SECTOR SOURCES OF PHILIPPINE POSTWAR ECONOMIC GROWTH: THE OVER-ALL RECORD IN COMPARATIVE PERSPECTIVE

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I. INTRODUCTION

This paper attempts to look at Philippine postwar growth within a comparative framework, using as a background the record and experience of other Asian countries, particularly the experience of other ASEAN countries. When we speak of a country's growth performance as good or bad, we are almost always (implicitly or explicitly) resorting to comparisons with the performance of other countries or with the past performance of the country in question. I know of no theory of economic growth which can supply us with normative standards by which a country can be evaluated. And it is best to compare with Asian countries whose stage of development and whose environmental and other conditions of growth are basically tied to the monsoon — the distinguishing characteristic of Asian countries from that of the West, Middle East, Latin America, or Africa. Within monsoon Asia, the neighboring countries of Thailand, Malaysia, Indonesia, and Taiwan come closest to Philippine conditions, leaving out Hong Kong and Singapore as city-states without an agricultural sector. Moreover, it is not the absolute level of efficiency, say in production, that is relevant, but the efficiency relative to neighbors which is important for exporting.[1]

Growth is used in the technical sense, referring to long-term, secular trends (as defined by Kuznets 1966). The ultimate aim in

1. For example, the Philippines, located near a dynamic growth area such as East Asia (Japan, Taiwan, South Korea, and Hong Kong) and the huge U. S. market, should have been more fortunate than Sri Lanka, located near relatively stagnant India, Bangladesh, Burma, and Africa. This is true for traditional exports such as sugar, coconut, and the like; but was the Philippines lucky to be surrounded by countries with industrial entrepreneurs so strongly imbued with Confucian ethics?

this type of analysis is to single out long-run sources, forces, and
mechanisms underlying the trends, assuming that the impacts of
short-run forces making for ups and downs of annual (and even de-
cennial) GNP per worker (such as bad weather, inflation, oil price
increases, and so on) largely cancel out in the longer-term averages.
After separating out the short-term forces, we ask: what are the
long-run sources and mechanisms which underlie the trend of
GNP, GNP per worker, structural change, income distribution, and
so on, and to what extent can insights in identifying the sources (as
distinct from causes) be obtained through similarities and contrasts
in the growth experience of other Asian countries, particularly
Southeast Asian ones? But this being mainly a broad macro study,
the sources identified are to be regarded as preliminary and tentative,
subject to more detailed scrutiny by micro research efforts. As such,
like most macro findings, they are mainly sets of statements for fur-
ther research into the basic long-run forces influencing the trends.
These forces take much research effort to identify for each nation.

The identification of sector sources of growth is not just an aca-
demic exercise without current policy relevance. For the low growth
of productivity in many industries over decades may underlie the
low growth of profits and therefore of saving and investment in the
industries concerned; this in turn may lead to low growth of pro-
ductivity in later decades. Or the low growth of productivity may
lead to the stagnation of real wages and employment contributing to
tension, social unrest, and poorly motivated manpower, and these
to low productivity in later decades. Both may contribute to sluggish
exports and poor government revenue collections, cumulating in
chronic balance of payments and budget deficits.

A systematic study of the secular growth of any country starts
with the overall macro trends of the major GNP accounting variables
and then goes into the major sectors of the economy to trace the
sources contributing to or retarding growth. For this, we need to get
into the subsectors to learn more about the detailed sectors' per-
formance. Finally, the paper looks into the consequences of the rate
and the pattern of growth on structural changes, income distribution,
savings, and other variables. It goes without stressing that the system-
atic study of the secular growth of any country is a major research
undertaking requiring decades of work by a large group of scholars.
Even after the requisite data are assembled, their interpretation is

likely to continue on for decades.[2]

In the subsequent three sections, an attempt is made to look more closely at the subsectors before some of the consequences are discussed. These discussions are carried out primarily from the point of identifying areas for more detailed research as the next step in the study of Philippine postwar growth. The final section will speculate about forces underlying the trends, as a starting point in the formulation of hypotheses for the detailed studies.

The paper utilizes a number of studies of the Philippine economy which have been published in the past few years, most of which will be mentioned in the various parts of this paper. In particular, it will be based on a group of studies at the University of the Philippines School of Economics funded by the PIDS over the past couple of years (coordinated by the present writer), dealing with the long-term productivity of the Philippine economy and its different sectors. These studies are as follows: Aurora Sanchez, *Philippine Capital Stock Measurement and Total Factor Productivity Analysis*, forthcoming Ph.D. dissertation; Jose A. Bulao, *The Growth of the Government Services Sector in the Philippines (1946-1976)*, Master's thesis, 1981; Beneva G. Lacsamana, *The Postwar Economic Growth of Luzon, Visayas, and Mindanao*, 1981; Lucia C. Laquindanum, *The Postwar Growth of Labor Productivity in the Manufacturing Industries*, 1981; Filipinas S. Echavez, *Output Growth and Structural Changes in Postwar Philippine Manufacturing*, 1982; and, in the process of completion, Cayetano Paderanga, *Demand Sources of Economic Growth in the Philippines*, and Astrid Manuel, *Total Factor*

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2. In the study of Japan, it took a couple of decades by dozens of researchers to compile the data to establish the various trends in her growth. (The data are now published in a dozen or so volumes.) The interpretation of the trends continues, as individual scholars come up with fresh insights, particularly when Japanese trends are compared with those of other countries in the West and in the East. The Philippines is fortunate in that a number of studies have been completed in the 1960's, particularly those of Vernon Ruttan, Randolph Barker, Cristina David, Richard Hooley, and many others. Asia is fortunate in that Simon Kuznets of Harvard, the leading scholar on secular growth, began promoting long-term research in Japan, Taiwan, Korea, China, and India, as well as in the West. Under his and Moses Abramovitz's coordination, studies for leading Western countries were started in the mid-1960's, some of which have now been published (K. Ohkawa and H. Rosovsky for Japan, Malinvaud and Associates for France, R. C. O. Matthews and Associates for the U.K., and soon M. Abramovirz and P. David for the U.S., followed by studies for Germany, Sweden, and Italy).

Productivity in Philippine Agriculture. It needs to be stressed that the kind of macro data we deal with in this study are approximate and of uneven quality (see Appendix Note). Small changes in the trends are not to be taken seriously and even larger changes should not be taken to be definitive.

II. THE RECORD OF PHILIPPINE GROWTH IN ASIAN PERSPECTIVE

In Table 1 are assembled the estimates of the growth of GDP per capita in constant prices for the countries of monsoon Asia with long-term data. (Pakistan is excluded from the table as it is predominantly a wheat-growing country).[3] Generally speaking, the estimates for East Asia are more reliable than those of Southeast Asia, and the latter's estimates are better than those of South Asia for various reasons.[4] The growth of per capita GDP in constant prices was lower for the Philippines (3.1 percent) during the three postwar decades than in any of the countries of East and Southeast Asia shown in the table, but the Philippines did better than any of the South Asian countries. The Philippines had a fast start in the 1950's, registering the highest growth rate in Southeast Asia (even higher than for South Korea), in part due to the relatively smooth transition from colonial status to independence compared to Malaysia struggling with a full-scale Communist rebellion, Indonesia plagued with instabilities as a result of the aftermath of the war of independence, and South Korea devastated by the Korean war and slowed down by reconstruction. The pace of Philippine growth failed to keep up with all these countries in the 1960's and 1970's, averaging below 3 percent compared to 4 percent or better for the others. Although the Philippines registered levels of per capita incomes higher than those of Thailand and South Korea and about equal to those of Taiwan in

3. Rice eaters in Pakistan comprise only 30 percent of the population — not only lower than monsoon Asia's two-thirds but even lower than African and Latin American countries' one-half. See IRRI (1982, p. 5).

4. The main reasons for this are that the censuses, surveys, and other sources of information forming the bases for computation are more numerous, and the quality of the data and information is better for East Asian than for Southeast Asia, and that for the latter better than for South Asia. For the same reasons, in all the countries, generally speaking, the data for the 1970's are better than for the 1960's, and better for 1960's than for the 1950's. For further discussions of these estimates, see Oshima (1977).

TABLE 1
GROWTH RATES OF GDP PER CAPITA IN ASIAN COUNTRIES
(Geometric rates in percent per year)

	1950-60	1960-70	1970-80	1950-80
East Asia Simple average	4.6	7.5	5.9	5.9
Pop. weighted average	5.1	7.9	4.3	5.6
1980 & GDP weighted ave.	6.1	9.4	4.4	6.5
Japan	6.6	10.1	4.1	6.9
China (1)	5.0 (2)	7.8 (3)	4.1	5.4 (4)
South Korea	3.1	6.0	8.0	5.7
Taiwan	4.0	6.3	6.7	5.7
Hong Kong	4.5	7.2	6.4	6.0
Southeast Asia Simple average	2.1	3.8	5.4	4.0
Pop. weighted average	2.3	2.8	5.2	3.5
1980 & GDP weighted ave.	2.3	3.1	5.2	3.7
Malaysia	1.0	3.3	5.3	3.2
Thailand	2.8	4.7	5.1	4.2
Indonesia	1.9	2.3	5.7	3.3
Singapore	1.3 (7)	6.7	7.7	6.2 (5)
Philippines	3.6	2.2	3.4	3.1
Southeast				
South Asia (6) Simple average	2.2	1.5	1.1	1.5
Pop. weighted average	2.0	2.0	1.1	1.7
1980 & GDP weighted ave.	2.0	2.1	1.2	1.7
India	1.9	2.2	1.2	1.8
Bangladesh	—	1.1	0.3	0.7 (5)
Burma	4.3	1.2	1.2	2.2
Sri Lanka	1.3	2.5	2.3	2.0
Nepal	1.2	0.4	0.4	0.7

Sources: *IBRD World Tables 1980* updated by *IBRD World Development Report 1982*. Singapore's data in the 1950's which is taken from Appendix Table 1 of Oshima, H. T. "Growth and Unemployment in Singapore", *Malayan Economic Review*, (October 1967).

