminary Report on Daily Wage of Farm Workers," First and Second Quarters, 1984 and 1985, Farm Economic Section Report, Economic Research Division, BAECON.
Philippine Statistical Yearbook, 1985, NEDA.

Notes: The weighted nominal and real wage indices for all crops were derived by weighting the indices for each crop using the gross value-added in the 1972 national accounts (for each crop) as weights.

[a] Weighted average of wages for four crops. Estimates were derived by weighting the money wages for four crops by the corresponding gross value-added for each crop in 1972.

[b] The BAEcon Agricultural Survey in 1984 has the following number of samples per crop: palay — for this crop, the figures are number of palay farm households (204); corn — number of farm workers (303); sugarcane — number of farm workers (2,556).

Gross Value-Added for Agriculture 1972 (in Million Pesos at current prices)

Palay	2746	0.46
Corn	1011	0.17
Coconut	1155	0.19
Sugarcane	1065	0.18
Total	5977	100.0

Appendix Table 3 — Index of Average Daily Wage Rates and Monthly Earnings, Metro Manila, 1972 = 100

	Money Wage Index		All workers		Index of Monthly Earning of Salaried Workers		Index of Average Monthly Earnings of Wage Earners	
	Skilled	Unskilled	Money	Real	Money	Real	Money	Real
1950	60.9	41.1	46.3	104.7				
1951	57.1	44.4	47.7	99.7				
1952	58.0	47.5	50.2	112.2				
1953	59.3	48.8	51.5	119.2				
1954	59.6	48.3	51.2	120.2				
1955	59.6	49.7	52.2	123.9				
1956	59.8	50.5	52.9	122.1				
1957	59.6	49.9	52.4	118.9	53.8	129.6	50.3	121.2
1958	61.7	50.2	53.2	116.8	56.7	132.5	50.7	118.5
1959	62.8	50.6	53.8	119.1	59.3	141.2	52.9	126.0
1960	62.7	50.6	53.8	114.3	62.8	142.7	56.0	127.3
1961	62.5	51.9	54.7	114.3	64.1	139.3	56.2	122.2
1962	63.2	53.4	53.0	110.7	66.2	139.4	57.0	120.0
1963	65.1	56.4	58.7	109.8	68.4	133.1	57.6	112.1
1964	66.3	56.8	59.3	102.7	69.8	124.9	60.2	107.7
1965	68.0	60.9	62.8	106.0	70.6	122.4	63.7	110.4
1966	71.6	65.3	67.0	107.2	74.2	122.8	70.4	116.6
1967	75.0	68.4	70.1	105.6	75.5	118.3	74.4	116.6

Appendix Table 3 (continued)

	Money Wage Index		All workers		Index of Monthly Earning of Salaried Workers		Index of Average Monthly Earnings of Wage Earners	
	Skilled	Unskilled	Money	Real	Money	Real	Money	Real
1968	81.0	76.1	77.4	113.9	79.2	121.5	74.8	114.7
1969	85.3	79.7	81.2	117.1	83.0	125.8	77.9	118.0
1970	90.6	88.4	89.0	112.3	86.9	114.6	83.8	110.6
1971	95.3	94.4	94.6	104.4	93.4	101.1	90.6	98.0
1972	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1973	105.3	102.6	103.3	90.6	110.1	94.8	101.9	87.7
1974	115.1	110.8	111.9	73.5	121.0	77.5	111.9	71.6
1975	119.7	120.1	120.0	72.8	135.7	81.3	125.3	75.0
1976	124.4	126.2	125.7	72.0	151.6	82.8	143.8	78.5
1977	137.5	132.9	134.1	71.1	158.8	78.9	144.8	71.9
1978	154.4	138.4	142.6	70.3	189.2	87.8	164.4	76.3
1979	170.1	145.8	152.2	63.3	237.7	93.8	204.6	80.7
1980	180.9	151.5	159.2	56.1	274.7	91.8	255.5	85.3

Source: *Central Bank Statistical Bulletin.*

Notes: The weighted average nominal and real wage indices in Metro Manila as a whole were derived using the number of positions for the skilled and unskilled workers from the OCPC Min. of the Budget wage and salary survey as weights.