Notes: (1) Net material product per capita, (2) 1949-62, (3) 1962-70, (4) 1949-80, (5) 1956-80, (6) Pakistan not included in South Asia because it does not belong to Monsoon Asia, (7) 1956-60. Chinese figures in this and other tables may be revised when the pooulation and employment data from the 1982 Census (the first modern population census for China) are completely tabulated.

the early 1950's, it had fallen far behind the last two and was caught up with by Thailand in the early 1980's.[5]

A 3 percent growth rate is roughly the trend rate at which the dozen or so industrialized countries of the West grew in the past century, and by this standard the Philippines did well enough during the past three decades. Of course, the industrialized countries grew in a century when, for the most part, capital was extremely scarce and difficult to borrow; foreign aid nonexistent or negligible, and when the new technology and corresponding new institutions had to be innovated as they went along. If we take the period 1902 to 1980 (omitting the war-related decade of the 1950's), GNP per capita for the six decades of the twentieth century is 2 percent, significantly lower than the 3.3 percent of the industrialized countries for the comparable period. The 3 percent for the postwar decades is the same as the world GDP per capita which we computed for the period 1955-80 from population and GDP data from various issues of the UN *Statistical Yearbook*. In sum, the Philippine postwar performance is an average one by world standards, above average by South Asian, below average by Southeast Asian, and far below East Asian, standards.

If we ask, what sectors were responsible for the relatively low growth of the Philippines in the three decades, we find from the World Bank's tables in its World Development Reports that the growth of income or product contributed by (or originating in) the A sector (farming, fishing, livestock and forestry) was 4.2 percent per year in the period 1950-80; in the I sector (mining, manufacturing, construction, public utilities) it was 7.3 percent; and in the S sector (commercial, personal and public services, transport and communication), 5.8 percent. The overall growth rate of GDP was 6.0 percent which comes to 3.1 percent per capita GDP per year for the period 1950-80 (as shown in Table 1), with the growth rate of population at 2.9 percent per year.

The growth rate of agricultural products in the 1950's in the Philippines of 3.3 percent is lower than that of Thailand, China, Taiwan, and South Korea, but higher than that of Indonesia (which was struggling with problems of independence and unification in the 1950's), Malaysia (involved in putting down the Communist rebel-

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5. For the early 1950's, see United Nations (1957). In a paper to be completed soon, we examine how Thailand with one-half of Philippine incomes in the beginning was able to come up to Philippine levels three decades later.

lion), and Japan (whose agricultrual development reached a satura-
tion point in the mid-1950's). Moreover, the growth of industrial
product was the lowest for the 1960's and 1970's in Southeast Asia
and in East Asia and lowest for three decades except in relation to
Malaysia (preoccupied by the Communist rebellion in the 1950's).
Similar results are indicated for the service sector whose trends tend
to move closely with the agricultural and industrial sector.

A most striking aspect of Philippine growth is the slow growth
of real product per worker as shown in Table 2 for the 1960's
and 1970's.[6] The Philippine growth rate of 1.7 percent was one-half
that of the average of ASEAN countries and only one-third of East
Asia. It is even lower than the 2.6 percent of India and Sri Lanka.
Thus, the relatively low growth of GDP per capita in the Philippines
among East and Southeast Asian countries is closely associated with
the very low growth of labor productivity in the Philippines, the
only measure of the growth of efficiency we have for most Asian
countries.

It seems to me wrong to dismiss the relation between product
per capita and product per worker as a tautology (as one discussant
emphasized). In Kuznets's theory of growth, it is the growth of
productivity due to technological and institutional changes that is
related to the growth of product per capita. Then, it is the latter
through varying income elasticities of demand and other forces
which is linked to structural changes and which in turn raises produc-
tivity. Thus, it is the high growth of product per worker in Japan,
Taiwan, and Korea which is related to the high growth of product
per capita, making possible in large part the low income inequality
and high personal savings (in Japan and Taiwan). And it is the low
growth of product per worker in China (2.1 percent in the 1960's
and 1970's compared to 6 percent growth of product per capita)
and in the Soviet countries that is the most worrisome problem
faced by nearly all the planning authorities in the Southeast coun-
tries. The failure to raise product per worker calls into question the
entire viability of socialism in the long run. But in the industrialized
Western countries also, the fall in product per worker in the past
decade and a half has contributed to their present predicament.
As Moses Abramovitz of Stanford University has pointed out, in
the first half of the postwar era the growth of product per worker

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6. Employment data are not available for the 1950's in most of the South-
east Asian countries.

TABLE 2
GROWTH RATES OF REAL PRODUCT PER WORKER IN ASIAN COUNTRIES
(Geometric rates, in percent per year)

		1960-70	A-Sector 1970-79	1960-79	1960-70	I-Sector 1970-79	1960-79
East Asia	Simple average	3.6	4.5	4.0	6.6	3.8	5.3
	Pop. weighted average	−0.3	3.1	1.1	6.9	2.0	4.9
	1980 & GDP weighted ave.	4.6	6.7	5.6	8.3	3.6	6.2
Japan		6.2	8.0	7.1	8.9	4.0	6.6
China		−1.3 (1)	2.5	0.3 (2)	6.7 (1)	1.5	4.6 (2)
South Korea		1.8	3.2	2.5	7.9	5.8	6.9
Taiwan		3.2	4.1	3.6	6.6	4.8	5.7
Hong Kong		8.3	4.9	6.7	2.8	3.0	2.9
Southeast Asia	Simple average	5.0	3.6	4.4	3.4	3.3	3.3
	Pop. weighted average	2.8	2.5	2.6	2.0	3.7	2.8
	1980 & GDP weighted ave.	3.6	2.9	3.2	2.5	3.5	3.0
Malaysia		6.1	4.1	5.2	4.9	3.1	4.0
Thailand		4.3	5.7	5.0	4.4	0.5	2.6
Indonesia		1.9	2.3	2.1	1.2	4.6	2.8
Singapore		10.1	6.7	8.5	5.3	4.3	4.8
Philippines		2.6	1.5	2.1	1.0	4.6	2.7
South Asia	Simple average	2.3	0.4	1.4	5.2	1.3	3.4
	Pop. weighted average	2.9	0.4	1.7	5.4	1.1	3.4
	1980 & GDP weighted ave.	2.9	0.4	1.7	5.4	1.1	3.4
India		2.9	0.4	1.7	5.4	1.1	3.4
Sri Lanka		1.6	0.3	1.0	4.9	1.5	3.3

Notes: A Sector includes agriculture, forestry and fishery; I Sector includes mining, manufacturing, construction, electricity, gas and water, and transport, storage and communication. Data on GDP and employment for sectors are not available for most Southeast Asian countries. Even the overall GDP estimates are poor since censuses and surveys were not conducted in the early 1950's. (1) 1957-70. (2) 1957-79.

Table 2 (Continued)

	1960-70	S-Sector 1970-79	1960-79	1960-70	Whole Economy 1970-79	1960-79
East Asia Simple average	4.8	3.1	4.0	5.3	4.1	4.7
Pop. weighted average	2.3	0.6	1.6	2.8	2.6	2.7
1980 & GDP weighted						
av.	5.8	2.2	4.1	7.3	3.8	5.7
Japan	7.0	2.4	4.8	8.8	4.1	6.6
China	1.6 (1)	0.1	1.0 (2)	1.9 (1)	2.3	2.1 (2)
South Korea	5.2	4.8	5.0	5.8	5.0	5.4
Taiwan	2.4	3.7	3.0	5.4	4.1	4.8
Hong kong	7.6	4.7	6.2	4.7	4.8	4.7
Southeast Asia Simple average	2.5	1.7	2.1	3.5	3.3	3.4
Pop. weighted average	1.0	0.9	0.9	2.3	3.5	2.7
1980 & GDP weighted						
ave.	1.5	1.2	1.4	2.8	3.4	3.0
Malaysia	3.4	2.9	3.2	4.4	3.8	4.1
Thailand	5.1	1.4	3.3	4.4	4.0	4.2
Indonesia	0.3	0.6	0.4	1.7	4.2	2.6
Singapore	5.5	3.0	4.3	5.7	3.7	4.8
Philippines	−1.9	−0.7	−1.3	1.4	2.1	1.7
South Asia Simple average	4.6	1.7	3.2	3.9	1.2	2.6
Pop. weighted average	4.9	0.7	2.9	4.3	0.8	2.6
1980 & GDP weigheted						
ave.	4.9	0.7	2.9	4.3	0.8	2.6
India	4.9	0.7	2.9	4.3	0.8	2.6
Sri Lanka	4.2	2.6	3.4	3.5	1.6	2.6

Sources: Employment data mainly from ILO Yearbook of Labour Statistics, product data from IBRD World Tables 1980
and supplemented by various official publications on national accounts and employment.

Notes: S Sector includes commerce and services. For China I Sector includes only manufacturing, mining and power; S Sector
includes construction, transport, commerce and nonmaterial services. (1) 1957-70, (2) 1957-79.

exceeded the growth of product per capita in the U.S. but in the second half the reverse happened, as a consequence of which the rise in public welfare expenditures per capita could not be paid for, leaving huge deficits in all the government budgets of the industrialized countries (Abramovitz 1981). The problem faced by socialist planners is even more serious because in the earlier half of the postwar era the increase in product pr capita was largely due to the increase in the female participation rate which now appears to have reached limits which could not be exceeded any further. For the Philippines likewise, the low growth of product per worker (1.7 percent in the 1960's and 1970's) compared to the growth of product per capita (2.8 percent) has relevance for the present crisis which has been more serious than in any other Asian countries as will be discussed below.

Per capita product is also important because it is also closely associated with per family product growth. This is because the average family size does not change very much. In the 1960 Census, it was 5.8 and, despite the upsurge of population, it rose slightly to 5.9 in the 1970 Census and in the 1975 Census. This implies that population and number of families move slowly together (3 percent and 2.8 percent from 1960 to 1975, respectively); thus, per capita income increased at about the same pace as per family incomes (if not somewhat slower). This is important as the analytical approach of this paper is focused on family incomes, which also is convenient for the analysis of family income inequalities.

It would have been better to use GDP power worker per capita (or conventional total factor productivity) since capital can be thought of as "congealed" labor, but estimates on capital stock are not available except for Japan, Taiwan, and South Korea. As part of the PIDS project mentioned above, Sanchez (forthcoming, pp. 63-64), after estimating capital stock for the Philippines, compared the growth of total factor productivity with that of South Korea. She finds that total productivity in the Philippines has grown at a slow and unspectacular rate (1.1 percent) when compared with Korea's total factor productivity growth rate of 4.1 percent per year during the period 1960-73. Even larger differences are found when comparisons are made with Taiwan (5.4 percent in 1952-69) and Japan (4.9 percent in 1953-71).[7] (And our tentative finding is

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7. Taiwan's estimates are found in Koo (1971) and Japan's estimates are from Denison and Chung (1976). We have updated them.

that total factor productivity in the Philippines grew substantially slower than in Thailand.)

The low growth of labor productivity may be partly the result of large numbers of underemployed workers, particularly in the rural areas; and if the data existed for the other countries, we might have computed full-time equivalent employment in the calculation of labor productivity. For the Philippines, we present two variants of labor input: one, full-time equivalent, and the other, male labor input in agriculture (since the female labor input varies considerably in the different seasons — high during transplanting and harvesting, making it difficult to define female employment in agriculture). Using Professor Linda Tidalgo's estimates of full-time equivalent for the period 1957-78, we get a slightly lower growth rate of labor productivity, 1.6 percent (for the A sector it is lower, for the S sector higher, and for the I sector we get the same figure). But whichever estimate is used there is little doubt that Philippine productivity performance was in general poor in comparison with East Asia and Southeast Asia. It is therefore low growth of productivity that we must focus on in trying to understand the nature of the relatively low growth of per capita GNP.

Since we do not have capital stock data for other Asian countries, gross capital formation (or investment) is about the only proxy we can fall back on. The rationale of this is that, over long periods of time, most of the initial capital stock wears out or becomes obsolete and must be replaced by the annual capital formed. Table 3 sets forth the available capital formation data for various Asian countries. Although the Philippines has done better than the South Asian countries as a whole, its investment per worker for the two decades is below that of East Asia and Southeast Asia, and somewhat higher than that of Thailand and Indonesia. More important, the increase in the 1970's over 1960's is smallest for the Philippines in East and Southeast Asia. Thus, the low growth of labor productivity may be partly related to the insufficiency of investment by entrepreneurs.

Data for pre- and postwar comparisons are shown in Table The prewar data are of poorer quality than the postwar, although unlike any other country in Asia, the Philippines was fortunate in having very comprehensive censuses of population, agriculture industry, commerce, and so on (under supervision of U. S. statistical experts) in 1902, 1918, and 1938. These were the major sources on which Richard Hooley (1968) based his pioneer work on total factor

TABLE 3
REAL GROSS DOMESTIC INVESTMENT IN POSTWAR ASIA

Region/country (in billions of currency of each country)	Average per year 1960's	1970's	Change 1970/60 (percent)	Average per year in millions of U. S. $ 1960's	1970's	Average per worker 1960's	1970's	Ave. Per worker 1960's and 1970's in dollars	Change per worker 1970/1960 in local currencies (percent)
East Asia	4,194.6	8,638.6	206	49,542	116,745	126,602.4 ($530.8)	242,099.4($907.8)	$ 719.3	191.2
Japan	15,810.8	31,906.8	202	43,919	107,507	323,329.2(898.1)	568,748.7(1866.6)	1,382.4	175.9
Korea	929.7	2,557.5	275	4,355	6,188	172,166.7(720.7)	381,716.4(922.2)	821.5	221.7
Taiwan	35.5	85.8	242	888	2,258	9,342.1(233.6)	15,600.0(402.1)	317.9	167.0
Hong Kong	2.2	4.2	191	379	792	1,571.4(270.9)	2,333.3(440.2)	355.6	148.5
Southeast Asia	156.1	494.1	317	6,630	12,704	4,806.7($211.3)	11,919.6($414.1)	312.7	248.0
Malaysia	1.8	3.6	200	588	1,406	562.5 (181.5)	857.1(317.4)	249.5	152.4
Thailand	27.3	45.1	165	1,313	2,200	1,882.8(90.1)	2,592.0(125.8)	108.0	137.7
Indonesia	741.7	2,403.9	324	2,186	5,793	19,467.2(136.1)	51,585.8(127.0)	131.6	265.0
Singapore	0.8	2.8	350	261	1,134	1,333.3(430.1)	3,500.0(1346.2)	888.2	262.5
Philippines	8.9	15.2	171	2,282	2,171	787.6(218.8)	1,062.9(154.0)	186.4	135.0
South Asia	13.0	18.8	145	9,075	11,422	218.4 ($ 37.0)	242.6 ($28.1)	32.6	111.1
India	57.1	86.1	151	7,613	10,373	274.8 (42.3)	352.9(43.6)	43.0	128.4
Sri Lanka	1.3	1.8	138	260	298	342.1 (64.5)	400.0 (44.4)	54.5	116.9
Bangladesh	5.1	3.8	75	911	447	242.9 (43.4)	142.3 (14.8)	29.1	58.6
Burma	1.1	1.2	109	231	190	101.9 (21.2)	103.4(18.1)	19.7	101.5
Nepal	0.6	1.2	200	60	114	130.4 (13.4)	214.3(19.8)	16.6	164.3

Source: All data from IBRD World Tables 1980.

Notes: (1) Data for 1960's are average of 1960 and 1965-69; data for 1970's are average of 1970-77. (2) Regional averages are simple unweighted averages.

TABLE 4
AVERAGE GROWTH RATES OF THE PHILIPPINE ECONOMY:
1902 to 1980
(Geometric rates in percent per year)

	1902-38	1950-60	1960-70	1970-80	1960-80	1950-80
Population	2.1	2.9	3.1	2.8	2.9	2.9
Employment	2.6	2.2	3.3	4.0	3.6	3.2
Agriculture	2.6	0.8	1.5	3.3	2.4	1.9
Industry	2.6	7.0	3.9	3.9	3.9	4.9
Services		3.6	7.2	5.6	6.4	5.5
GNP (constant prices)	3.0	6.5	5.1	6.3	5.7	6.0
Agriculture	2.5	3.3	4.3	4.9	4.6	4.2
Industry		7.1	6.0	8.7	7.4	7.3
Services	3.5	6.9	5.2	5.4	5.3	5.8
GNP per capita	0.9	3.6	2.0	3.5	2.8	3.1
GNP per worker	0.4	4.3	1.8	2.3	2.1	2.8
Agriculture	−0.1	2.5	2.8	1.6	2.2	2.3
Industry		0.1	2.1	4.8	3.5	2.4
Services	0.9	3.3	−2.0	−0.2	−1.1	0.3
Total Factor Productivity	−0.4				−1.6	
Agriculture	−0.4				1.3	
Nonagriculture	−0.3				−2.0	

Notes and Sources: Estimates for 1902-1938: population estimates from various issues of Philippine Statistical Yearbook; employment from 1903 and 1939 censuses of population; all other estimates are from Hooley (1968, pp. 72-74); Hooley's estimates for nonagriculture are for manufacturing only. We have used Hooley's estimates for agriculture for 1902-1938 instead of the more recent Barker-David estimates in *Agricultural Growth in Japan, Taiwan, Korea and Philippines,* edited by V. Ruttan, Y. Hayami, and H. Southworth, Honc[4.] 1979, p. 119, because as noted by the authors (on p. 118), the output estim[l] for 1902 were abnormally low because of the Philippine-American War, drou[l] and disease. The Barker-David estimates give a growth rate of total factor pⁱ ductivity of 4 percent for the 1902-1938 period which seems inconceivable for any country's agricultural growth especially for the prewar decades when biological, chemical, and mechanical technologies in agriculture were relatively

primitive. In the prewar decades, even for the rapidly growing agriculture of Japan, Taiwan, and Korea, total factor productivity was less than 2 percent (Barker and David 1979, p. 17). Prewar trends in rice production from the 1918 to the 1938 censuses of agriculture extended backward to 1902 indicate that Hooley's output growth assumption may be more appropriate than the figures from the 1903 census (for the year 1902).

Estimates for postwar years are official estimates taken mainly from the *NEDA Philippine Statistical Yearbook*, 1979 and 1982 issues. Since employ- ment data are available only from 1956 onwards, we use the 1948 census data from *ILO Yearbook of Labour Statistics* to derive the growth rate of employ- ment in each sector to interpolate for the earlier years of 1950. From October 1956 to August 1976 the NCSO employment data are based on labor force 10 years and over; thereafter, the concept has changed to that of labor force 15 years old and over. We bridged the two series by extrapolating August 1976 data of the former concept with data for the third quarter 1976 of the new concept to obtain data for 1977-79.

Total factor productivity for the whole economy is computed from Table 2.4 of Aurora Sanchez's *Philippine Capital Stock Measurement* and that for agriculture from Astrid Manuel's *Total Factor Productivity*. Total factor pro- ductivity for nonagriculture is obtained as the weighted difference between the first two figures. The weighting factor is computed by averaging the share of nonagriculture in total national product in constant prices for the years 1960, 1970, and 1975. A postwar total factor productivity − 1.6 percent is obtained from Aurora Sanchez's. Table 2.4, using the conventional method of estimation and with full-time equivalent, accelerated depreciation variant. This is lower than the figure of 1.1 percent cited earlier which is estimated using the refined method based on Christensen, Cummings and Jorgenson's approach to TFP measurement (Table 2.3 of Sanchez).

productivity in the Philippines.[8] It is disappointing to find that the total factor productivity growth rate for the economy as a whole for the postwar decades showed little or no improvement from the

8. Hooley's figures are indispensable for an understanding of the long-term growth of the Philippines in the three postwar decades. With new sources of information made available in the Philippine national archives in the late 1960's, it is hoped that Hooley's data will be reworked and augmented with detailed

prewar decades, being close to zero.[9] The rise in agricultural total factor productivity may be attributable to the introduction of new biological/chemical/hydrological/mechanical technologies, to the expansion of land saving multiple cropping systems counteracting the extension of cropping into new, less fertile areas, and perhaps to institutional improvements (in land tenure, in delivery of credit, extension, water, and in the rise of large-scale poultry, fishery, livestock enterprises. See further discussion below). Output per worker is higher for the postwar than for prewar decades. Nevertheless, it is somewhat disappointing that the increases in productivity in the postwar decades are so small despite the vast changes that have occurred in the postwar over prewar decades (political independence, rapid technological advance and investment growth, export expansion, and accelerated public expenditures for growth-promoting activities such as education, industrialization, rural development, transportation, communication, construction, and so on). (See note on public finance below.) Philippine experience contrasts sharply with the substantial productivity gains in East Asian countries in the postwar over prewar decades.