Nominal Wages Indices — average monthly earnings of salaried employees and wage earners. The 1965 = 100 series was shifted to 1972 = 100 series.

The nominal wage indices were deflated using the consumer price index for the Philippines (1972 = 100).

Weights Used:		
	Skilled	0.261
	Unskilled	0.739
		1.000

Appendix Table 4 — Average Daily Money and Real Wage

	Metro Manila		Outside Metro Manila		Non-Plantation		Plantation	
	Money Wage	Real Wage	Money Wage	Real Wage	Money Wage	Real Wage	Money Wage	Real Wage
1972	₱ 8.00	₱8.00	₱ 8.00	₱8.00	₱ 4.75	₱4.75	₱ 4.75	4.75
1973	8.00	7.02	8.00	6.84	4.75	4.06	4.75	4.06
1974	8.82	5.80	8.82	5.62	5.57	3.55	5.57	3.55
1975	10.65	6.47	10.65	6.37	7.13	4.26	7.13	4.25
1976	12.09	6.92	11.37	6.20	8.03	4.38	8.75	4.77
1977	14.40	7.64	13.32	6.58	10.07	4.98	11.15	5.51
1978	15.74	7.76	14.65	6.75	11.40	5.25	12.48	5.75
1979	20.48	8.49	19.40	7.70	14.16	5.62	16.63	6.60
1980	27.39	9.64	26.30	8.87	17.03	5.75	22.68	7.65
1981	31.37	9.87	30.29	9.09	19.43	5.83	25.85	7.76
1982	31.82	8.90	30.74	8.21	19.65	5.25	26.18	6.99
1983	34.22	8.64	33.14	8.05	20.95	5.09	29.97	6.80
1984	48.47	8.19	47.38	7.65	29.92	4.83	39.66	6.40
1985	57.08		56.00		35.67		46.67	

Source: National Wages Council, October 1985.

	Agricultural Workers				Nonagricultural Workers			
		Cash Earnings		1972 Prices		Cash Earnings		1972 Prices
	Number	Annual	Weekly	Weekly Earnings	Number	Annual	Weekly	Weekly Earnings
1956	580	4204	7		1622	28978	18	
1957	611	5110	8	19.7	1624	30742	19	45.4
1969	714	14667	21	32.1	3078	125089	41	62.1
1971	836	24418	29	31.0	3934	209890	54	58.3
1972	885	23575	27	27.0	3789	202876	54	54.0
1973	982	30317	31	26.7	4042	226785	56	48.6
1974	1000	36301	36	23.0	4093	258473	63	40.5
1975	1059	39658	38	23.0	4409	314916	71	42.1
1976	1153	51429	45	24.6	4959	428076	86	47.0
1977	1434	681889	37	18.4	4981	6037170	93	45.9
1978	1332	650142	37	17.0	5278	6521959	95	44.3
1980	1353	989498	56	18.6	5761	10693071	143	48.1
1981	1369	1058496	59	17.3	5973	12851070	165	48.6
1982	1353	1172696	67	17.8	5491	14791145	192	51.3
1983	1510	1444361	73	17.8	6337	15651004	190	46.4
1984	2085	2318334	85	13.8	6685	22475524	258	41.6
1985	2124	3013955	109	14.3	6674	22715858	262	34.6

Sources: NCSO, *Labor Force Survey*, various years.

Notes: The data on cash earnings for the agricultural sector were segregated from the total. The remainder therefore represents the cash earnings for the nonagricultural sector.

1977—1985 data

— the average quarterly cash earnings of wage and salary workers were derived by dividing the total cash earnings (in the agricultural and the nonagricultural sectors) for each sector of the corresponding number of wage and salary workers.

— the average quarterly cash earnings were converted to weekly cash earning by dividing each by 13 — the average number of working weeks in a quarter following the assumption that there are 52 weeks in a year.

— the averages of the quarterly figures for a particular year were computed to arrive at the figures presented above.

Appendix Table 6 — Daily, Monthly and Annual Employee Compensation, Philippines

	Annual Compensation (in million pesos at current prices)	Implicit Price index of national income	In Constant, 1972 Prices				
			Annual compensation (in million)	Number of workers (thousands)	Compensation per worker		
					Annual	Monthly	Daily
1974	35704	155.1	23020	5402	4261	355	14.98
1975	41664	165.2	25220	5832	4324	360	15.20
1976	49887	181.9	27426	6409	4279	357	15.04
1977	57750	197.1	29300	6545	4477	373	15.74
1978	67437	214.7	31410	6813	4610	384	16.21
1980	100356	283.5	35399	6955	5090	424	17.90
1981	117946	319.5	36915	7303	5055	421	17.77
1982	136562	344.5	39644	7104	5581	465	19.62
1983	152694	389.9	39166	7864	4980	415	17.51
1984	197829	587.8	33654	8812	3819	318	13.42
1985	229238	690.5	33201	8678	3826	319	13.45

Sources: *Philippine National Accounts 1946-1980*, NEDA, 1981; *The National Income Accounts of the Philippines*, 1983 to 1985; and *Labor Force Survey*, NCSO (Employment Series)

Notes:
number of working hours per week = 40 hours
number of working days per week = 5 days
number of working weeks per year = 52 weeks
52 weeks x 5 days = 260 days per year

number of working hours per week = 48 hours
number of working days per week = 6 days
number of working weeks per year = 52 weeks
52 weeks x 6 days = 312 days per year

number of working hours per week = 44 hours
number of working days per week = 5.5 days
number of working weeks per year = 52 weeks
52 weeks x 5.5 days = 286 days per year

Appendix Table 7 -- Other Wage Series Compiled

	International Labour Organization Daily Wages Manila			Ministry of the Budget					
				Philippines			Metro Manila		
	Skilled	Unskilled	Agriculture	White collar	Skilled	Unskilled	White collar	Skilled	Unskilled
1968	10.11	7.93	—						
1969	10.64	8.30	—	15.38	11.49	8.14	16.40	12.74	8.89
1970	11.30	9.21	—						
1971	11.89	9.84	3.55	18.71	14.30	10.77	20.54	15.17	10.97
1972	12.48	10.42	3.72						
1973	13.14	10.69	4.40	19.69	18.09	12.65	21.29	16.22	12.22
1974	14.35	11.54	—						
1975	14.93	12.51	6.27						
1976	15.48	13.14	8.44	26.11	24.47	16.60	28.06	23.79	16.76
1977	17.15	13.84	9.90						
1978	19.27	14.42	10.08						
1979	20.57	15.19	10.57	39.23	32.01	25.29	42.81	33.72	26.49
1980	22.58	15.79	10.74						
1981			12.01	52.53	46.21	37.09	55.76	48.62	40.41

Sources: ILO, *Yearbook of Labor Statistics; Salary and Wage Survey in the Philippines*, various years, Office of Compensation and Position Classification, Ministry of the Budget.