The foregoing discussion is highly aggregative, since the procedure is to start from the most macroscopic data to the less. Before we begin to look into each sector and subsector, a brief summary of the analytical approach may be useful. The framework used in this paper is based mainly on the growth experience of Japan, Taiwan, and South Korea.[10] We start with the overwhelmingly important agricultural sector (which in the early 1970's comprised 70 percent of the total Philippine labor force). It was the rapid growth of annual real farm family incomes — faster than the growth of the labor force — in Japan in the 1950's, in Taiwan in the 1960's, and in

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documentation and analysis. For secular growth analysis we use the data only for the 1902-1938 period since the period from 1938 to 1948 was beset with war and reconstruction.

9. This estimate of productivity is from Sanchez (forthcoming) calculated by the conventional method while the higher estimate of 1.1 percent is by the refined method (translog). The latter is used in comparison with Korea's estimates which are made by the refined method and the former in comparison with conventional prewar estimates.

10. Presented in detail in my "Model of East Asian Growth and Structural Change," mimeographed, 1982.

South Korea in the 1970's that was largely responsible for their attaining long-run full-employment levels of economic growth, besides expanding the exports of labor-intensive manufactures. The sources of the rapid growth of farm family incomes were rising yields (including diversification) and crops per hectare and income from off-farm employment (and only minimally, area expansion). Farm family incomes rose to equal the family incomes of nonfarm workers. The increase in the former expanded the demand of peasants for agricultural inputs and consumption goods, contributing to the expansion of manufacturing output, economies of scale and externalities, all of which in turn raised efficiencies in the labor-intensive industries which sold to local and foreign markets.[11] (The rise in peasant expenditures was especially large because the growth in incomes was accompanied by their more equal distribution.) Without the rise in annual productivity of the farm labor force, wages and returns to peasants would not rise and prices per unit of farm products would be high, reducing their home (and also foreign) demand as in the case of Taiwan. Moreover, full employment and rising wages started the process of mechanization of agricultural operations, thereby raising output per worker and releasing workers to urban industries.[12]

III AGRICULTURAL DEVELOPMENT

Data on agricultural family incomes are not available for the 1950's and 1970's. For the 1960's, data from the Family Income and Expenditure Surveys of NCSO show that the real agricultural family incomes rose at an annual rate of only 0.2 percent compared to the growth rate of the labor force of 2.3 percent. Agricultural family incomes averaged little less than one-half of nonagricultural family incomes in the 1961 and 1971 survey. With real agricultural

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11. South Korea's experience was somewhat different. Farm family incomes rose faster than the labor force but not as much as in Japan in the 1950's and Taiwan in the 1960's and full employment was reached with a spectacular increase in labor-intensive exports in the latter 1960's and early 1970's.

12. This process of development is just the opposite of the Lewis and other models of dualism. I have examined the Lewis model in a paper in the *Malayan Economic Review*, October 1981, the Ranis-Fei model in the *American Economic Review*, June 1963, and in the *Journal of Political Economy*, June 1958.

product in the 1970's rising at 4.9 percent (compared to 4.3 percent in the 1960's) but agricultural employment accelerating to 3.3 percent in the 1970's (1.5 percent in the 1960's; see Table 4), the much faster rise of employment over product per worker of 1.6 percent (= 4.9 — 3.3) implies that the annual growth of real agricultural family incomes in the 1970's did not improve over the 1960's, unless the nonagricultural income component of agricultural families accelerated to make up for the shortfall of agricultural incomes — an unlikely event as will be seen in the discussion of the industrial and service sector.[13] Data on nonagricultural incomes of farm families are available only in the 1965 and 1971 surveys. These show that they comprise only about one-third of incomes from agricultural activities (compared to 100 percent for Japan in the 1950's and for Taiwan in the 1960's).

There are four sources of income related to the slow growth of agricultural family incomes which could be quantitatively traced to: (1) the income from more crops grown in a given plot or multiple cropping, (2) more nonagricultural incomes during slack seasons, (3) increased yields per hectare, and (4) new lands brought into cultivation. Item (2) has been touched on above; the other three will be discussed below.

Data on the use of farmland for two or more crops (multiple cropping) can be estimated for the years in which there is a census of agriculture with data on the total crop area. This can then be compared with the Ministry of Agriculture's data on total crop area *harvested* in a year. From the censuses of 1948, 1960, and 1971 the multiple-cropping ratio is computed as 1.24, 1.46, and 1.40, respectively.[14] Taiwan had a peak of 1.90 in 1966 when she reached full employment, after which the ratio declined slowly due to the lack

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13. This section may be revised with the availability of data on farm family incomes from the 1975, 1977, 1978, and 1980 surveys. The data published earlier from the 1975 survey are based on a hand tabulated small sample of the 1975 survey which now has been fully tabulated and is about to be published. Similarly revised data from the 1975 survey on rural/urban family incomes may become available soon.

14. These are from the tables of Astrid Manuel's *Total Factor Productivity in Philippine Agriculture*. Data for 1981 will be known when the 1981 Census of Agriculture is published. Because of the expansion of irrigation facilities, some increase in cropping ratios is to be expected.

of surplus labor on the farms. Similarly, in Japan (a temperate country with cold winter months), the index reached 1.50 in the mid-1950's and then began to decline slowly after full employment. The multiple-cropping ratio is thus a function not only of irrigation facilities but also of the number of months of warm weather and the extent of rural surplus labor. The ratio could be considerably higher for the Philippines if irrigated water and electricity were more extensively available (since the cheaper electric pumps instead of diesels could be purchased). Many of the second crops in the Philippines are lower-value crops (compared to Taiwan) such as sweet potato, corn, sorghum, mongo, peanuts, and so on, and crops of low yield such as broadcast rice, as they depend on the moisture from the occasional rains during the tail-end of the rainy season in November and December.[15]

The other sources of agricultural family incomes are the size of crop areas and their average yields. Except for agricultural census years, data on yields and crop area are available only for crop area harvested which includes not only new land but also multiple-cropped areas. Table 5 presents data on real product or income originating per hectare of harvested area from 1967 to 1980. Real income from each of the major crops is found in the national accounts from 1967, and we divided into it the area harvested to arrive at a concept of net output per hectare of major crops as a proxy for the growth of output per worker. Because the peasants work on more than one crop per year, it is not possible to allocate those employed in agriculture to each crop, nor even to allocate them between crop growing and fishing, livestock, forestry, etc. And data on manhours required per crop area are available only for a few crops for recent years.[16] This concept differs from yields per hectare harvested since it excludes current inputs such as fertilizers, insecticides, water charges, seed costs, and so on, and includes subsidies. Also, the incomes in the numerator include returns from multiple-cropped lands and the denominator is acreage harvested; hence, the growth rate of real product originating per hectare

15. See the Special Issue on Multiple-Cropping in Asian Development, *Philippine Economic Journal,* Nos. 1 and 2, 1975; see papers on the Philippines by D. A. Carandang and A. Gomez.

16. It is also widely known that there are various limitations to the labor force and employment concepts when applied to Asian agriculture. This is not

TABLE 5
PHILIPPINES: REAL INCOME OR PRODUCT ORIGINATING PER
HARVESTED AREA (in HECTARES), AGRICULTURAL CROPS,
Total and By Selected Crops

	Total Crops	Palay	Corn	Coconut	Sugarcane	Banana	Other crops
1967	808.5	772.9	323.9	459.8	2,591.5	2,863.8	1,682.7
1968	820.0	807.3	360.8	428.8	2,610.7	2,748.1	1,678.8
1969	821.0	807.3	376.8	372.8	2,393.6	2,946.7	1,758.1
1970	870.4	898.4	370.7	414.6	2,693.3	3,163.3	1,704.4
1971	901.3	891.2	352.8	467.7	2,805.7	2,994.3	1,947.9
1972	944.4	845.9	415.8	543.4	2,415.0	2,469.2	2,553.2
1973	978.3	909.8	407.2	479.1	2,436.3	2,819.5	2,559.8
1974	974.4	896.5	392.7	346.3	2,794.0	4,296.5	2,624.2
1975	1,040.7	947.8	401.0	497.9	2,533.6	5,417.9	2,576.6
1976	1,053.1	948.5	380.7	570.0	3,076.9	4,693.7	2,324.6
1977	1,075.8	1,068.9	408.7	488.9	2,369.5	5,790.2	2,314.5
1978	1,130.5	1,073.6	446.6	460.2	2,743.6	7,218.7	2,476.5
1979	1,182.2	1,138.1	427.7	424.1	3,027.5	6,659.5	2,829.3
1980	1,258.2	1,190.1	429.7	420.0	3,113.5	7,563.0	3,224.1
Average annual growth rate	3.5%	3.3%	1.9%	0.3%	1.4%	8.7%	4.7%

Sources: Hectare data from NEDA, Statistical Coordination, National Accounts office; income data from Philippine Statistical Yearbook, 1979 and 1981. Hectares represent harvested area. Other crops include mango, pineapple, other fruits, root crops, vegetables, potatoes, beans, coffee, peanuts, tobacco, abaca, rubber, etc.

in Table 6 includes incomes from multiple-cropping. For total crops, the growth rate is 3.5 percent per year from 1967 to 1980, much higher than agricultural product per worker (in Table 2). [17]

It is interesting to note the great differential in real product per hectare between the major crops, corn (1.9 percent, coconut (0.3 percent), sugarcane (1.4 percent), and rice (3.5 percent), on the one hand, and banana (8.7 percent) and other crops (fruits, root crops, vegetables, and nonfood crops, 4.7 percent), on the other. The growth rate of rice takes into account subsidies, and for product-ivity purposes unsubsidized income originating is relevant. (Most of the increase in rice yields came in the 1970's partly in response to the land reform and partly due to new seeds and modern inputs.)