Appendix Table 8 — Average Hours Worked During Survey Week, By Industry

	Agri-culture	Manu-facturing	Other Industry[1]	Commerce	Other Services[2]	Total Economy
1962	39.7	39.0	44.7	42.1	45.0	40.9
1963	39.0	38.8	45.1	40.9	44.8	40.2
1964	40.2	38.6	45.2	41.5	44.7	41.1
1965	42.3	39.4	45.7	41.3	45.4	42.5
1966	42.1	41.0	47.2	42.8	46.2	43.0
1967	40.8	40.6	47.0	40.8	46.2	42.0
1968	41.2	44.8	45.9	42.1	45.4	42.3
1969	41.0	40.5	45.1	42.0	44.7	42.0
1971	42.1	42.5	46.2	44.4	47.1	43.6
1972	41.8	42.6	45.4	44.5	47.0	43.2
1973	41.7	42.2	45.3	43.9	46.8	43.1
1974	42.4	42.8	45.8	45.2	47.5	43.6
1975	41.7	43.0	46.2	45.1	47.2	43.4
1976	34.1	42.5	45.3	46.5	46.9	39.9
1977	39.6	44.7	45.5	48.3	47.4	43.3
1978	39.0	44.5	44.4	48.6	45.9	42.7
1980	32.8	40.1	41.4	40.9	42.9	37.7
1981	30.8	39.3	41.7	41.1	42.8	36.7
1982	32.7	39.6	41.5	41.3	41.4	37.6
1983	29.9	39.1	40.5	40.9	42.6	36.1
1985	25.6	27.3	41.0	26.3	41.3	26.7

Sources: *NCSO Labor Force Surveys* which collected hourly data up to the last quarter of 1976 and thereafter in days worked.

Notes: To convert all data into hours worked per week, total number of days worked during the quarter is divided by 12 to get days worked per week and then multiplied by 8 to get number of hours worked during the week.

1 Other industries include mining and quarrying, construction, electricity, gas, water and sanitary services, and transport, storage and communication.

2 Other services include government, community, business and recreational services, and domestic and personal services.

Appendix Table 9 — Labor Force, Working Age Population and Labor Force Participation Rates[1]

	Labor Force (000s)			Working Age Population (000s)			Labor Force Participation Rates		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
1971	13068	8761	4308	26228	12946	13282	49.8	67.6	32.4
1972	13356	9060	4296	27233	13483	13751	49.1	67.2	31.2
1973	14601	9732	4870	28832	14273	14560	50.6	68.2	33.4
1974	14264	9660	4604	28793	14314	14479	49.6	67.5	31.8
1975	15161	9993	5168	29751	14690	15061	51.0	68.0	34.3
1976	16244	10509	5736	31376	15433	15943	51.8	68.1	36.0
1976[2]	15018	9964	5054	24837	12241	13072	60.5	81.4	40.1
1977	14998	10225	4774	25918	12737	13072	57.9	79.6	36.5
1978	17077	10821	6257	27026	13262	13672	63.2	81.1	45.8
1980	17659	11315	6344	29061	14386	14617	60.8	78.3	43.4

Sources: *Labor Force Surveys*, various years and *Integrated Survey of Households*, various years.

[1] All figures for labor force, working age population, employment, unemployment and underemployment refer to the average of 3rd and 4th quarter data except for the 1975 and 1976 figures which refer to 3rd quarter data only.

[2] Data onwards from *Integrated Survey of Households* which defines members of the labor force and working age population to be those who are 15 years old and over. Prior to this survey, 10 years was the cut-off age. Moreover, the reference period for the ISH is the 'past quarter' which refers to 3 months coinciding with the calendar quarter whereas prior to this survey the reference period was the 'calendar week' (Sunday to Saturday) preceding the visit of the field interviewer.