Thus, the productivity of Philippine agriculture can be raised substantially if the sluggards and laggards among the major crops are made more productive. And this conclusion is supported by the yield per hectare data computed from the *FAO Production Year-book*. Rice yields between 1952/1956 and 1978/1980 have grown slower than in Indonesia though faster than in Thailand (where there are large areas devoted to flooded rice which cannot use high-yielding varieties and modern inputs) and in West Malaysia (which had to use lower yielding but short-duration varieties for the rapid expansion of multiple-cropping). In sugarcane, yields have been falling, and in coconut, yields per hectare have been rising by 1.1 percent per year only; comparative data for other countries are not yet available.

As for the noncrop sector of agriculture, there are no direct data on productivity for reasons alluded to in footnote 16 regarding the irregularity of employment. But if we take as a rough proxy the 3.5 percent for the productivity growth rate of the total crop sector (in Table 5) and compare it with the 2.1 percent for the

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only because most housewives work part of the year in the fields but also be-cause the youngest and the oldest family helpers also work part-time during the busy seasons and even the adult males spend pai t of their time in nonagriculture and idleness. For further discussion, see the Special Issue on Labor Absorption in East and Southeast Asia, *Philippine Economic Journal,* Nos. 1 and 2, 1976.

17. The agricultural sector, besides crops, includes livestock, poultry, fishery, and forestry, which on the average comprised 43 percent of value added in the agricultural sector in 1967-80. Noncrop agriculture tends to increase with devel-opment.

TABLE 6
GROSS VALUE ADDED IN AGRICULTURE, FISHERY AND FORESTRY BY INDUSTRY GROUP
(In million pesos at constant 1972 price)

	1967	1970	1980	Weighted average	Annual growth Rates 1967-80 (percent)	1970-80	Percent contribution to growth of Gross value added in A Sector 1967-80	1970-80
Agricultural Crops	6,881	7,787	14,975	.5758	6.2	6.8	3.500 (75.8%)	3.9463 (81.0%)
Palay	2,393	2,797	1,169	.1818	4.4	4.1	.7999 (17.0%)	.7454 (15.3%)
Corn	699	897	1,426	.0587	5.6	4.7	.3287 (7.0%)	.2759 (5.7%)
Coconut including copra	837	781	1,313	.0569	3.5	5.3	.1992 (4.2%)	.3016 (6.2%)
Sugarcane	800	986	11,322	.0604	3.9	3.0	.2356 (5.0%)	.1812 (3.7%)
Banana	614	744	2,402	.0730	11.1	12.4	.8103 (17.2%)	.9052 (18.6%)
Other Crops	1,538	1,582	4,343	.1450	8.3	10.6	1.2035 (25.5%)	1.5370 (31.6%)
Non-crop Agriculture	6,171	6,947	8,720	.4241	2.7	2.3	1.1391 (24.2%)	.9249 (19.0%)
Livestock	1,772	1,761	1,837	.1043	0.3	0.4	.0313 (0.7%)	.0417 (0.9%)
Poultry	628	614	1,633	.0558	7.6	10.2	.4244 (9.0%)	.5692 (11.7%)
Fishery	1,934	2,590	3,864	.1629	5.5	4.1	.8960 (19.0%)	.6679 (13.7%)
Forestry	1,837	1,982	1,386	.1011	−2.1	−3.5	.2123 (4.5%)	.3539 (7.3%)
Gross Value Added in A Sector	13,052	14,734	23,695	1.000	4.7	4.9	4.7091 (100%)	4.8712 (100%)

Sources and notes: Official national account data from NEDA Philippine Statistical Yearbook, 1979 and 1982 editions. Contribution to growth of gross value added of A Sector is computed by multiplying the average weight of each minor industry to its annual growth rate of value added.

growth of real product per agricultural worker in Table 2, the discrepancy between the two rates may be roughly indicative of the slow (or even negative) growth of productivity in fishing (the largest sector), livestock, and forestry. Accordingly, it was the failure of productivity growth of the major crops (rice, corn, coconut, and sugar) and perhaps of fishing and forestry which accounts for the slow growth of agricultural family incomes.[18] In the 1980's, ways of speeding up the growth of agricultural family incomes by dealing with the problems of the lagging and sluggish sectors should top the priorities for development. Only then could the growth rate of agricultural family incomes be raised to equal that of the labor force, without which full employment and accelerated mechanization of small (but numerous) peasant farms cannot take place in the 1980's. Or perhaps another way would be to expand the nonagricultural incomes of farm families with rural industrialization. (Also, there is the need to diversify away from rice, sugar, coconut and other mainstays to higher value crops, as Taiwan and Thailand did in the 1960's and 1970's.)

IV. INDUSTRIAL DEVELOPMENT

The industrial sector may be divided into two sectors, manufacturing and nonmanufacturing, the latter comprising mining, utilities, construction, transport and communication. The nonmanufacturing industries contributed as much to GDP as did manufacturing industries in the early 1950's; this share slowly declined to two-thirds that of the latter in the late 1970's. This is largely because the agricultural sector is an important user of the output of the nonagricultural sector (besides urban consumers, manufacturing and service

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18. Available data for the noncrop sector are too deficient for productivity estimation. But as all three sectors expand their production they may be forced to use pasture land, forestry, and fisheries which are less productive and fertile. The consensus among fishery experts appears to be that, in Philippine waters, productivity per fishermen may be going down as the more capital-intensive trawlers increase their catch at the expense of the small but numerous fishing boats, under conditions of falling fishery resources. The data are inadequate, but in the 1970's value added in constant prices rose 4.3 percent while the number of licensed fishermen rose 6.8 percent and the number employed in fishery rose 4.1 percent from 1971 to 1976. (*NEDA Statistical Yearbook* and NCSO data from labor force survey worksheets.) A similar situation may hold for forestry as logs come from remote forests where the costs of transport may rise substantially.

enterprises); and the larger the agricultural sector, the greater is the importance of nonmanufacturing to manufacturing in the earlier stages of development.

It is best to forego the temptation to think of manufacturing as the "leading sector" or the "engine of growth" in development planning for economies which are predominantly agricultural.[19] For the efficient growth of such economies, the main (though not the only) function of the industrial sector should be supportive of agricultural development. In predominantly agricultural economies, it is the increase in agricultural incomes and output which triggers the growth in the demand for food, textiles, footwear, household and other consumer products (all of which overwhelmingly dominate manufacturing output) and which supplies the main inputs to the main manufacturing sectors. It is the commercialization and modernization of agriculture which expand the demand not only for chemicals and equipment but also for construction, transport, storage and public utilities. One important function of industries in supporting the rise of agricultural family incomes is as a source of industrial employment to farm families, as the experience of Japan in the 1950's and 1960's and of Taiwan in the 1960's and 1970's clearly demonstrates.

Household surveys show that real urban incomes between 1956/57 and 1971 rose by only 0.6 percent per year, which is only one-third of rural family incomes. This was the result of a faster rise in the number of urban families (2.5 percent) over aggregate real family incomes (1.9 percent). The slow growth of the latter was the outcome of an insufficient rise in real income per worker in industry (1.0 percent in the 1960's) and a fall in the service sector (−1.3 percent; see Table 2).

Tables 6 and 7 present a computation of real output per worker in manufacturing (in firms with five or more workers) by Filipinas S. Echavez and in nonmanufacturing by Lucia C. Laquindanum (1981). There was a growth of 1.1 percent in nonmanufacturing and 0.3 percent in manufacturing industries between 1956 and 1979.

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19. In my paper "Problems of Heavy Industrialization in Asia," *Philippine Review of Economics and Business*, March 1983, I note that in India and China there is a growing consensus that it was a serious mistake to shift from emphasis on agricultural development to industrial development in the latter 1950's. Agriculture was the leading sector in those countries in the first half of the postwar era; in Thailand and Malaysia agriculture predominated during the 1960's and 1970's.

TABLE 7
GROWTH RATE OF REAL OUTPUT PER WORKER IN MANUFACTURING
INDUSTRIES, PHILIPPINES 1956-74

	Real value added per worker (thousand pesos per worker)			Annual growth of value added per worker at constant prices		
	1956	1966	1974	1956-66	1966-74	1956-74
Food	25.5	38.2	34.8	4.1%	−1.3%	1.7%
Textile	22.5	15.5	9.6	−3.7	−5.8	−4.6
Wearing apparel	13.3	12.3	13.2	−0.8	0.9	−0.1
Leather	36.4	10.8	7.5	−11.4	−4.5	−8.4
Wood and wood products	18.5	17.1	11.8	−0.8	−4.5	−2.5
Furniture and fixtures	2.2	4.8	12.8	8.1	13.0	10.3
Paper and paper products	20.4	27.7	29.6	3.1	0.8	2.1
Printing nd publishing	1.6	0.8	15.7	−6.7	45.0	13.5
Chemicals	79.6	57.9	111.0	−3.1	8.5	1.9
Rubber	48.0	40.4	61.5	−1.7	5.4	1.4
Nonmetallicmineral	30.6	35.8	18.9	1.6	−7.7	−2.6
Basic metal and metal products	13.7	12.2	17.6	−1.1	4.7	1.4
Iron and steel and other basic metals	58.5	32.7	17.9	−5.6	−7.3	−6.4
Machinery	18.1	33.9	23.1	6.5	−4.7	1.4
Electrical machinery	177.8	56.9	21.1	−10.8	−11.7	−11.2
Transport equipment	54.2	33.6	46.3	−4.7	4.1	−0.9

Sources and notes: All data are for establishments with 5 or more workers. Value added data from Appendix E.1 of Filipina S. Echavez, **Output Growth and Structural Change in Postwar Philippine Manufacturing.** Employment data from **1979 NEDA Philippine Statistical Yearbook** (based on Annual Survey of Establishments).

The slow rise in real income per worker in industries was mainly the result of a nearly stagnant productivity in manufacturing and second-arily due to the slow growth in nonmanufacturing. In both sectors, the growth of productivity was uneven, with some of the subsectors doing better than the others, as in the agricultural sector. In non-manufacturing, public utilities performed poorly with —1.7 percent growth, construction did better with a positive growth of 1.8 per-cent, while mining and transport productivity stagnated.

In manufacturing, Echavez estimates real output per worker in five groups of industries for 1956-74. Productivity growth rates were as follows: in food, tobacco, and beverages, 2.4 percent; in textiles, footwear, garments, leather and leather products, —3.4 percent; in wood, wood products, paper, paper products, printing and publish-ing, rubber and rubber products, 1.0 percent; in chemicals, petro-leum, and metallic minerals, — 1.3 percent; all others including basic metals, machinery, transport equipment, —2.7 percent; and for the entire manufacturing sector, 0.3 percent. The *1977 Annual Survey of Manufacturing* presents various data from 1956 to 1974. Compu-tation of value added (in *current* prices) per worker for heavy indus-tries gives a growth rate of 4.3 percent and for light industries, 7.2 percent (Echavez 1982, Table V.2, p. 76).[20] If these rates in current prices are deflated by the implicit price index for the manufacturing sector as a whole (from the national accounts including firms with less than five workers), 9.9 percent, both growth rates will become negative. The poor performance in productivity of the capital-inten-sive industries is surprising because, under the infant industry argu-ment, experience, learning-by-doing, scale and external economies, etc., should improve productivity over time in the capital-intensive industries much more so than in the light industries.

In Table 7, using the more detailed estimates of Echavez, we find that the following industries were largely responsible for the low growth of manufacturing productivity: textiles (—4.6 percent), leather (—8.4 percent), wood (—2.5 percent), nonmetallic mineral (including cement, —2.6 percent), iron/steel and other basic metals (—6.4 percent), and electrical machinery (—11.2 percent). (Some of

20. Data are for firms with more than five workers from the *Annual Survey of Manufactures.* The 1977 Annual Survey included for the first time firms with less than five workers but these were not separated out from the larger firms. Heavy industries include the last two groups plus paper and paper products and comprise 33 percent of total manufacturing value added (in current prices) in 1956. This share rose to 43 percent in 1974.

TABLE 8
GROWTH RATES OF REAL OUTPUT, EMPLOYMENT AND REAL
OUTPUT PER WORKER IN NONMANUFACTURING
INDUSTRIES AND SERVICES, PHILIPPINES, 1956-79
(In Percent)

	1956-60	1960-70	1970-79	1960-79	1956-79
Growth of Real Output					
Mining and quarrying	4.4	8.4	7.7	8.1	7.4
Construction	0.2	2.7	15.4	8.7	7.2
Electricity and public utilities	3.9	4.1	8.9	6.4	5.9
Transportation, communication					
and storage	5.1	5.2	9.4	7.2	6.8
Total nonmanufacturing	2.7	4.6	11.4	7.8	6.9
Growth of Employment					
Mining and quarrying	9.1	4.1	8.6	6.2	6.7
Construction	4.8	6.6	4.4	5.6	5.4
Electricity and public utilities	7.0	4.3	12.3	8.1	7.9
Transportation, communication					
and storage	4.7	6.0	5.1	5.6	5.4
Total nonmanufacturing	5.0	6.1	5.3	5.7	5.6
Growth of Real Output per					
Worker					
Mining and quarrying	−4.3	4.1	−1.8	1.3	0.3
Construction	−6.8	−2.7	10.5	3.6	1.8
Electricity and public utilities	−3.0	−0.2	−2.7	−1.4	−1.7
Transportation, communication					
and storage	0.4	−0.7	2.1	0.6	0.6
Total nonmanufacruring	−3.4	−0.9	5.4	2.1	1.1
Growth of Real Output					
Commerce	6.6	4.3	4.4	4.3	5.1
Personal and other services	10.0	5.6	5.5	5.6	7.0
Government service	5.5	4.4	4.4	4.4	4.8
Total Services	6.9	4.6	4.6	4.6	5.4
Growth Employment					
Commerce	6.9	6.2	4.9	5.6	6.0
Personal and other services	4.4	5.2	5.0	5.1	4.9
Government service	4.1	6.0	4.7	5.4	4.9
Total Services	4.1	5.5	4.8	5.2	4.8
Growth of Real Output per Worker					
Commerce	−0.3	−0.8	−0.3	−0.6	−0.5
Personal and other services	4.3	−0.4	0.1	−0.2	1.4
Government service	1.3	−3.7	−0.1	−2.0	−0.9
Total Services	2.7	−1.5	−0.2	0.9	0.4

Sources: Official NEDA estimates on national account and employment as
taken from Jose A. B. Bulao, The Growth of Government Service Sector in the
Philippines (1946-1976) and NEDA 1982 Philippine Statistical Yearbook. Tables
A-1, A-2 and A-3 of Lucia C. Laquindanum, The Postwar Growth of Labor Pro-
ductivity in the Non-manufacturing Industries, updated with official estimates
in NEDA 1982 Philippine Statistical Yearbook.

these declines are so large that one must not leave out the possibility that there is something wrong with the data collected in the Annual Survey of Manufacturing.) Nevertheless, one notes that the problems of all six industries are included for extended discussion in the recent IBRD volume, *Philippines: Industrial Development Strategy and Policies.*[21]

That volume also notes that manufacturing in the Philippines is highly concentrated in Manila: "In 1975, some 73% of manufacturing value added and 65% of employment was located in Manila and the surrounding provinces. If the resource-based food and manufacturing industries are excluded, the share of manufacturing value added in Manila and environs rises to 87%." (Pages 19-20.) In Taiwant, the 1971 economic census reported that 31 percent of manufacturing employment was concentrated in Taipei City and 43 percent in Taipei province (including Taipei City). With such concentration, it is not to be expected that nonagricultural employment for farm family members is likely to increase much, especially since industrial concentration implies that services used by industries will also be concentrated in and around Manila.

V. THE SERVICE SECTOR

The service sector, including commercial, personal and public services, grows mainly in response to domestic industrialization and the commercialization of a country's agriculture in the early stages of development. Only secondarily is its growth propelled by exports, largely services rendered to tourists and to foreign business, and services to the growing urbanized population. Thus, its growth comes close to some kind of a weighted average of the growth of the agricultural and industrial sector, although this is not the case with city-states (such as Singapore and Hong Kong where service export assumes considerable importance and has "a life of its own") and with the more developed economies.

Statistics of the service sector's constant product and employment have various limitations, the most important of which are the difficulty of deflating the product component and of collecting good income data from the large number of small units in the personal

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21. This report was the product of a field survey by a large mission of industrial economists and engineers headed by B. A. de Vries in February 1979 and published in Washington, D.C., 1980 — a first of its kind by specialists versed in international comparative work in industrialization of LDC's.

and commercial sectors and the irregularity of employment.[22] Hence, the figures in Tables 2, 3, and 13 must be taken as rough magnitudes of tendencies. In Table 3, the Philippines, together with Indonesia, registered the lowest growth of productivity for the period 1960-79, 2.1 percent, as compared with 4.4 percent for Southeast Asia and 4.0 percent for East Asia, but higher than 1.4 percent for South Asia. But if we take a longer period, from 1950 to 1979, the growth rate is even lower, 0.4 percent (Table 13). If this is traced to the three subsectors, both commerce and government had negative productivity growths, −0.5 percent and −0.9 percent respectively, while personal services had a positive 1.4 percent. Apparently, labor productivity in all the services did not make much headway. Particularly disturbing is the stagnation in the commerce and government sectors which are so strategically important in the generation of externalities to the commodity producing sectors. This poor performance of the services is to be expected for countries where the commodity-producing sectors do not do well. Under conditions of rapid increase in the labor supply, the unwanted workers move to the services in the informal sectors, clogging up the labor market, bringing wages down, overstaffing the business and creating excess capacities.

V. CONSEQUENCES OF SLOW GROWTH OF PRODUCT AND PRODUCTIVITY

Partly as a statistical check, and partly because there are important connections between low growth of per capita GNP in the long run and other factors, we present Table 9. The connections between the growth of productivity, structural changes, income distribution and personal savings, and birth rates in secular growth are discussed in detail in my paper, "A Model of Postwar East Asian Growth and Structural Changes," cited previously, and here we shall be very brief.

The figures in Table 9 are consistent with the productivity results obtained and the expected consequences on changes in structure, income distribution, savings and fertility. Structural change (movement toward higher income sector) is sluggish in the

22. See "Postwar Growth of the Service Sector in Asian Countries," *Philippine Review of Economics and Business* (September/December 1979), pp. 23-30, for a more detailed discussion. See also the appended statistical note.

TABLE 9
COMPARATIVE CHANGES IN VARIOUS INDEXES OF THE
PHILIPPINES AND SELECTED ASIAN COUNTRIES

	Crude Birth rate per 1,000 population	Distribution of GDP			Personal Saving as percent of personal income
		Agri-culture	Industry	Services	
Philippines (1960)	46.0	26.0	28.0	46.0	10.4 (1)
(1980)	34.0	23.0	37.0	40.0	10.0 (2)
growth rate per year in percent	-- 1.5	0.6	1.4	-- 0.7	-- 0.4
Malaysia (1960)	45.0	37.0	18.0	45.0	n. a.
(1980)	31.0	24.0	37.0	39.0	n .a.
Growth rate per year in percent	− 1.8	− 2.1	− 3.7	− 0.7	
Thailand (1960)	44.0	40.0	19.0	41.0	12.9 (1)
1980)	30.0	25.0	29.0	46.0	15.1 (2)
Growth rate per year in percent	-- 1.9	− 2.3	·2.1	0.6	1.6
Indonesia (1960)	46.0	54.0	14.0	32.0	n. a.
(1980)	35.0	26.0	42.0	32.0	n. a.
Growth rate per year in percent	−1.4	−3.6	5.7	0.0	
South Korea (1960)	43.0	37.0	20.0	43.0	2.4 (1)
(1980)	24.0	16.0	41.0	43.0	9.5 (2)
Growth rate per year in percent	− 2.9	− 4.1	3.7	0.0	14.7
Taiwan (1960)	40.0	33.0	25.0	42.0	11.0 (1)
(1980)	23.0	10.0	46.0	44.0	18.7 (2)
Growth rate per year in percent	− 2.7	− 5.8	3.1	0.2	5.5
India (1960)	44.0	50.0	20.0	30.0	8.3 (1)
(1980)	36.0	37.0	26.0	37.0	9.2 (2)
Growth rate per year in percent	− 1.0	−1.5	1.3	1.1	1.0

Sources: Data on birth rates and structure of GDP from **IBRD World Develop-
ment Report 1982,** personal saving rates computed from official income pub-
lication of each country.