Appendix Table 10 — Labor Force Participation Rates by Age Group, by Sex

TOTAL	1971	1972	1973	1974	1975	1976	1977	1978	1980
10-14	11.5	11.4	13.2	12.1	12.1	12.3			
15-19	41.1	40.4	43.6	42.2	44.1	40.4	35.2	42.6	38.0
20-24	59.6	59.5	61.4	58.4	61.6	61.6	57.1	62.8	59.1
25-44	68.4	67.8	69.2	68.0	69.6	70.3	68.2	73.1	72.6
45-64	66.7	66.4	65.8	66.4	67.4	67.8	65.9	71.1	70.7
65 years & over	34.6	35.5	35.2	38.1	36.9	42.1	43.6	44.9	43.1
Average annual growth rate of LFPRs:2.2%									
MALE									
10-14	14.0	14.4	16.6	15.2	15.5	15.2			
15-19	50.4	51.6	54.6	52.4	53.5	53.1	42.6	48.6	45.4
20-24	80.4	79.4	80.8	80.2	81.1	82.1	76.5	78.0	71.4
25-44	96.8	97.1	96.8	96.8	96.8	97.6	95.8	96.4	96.2
45-64	93.1	93.0	92.2	93.1	93.2	93.1	93.6	93.4	93.2
65 years & over	53.0	54.9	52.9	56.8	55.6	56.8	62.4	61.5	60.4
Average annual growth rate of LFPRs of males: 1.6%									
FEMALE									
10-14	8.8	8.2	9.6	8.6	8.5	9.3			
15-19	32.4	29.5	32.6	32.0	34.7	34.5	27.4	35.2	30.2
20-24	40.9	40.6	43.4	38.4	43.5	47.5	39.1	47.8	46.6
25-44	41.4	40.8	43.4	40.8	44.5	46.7	41.1	51.5	49.3
45-64	39.7	39.7	40.2	39.9	42.1	45.3	38.1	48.3	48.8
65 years & over	16.7	15.6	16.4	19.9	19.5	20.3	22.2	27.1	24.6
Average annual growth rate of LFPRs of females: 3.3%									

Sources: *Labor Force Surveys*, various years and *Integrated Survey of Households*, various years.

Appendix Table 11 — Employed Persons and Employment Rate, Urban and Rural

Year	Employment (000s)			Employment Rate		
	Total	Urban	Rural	Total	Urban	Rural
1971	12386	3777	8609	94.8	84.3	96.2
1972	12590	3744	8847	94.3	89.7	96.3
1973	13881	4210	9671	95.1	91.5	96.7
1974	13745	4237	9509	96.4	93.4	97.7
1975	14517	4444	10073	95.8	92.2	97.4
1976	15427	4779	10648	95.0	92.0	96.4
1976[1]	14238	9548	9690	94.8	91.5	96.5
1977	14329	4581	9747	95.5	93.3	96.5
1978	16385	5133	11252	95.9	94.1	98.4
1980	16794	4894	11900	95.1	92.0	96.4

Sources: *Labor Force Survey*, various years and *Integrated Survey of Households*, various years.

[1] Data onwards are from the *Integrated Survey of Households*.

Appendix Table 12 — Unemployed and Underemployed Persons and Unemployment Rates, Urban and Rural

	Unemployment (in 1000)			Unemployment Rate			Underemployment (000s) (Visible and Invisible)			Underemployment Rate		
	Total	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural
1971	636	356	280	4.9	7.9	3.1	1784	511	1274	13.6	11.4	14.2
1972	765	428	337	5.7	10.2	3.7	1510	410	1100	11.3	9.8	12.0
1973	721	390	331	4.9	8.5	3.3	1800	494	1307	12.3	10.7	13.1
1974	518	292	226	3.6	6.4	2.3	1367	363	1005	9.6	8.0	10.3
1975	643	377	266	4.2	7.8	2.6	1926	600	1326	12.7	12.4	12.8
1976[1]	818	415	403	5.0	8.0	3.6	1630	453	1177	10.0	8.7	10.6
1976	780	424	355	5.2	8.5	3.5	3634	983	2650	24.2	19.8	26.4
1977	670	327	343	4.5	6.7	3.4	2680	813	1868	17.9	16.6	18.5
1978	693	323	370	4.1	5.9	3.2	3383	1009	2374	19.8	18.5	20.8
1980	865	428	437	4.9	8.0	3.5	3644	1059	2586	20.6	19.9	21.0

Sources: *Labor Force Survey*, various years and *Integrated Survey of Households*, various years.

[1] Data onwards are from the *Integrated Survey of Households.*

Appendix Table 13 — Agricultural Production per Hectare of Selected Crops (in metric tons per hectare)

Year	Agricultural Production per Hectare				Three-Year Moving Average				Agricultural Production per ha. (ALL)[1]
	Rice	Corn	Coconut	Sugarcane	Rice	Corn	Coconut	Sugarcane	
1970	1.68	.83	1.07	7.09					
1971	1.74	.83	0.82	6.74	1.67	.83	0.95	6.54	2.27
1972	1.60	.82	0.96	5.79	1.59	.81	0.91	6.51	2.21
1973	1.44	.78	0.94	7.01	1.57	.81	0.93	6.61	2.23
1974	1.66	.83	0.89	7.03	1.58	.82	1.01	6.72	2.27
1975	1.63	.84	1.19	6.13	1.68	.84	1.16	6.76	2.35
1976	1.75	.85	1.41	7.11	1.74	.84	1.34	6.47	2.36
1977	1.85	.86	1.41	6.18	1.87	.87	1.41	6.53	2.45
1978	2.00	.89	1.42	6.29	1.99	.90	1.41	6.52	2.51
1979	2.11	.95	1.40	7.09	2.09	.94	1.42	6.91	2.64
1980	2.15	.98	1.46	7.34	2.16	.96	1.42	7.34	2.75
1981	2.23	.96	1.39	7.58					

Source: *1985 Philippine Statistical Yearbook*, NEDA.

[1] Weighted average of agricultural production per hectare for four crops. Estimates were derived by weighting the 3-year moving averages of agricultural production per hectare for the four crops by the corresponding gross value added for each crop in 1972.

Gross Value Added for Agriculture, 1972 (in million pesos at current prices)

Palay	2746	0.46
Corn	1011	0.17
Coconut	1155	0.19
Sugarcane	1065	0.18
Total	5977	1.00

Appendix Table 14 — Exports

(F.O.B. value in million US Dollars)

Year	Total	10 Principal Exports	Per Cent of Total	Non-Traditional Exports	Per Cent of Total
1970	1142	868	76.0	94	8.2
1971	1189	918	77.2	108	9.1
1972	1168	870	74.5	116	9.9
1973	1837	1359	74.0	227	12.4
1974	2725	2144	78.7	327	12.0
1975	2294	1619	70.6	374	16.3
1976	2574	1588	61.7	574	22.3
1977	3151	1900	60.3	769	24.4
1978	3425	1750	51.2	1076	31.4
1979	4601	2232	48.5	1520	33.0
1980	5788	2635	45.5	2107	36.4
average annual growth rate (1971-1980)	19.6	14.5		38.4	

Source: *Philippine Statiscal Yearbook 1982*, NEDA.

Appendix Table 15 — Price and Wage Indices

Year	CPI Philippines	WPI Metro Manila	Wage deflated by CPI		Wage deflated by WPI	
			Manufacturing	Wage Earners	Manufacturing	Wage Earners
1970	74.6	78.5	114.4	112.3	108.8	106.8
1971	85.8	90.8	114.3	105.6	108.0	99.8
1972	100.0	100.0	100.0	100.0	100.0	100.0
1973	116.2	123.7	88.3	87.5	83.0	82.4
1974	156.3	182.7	76.4	71.6	65.4	61.2
1975	167.0	192.6	86.3	75.0	74.9	65.1
1976	183.2	210.3	81.2	78.5	70.7	68.4
1977	200.4	225.9	85.3	72.3	75.7	64.1
1978	215.5	236.8	85.0	76.3	77.4	69.4
1979	253.2	281.8	83.7	80.8	75.2	72.6
1980	299.4	333.4	87.5	82.5	78.6	74.1

Source: "Trade Liberalization Experience in the Philippines, 1960-84" by Alburo and Shepherd, Philippine Institute for Development Studies, Working Paper No. 86-01, December 1985.