Notes: (1) Average for 1960's, (2) Average for 1970's.

Philippines compared with other countries except India (with lower growth of productivity). If agricultural productivity is slow, the release of farm labor to the industrial sector is low, even if the increase in the labor supply exceeds labor needs. The unwanted workers must seek low productivity jobs in the services where neither cropland (as in agriculture) nor fixed capital (as in industry) is needed, particularly in the informal sector.[23] In the case of Taiwan and South Korea, after full employment, there was an acceleration of farm mechanization which freed workers during the peak seasons of rice growing and which made possible the large migrations and sharp fall in the farm labor force. These countries thus have moved into the industrial society with industrial labor force exceeding agriculture labor force. This was not the case in Southeast Asia (Table 9).

Expanding yields, multiple cropping and off-farm employment raised not only the annual productivity of average farm families but also the employment (throughout the year) of the members of farm families, particularly among the peasants with small amounts of cropland and hence with a surplus of idle hands during slack seasons. As the faster growth of farm family incomes over the growth of labor supply continued on, full employment was reached. Wages of unskilled workers in the economy rose and more family members were able to obtain jobs in the city so that in both the rural and urban areas the incomes in the lower brackets rose faster than those in the upper group. The distribution of income became favorable with full employment and accelerated mechanization of unskilled workers. The Gjni coefficients in Southeast Asia are substantially higher than those in East Asia, and perhaps one of the highest is that for the Philippines, although good data are very difficult to get in this area.[24] Perhaps, the lower growth of product per worker over product per capita via various connections (discussed in the Appendix Note) contributed to worsening income inequality.

23. See "Postwar Growth of the Service Sector," pp. 20-21, for this hypothesis. See also Tidalgo and Jurado (1976).

24. See recent data on income distribution in my note in *Ekonomi dan Keuangan Indonesia* (Economy and Finance in Indonesia), March 1982; for wage data, see *Malayan Economic Review*, April 1982, for my paper entitled "Arthur Lewis' Dualistic Model." The paper shows that wages began to rise with productivity long before full employment was reached in East Asia.

Despite the equalizing tendencies, personal savings rose to new heights as savings in East Asia became more a function of sustained growth than the other way around. Households were compelled to save for small machines and equipment in agriculture and industry as wages of unskilled workers rose, the labor market became tight, and competition to survive or expand began to heat up. Workers' households began to save in order to send their children to high school and beyond, to meet the demands of th machine- and other science-based technologies — which also began to lower the demand for unskilled and semiskilled workers relative to skilled workers. No country in Southeast Asia reached this stage, least of all the Philippines, although Malaysia was rapidly approaching full employment just before the world depression. Personal savings rates fell in the Philippines from the 1960's to the 1970's while they rose slowly in the others (Table 9).

The contributions of secular growth to demographic behavior are extensive and diverse. Some of these from the foregoing are: the rise in educational expenses of children and the opportunity costs of rearing children with higher female participation in the farm and working classes and the reduction in benefits due to incomes foregone as teenagers spent more time in schools. Also, with sustained full employment and rising incomes, working class parents and peasants purchased protection in the future for themselves in the form of land and homes, and private and public insurance on health and retirement. This reduced the value of children for their future security as they grow older and become unable to earn an income. The Philippines, along with Indonesia and India, had the lowest decline in crude birth rates as the growth of incomes especially among the lower income groups slowed down, with the highest declines in Taiwan and South Korea (and Japan, Hongkong and Singapore, not shown in Table 9).

The reduction in fertility in turn, contributed to the lower growth of the labor force in the next generation which made further mechanization and capital-intensification both possible and necessary. Accordingly, this and other consequences became causes for further productivity rises, not only in the case of fertility but also in the structural shifts to higher incomes, better income distribution (domestic demand) and higher savings.[25]

25. Demographic aspects are discussed in my paper, "Fertility Trends in Postwar East and Southeast Asia," mimeographed, February 1983.

VI SUMMARY AND RESEARCH SUGGESTIONS

The statistical findings show that Philippine growth of labor productivity in the past two decades for the economy and sectors was low, probably one of the lowest in East and Southeast Asian countries for which we have long-term series, but higher than South Asia. Total factor productivity also grew slowly. These findings are the results of the first round of studies on Philippine secular growth, conducted by graduate students at the UP School of Economics, supplemented by available data from various sources, largely for comparative purposes.

As we implied in the beginning, the cumulative impact of long-term forces on the present can be compelling. The consequences of low growth of productivity are not unrelated to the fact that the present world crisis has hit this country the hardest among Asian countries. Besides consequences for the distribution of family incomes (see the Appendix Note), the low growth of productivity in a number of major subsectors must have contributed to low profit rates, savings and capital expansion in these major sectors, forcing many to borrow heavily from private and public banks, and some to become bankrupt, with unfavorable consequences for the national budget. The slow rate of expansion meant a lower absorption of the labor force, contributing to unemployment and underemployment. Low productivity growth must have also contributed to the stagnation and even decline of real wages which, together with the slow growth of employment, added to the social unrest and misery of the lower income groups. Their low purchasing power contributed to the sluggish growth of the home market for manufactures. This, in turn, slowed down the growth of scale economies; and with the poor showing of commerce, transport and public services, the external economies generated were meager, if any. As a result of all these, together with the slow growth of internal economies implied by the low growth of productivity in several major industries, efficiency must have grown too slowly for a number of export or potentially export industries. The adverse effect on the balance of payments must have been substantial. Most important, all these, together with the slow changes in structure, income distribution, and birth rates noted previously, contributed to the low growth of GNP per capita in the long run and must have something to do with the zero growth of GNP per capita in 1982. If these are some

of the consequences, the raising of productivity must have high priorities for long-range planning.

Although productivity growth has been generally low across-the-board as to subsectors and sectors, there are some major industries with surprisingly poor performance. If these industries can be made to improve their performance, the overall growth of the economy can be substantially raised for the 1980's and beyond. It may, therefore, be of interest to discuss briefly a possible second round of research which can be undertaken. Having now identified the weak spots in the Philippine economy, I believe that the emphasis should be on in-depth industry studies with the purpose of identifying the forces and mechanisms which have contributed to slow growth and with a view to arriving at feasible policy suggestions. In agriculture, corn, coconut and sugarcane should be looked at more closely but not rice since it is extensively studied at IRRI and Los Baños; in industry, segments of textiles, leather, wood, cement, steel, electricity, and electrical machinery need to be studied.

In speculating about issues and hypotheses to be dealt with in these industry studies, one can say that there are now a few good basic industrial studies to use as guidelines. Besides the IBRD noted above, there is the study by R. M. Bautista, John H. Power and Associates, *Industrial Promotion Policies in the Philippines,* with detailed estimation of the domestic resource cost and effective rates of protection for recent years, analyses of fiscal incentives, and industry studies for leather, car manufacturing, pulp/paper and small industries. (Soon a work on the domestic resource cost of agriculture will be completed.) The IBRD volume looks into management and technologies in steel, mechanical engineering, textiles, food processing, cement, garments, furniture, leather, footwear and small industries. Also recently published are the comparative results of a three-year project of the Institute of Developing Economies in Tokyo on six industries in five Asian countries (Indonesia, Korea, Malaysia, Philippines, and Thailand).[26]

One issue that emerges from these studies can be stated as follows: granted the major importance of the totality of policies making up the structure of incentives in constraining the growth of productivity in the Philippine industries, how do these work in some of the industries specified above to produce low rates of productivity growth? What are the interrelations betweeen incentives policies

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26. These are a part of 30 country reports with one overall report.

of various sorts and entrepreneurship/management? Using the computations from the Bautista/Power volume, the IBRD report shows that there is a good deal of association between high effective protection and high domestic resource costs (and conversely low protection and low costs).[27] It is plausible to draw the lines of causation from protection to costs but it may be interesting to study the possibilities of the reverse: high costs (due to poor management, industrial relations, etc.) leading the industry to demand (and getting) continued protection. Although the Philippines had a good headstart in industrialization in the 1950's, the enterprises were apparently unable to dispense with protection by the early 1960's, unlike the late starters such as Taiwan and South Korea. Why was it so? For one thing, Taiwan and South Korea (and also Hong Kong and Singapore) witnessed the large inflow of experienced entrepreneurs from outside in the 1950's.

Moreover, there are a few cases of high protection and low domestic resource costs (slaughtering and poultry dressing, metal cans, boxes, and containers) and many cases of low protection and high domestic resource costs (glass, glass products, hand tools, general hardware, basic industrial chemicals, several wood products, cordage, twine and net industries).[28] These need closer study to identify the forces involved, including product quality which is difficult to take into account in quantitative measures of protection and resource costs. Then, there are the cases such as in the garment industries where export quotas are partially filled only, even though there are no inhibiting trade, fiscal and financial policies.

The reason for raising the issue of interplay between incentive policies and entrepreneurship/management is the finding of Mamoru Tsuda who interviewed nearly one hundred Japanese-Filipino joint ventures in the mid-1970's, most of which were large firms interested in exporting part or all of their output. Tsuda (1978) found that Japanese managers of the joint ventures (most of which were controlled 70/30 or 60/40 by Filipino management) were appalled by the management style displayed by Filipinos — highly authoritarian decision-making; irrational nepotism; "contemptuous" attitudes toward their workers; windfall, short-term profit making; heavy

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27. The IBRD report shows a Spearman rank correlation between the two of 0.65.

28. See IBRD report, pp. 39-42.

draining of profits out of the enterprises — which was almost the complete opposite of the Japanese management style (now widely studied by other countries).[29] Recent disclosures largely confirm Tsuda's findings, as a number of Japanese enterprises have pulled out of the joint ventures.[30]

Another subject that needs to be studied is the "cascading" of costs including quality from upper to lower stream industries, e.g., leather to leather products, pulp to paper products and to printing/publishing, lumber to wood products, cement to construction, textiles to garments, steel making to can making and to food processing, home appliances, hand-tools, etc. These lower-stream industries are some of the major employment and export generation sectors. Industrial development policies must focus on them (and at the same time support agriculture), and not on iron-making, alumina-smelting, or naphtha-cracking — the markets, capital, and technology of which are not within the reach of the Philippines for some tine to come. Philippine manufacturing may be excessively capital-intensive; data on value added per worker from another study will show that it is as high as in South Korea and Taiwan, 50 percent higher than Thailand and three times that of Indonesia. (Forthcoming study of Thai postwar growth.)

Other topics for the industry studies are excess capacity and underutilization which seem to have been extensive in Philippine industry throughout the decades. Part of the causes of these can be traced to government policies, and part to the efficiency of management, especially in technical aspects, but there may be others.

These and other topics (degree of competition, the impact of public policies, etc.) can best be researched through industry studies since the underlying forces and mechanisms constraining product-

29. See also Tsuda's *Preliminary Study of Japanese-Filipino Joint Ventures*, Foundation for Nationalist Studies, 1978.

30. See *Business Day*, December 2, 1982, p. 2 on foreign business withdrawing from the Philippines, and also the report by Vicente R. Jayme of PDCP, quoted in *Business Day*, November 29, 1982, to the effect that mismanagement of borrowed funds has been extensive with large corporations. Jaime Ongpin talks about the "windfall mentality" in the Philippine mining industry (*Asian Wall Street Journal*, November 9, 1982). In the Bell Commission Report, made in 1948 before many of the import substitution measures of the 1950's went into effect, complaints about poor management are extensive and similar to those found in the IBRD report of 1980.

ivity advances are both quantitative and qualitative, and they inter-
act in ways too complex to be econometrically measured and ana-
lyzed cross-sectionally. Some of the basic forces may be long-term
(such as entrepreneurial philosophies) and the product of long
stretches of time, and will require longitudinal information. Hope-
fully, these and other studies should help in working out better ways
of designing and executing industrial and agricultural development
policies which, in most countries of Asia, are still in the embryonic
stage. And yet (in my view) the very heart of a national development
plan must always be the agricultural and industrial plan and policies.
Without a good set of agricultural and industrial planning and poli-
cies, no development planning can succeed. It may be for this reason
that the enormous increases in Philippine government spending
represented by the sixfold increase in the number of government
employees per 1,000 population from prewar to postwar years have
only produced a disappointing rise in productivity of around 2 per-
cent.[31]

In the West, Kuznets found that the interplay of technological
and institutional changes was the underlying factor in its rapid
growth over the past two centuries. In the case of developing coun-
tries today, institutional changes are of paramount importance in
the interplay largely because most new technologies can be easily
imported from abroad. But in the adoption, spread, effective and
efficient use of the imported technologies, it is institutions which
are crucial. And even for Japan, a relatively developed country in
the 1950's and 1960's, I have found that it is changes in institutions
which are vital for the rapid import and effective use of the new
technologies. And among the institutions, it is those which deal
with manpower development, skills, work habits and attitudes
that figure the most. Postwar Japan has been able to develop insti-

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31. The postwar figure for 1975 is 25 per thousand, and this is from Bulao
(1981); the prewar figure for 1927 is 4.2 per thousand, computed from the
Statistical Bulletin of the Philippines Islands, 1928. Aside from industrial and
agriculture development policies, these figures raise the question: how much
external economies have government activities created? How much of them have
been nothing more than zero sum games? Perhaps there may be a need for an
extensive study of government productivity. For a new system of industrial
policy, see Chalmers Johnson, *MITI and the Japanese Miracle*, 1982. This book,
however, tends to exaggerate the importance of industrial policy on Japanese
growth.

tutions in the workplace which have been able to raise the motivation of manpower at all levels (from top management down to the janitors) to excel.[32] After a decade of stay in the Philippines, with much travel in East and Southeast Asia in connection with research on manpower, I have a strong impression that many of the institutions of the Philippines are not suitable for the vast majority of the people, particularly as relating to management, industrial relations, and public administrations. Perhaps a major study on the suitability of these institutions would be appropriate.

Appendix Note on National Accounting Data for Productivity Studies

How rough the estimates of overall productivity are for the economy as a whole (2 percent per worker) and for the three major sectors (A, I, S) may be seen in the following:

For the agricultural sector, the minor food crops such as vegetables, beans, peas, roots crops, peanuts, fruits, and various miscellaneous crops produced in the "backyard" and in home gardens are known to be poorly estimated (because of sparse data, especially for the 1950's and 1960's) and these comprised perhaps one-fifth of the gross value of total crop production in 1971. Similar difficulties exist in the estimates for livestock (including poultry), fishing, and forestry especially for the 1950's and 1960's. Very rough coefficients and parameters are used to estimate those portions of the sectors not covered by annual sources of data, and these comprise a substantial part of value added of the sectors. Thus, the large increase in productivity shown for "other crops" in Table 6 and the growth for noncrop agriculture are of limited value for analysis. (See *Manual on the Philippine System of National Accounts, Framework, Sources and Methods*, NEDA, Manila, 1977, and the Appendix volume of the *Manual* on undercoverage in the livestock sector, page 7.)

As for the nonagricultural sector, the sources of data are no better for the small, unorganized or informal sector, which in 1972 comprised about three-fifths of nonagricultural employment, or about 2.9 million out of 5.1 million. The figure of 2.9 million was obtained by deducting from the employment totals of the 1972 Labor Force Survey the employment from the 1972 Census of Establishments for the respective sectors, obtaining the following: manufacturing, 760,000; transport; storage and communication, 270,000; mining and quarrying, 4,000; construction, 390,000; commerce, 520,000; and personal services, 910,000.

In the case of manufacturing, the number employed in the unorganized sector was multiplied by the quinquennial Census of Establishments' gross value

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32. "Reinterpreting Japan's Postwar Growth," *Economic Development and Cultural Change* (October 1982).

added per worker among firms with 1 to 4 workers. Since this Census covered only a small portion of the unorganized manufacturing sector, the problem concerning the representativeness of the value added estimate arises. May it not be too high if one assumes that the small firms reporting in the Census may be the better organized, more efficient, higher value-added firms than those not reporting? Since in the unorganized sector most of the firms are operating irregularly (depending on the season and business conditions), the annual value added may not be high. Similar procedures are followed in the commerce and service sectors where the unorganized sectors are very large and difficult to include in surveys because of their mobility and lack of fixed business location (peddlers, vendors, stallkeepers, domestic servants, and so on). It is difficult to evaluate how representative the assumed value added per worker may be for the irregular work force (comprising 30 percent) of total employment in the nonagricultural sector), although it is clear from poverty studies that those in the unorganized sectors are the poorest in nonagriculture.

The growth rate of private employee compensation (per worker in constant prices) of those employed in both the organized and the unorganized sectors (2.9 million discussed above and the 2.2 million covered in the 1972 Census of Establishments) from 1971 to 1980 is computed from the national accounts to be around 3 percent per year. (We have deducted from total employee compensation in the household account the employee compensation in the government sector.) But from Table 7, based on the annual surveys of manufacturing, there appears to be stagnation in the growth of output from the organized sector. (And this conclusion is consistent with recent findings of falling real wages in the 1970's by various economists. See, for example, Leepak Lal, *Wages and Employment in the Philippines,* IBRD, Washington, 1978.) The issue thus emerges: is the growth of the real value added per worker in the unorganized manufacturing and other nonagricultural sectors too high in the national accounts? It does not seem plausible that the small, ill-equipped, underfinanced, poorly managed, low-paying firms in the unorganized sectors can be growing more rapidly than the organized sector in any of the industries noted above. If this was indeed the case, there is something drastically wrong with the organized sector with all of its advantages in financing, management, scale economies, and externalities.[1]

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1. See the appendix table on the details of computation in the above discussion. Part of the difference between changes in real wage rates and annual compensation per employee could be an increase in average hours, days, and weeks of work or aggregate annual hours of work. But the available data do not show any significant changes in underemployment during the 1970's. Incidentally, technically speaking, a substantial part of value added per worker in the unorganized sector as estimated in the accounts should be classified as proprietor's income instead of employee compensation.

Part of the difference between changes in real wage rates and annual compensation per employee may be due to an increase in average hours, days, and weeks of work (or aggregate annual hours of work) per employed person. The data on underemployment are not adequate since the surveys pertain at most to a few months of the year. And for the few months covered by these surveys, the available data do not show any significant changes in the aggregate annual hours of work during the 1970's.[2] Thus, there is a need to resolve the puzzle posed by the 3 percent rise in the growth rate of private employee compensation in constant prices from the national accounts and the fall in real wages from the wage statistics.

On the basis of the findings of this paper, one way to resolve the puzzle may be as follows. First, the growth of average employee compensation in the national accounts in the 1970's is probably overstated since nonwage compensation (such as employer contribution to social security) and increases in aggregate annual hours of work did not change sufficiently over the period. Second, even if we grant that average annual employee compensation, especially of unskilled workers, in the late 1960's and early 1970's was no higher than subsistence level, it could have fallen perhaps 10 percent or so if the number of earners per family rose to offset the fall in the real wages of the main earner of the family, thereby maintaining family incomes around the subsistence level.

From 1971 to 1980, the number of employed persons rose from 11.6 to 17.2 million and the number of private families from 6.3 to 8.6 million for the Philippines as a whole, resulting in employed persons per family increasing from 1.83 to 2.00. For the urban sector, the latter rose from 1.98 to 2.17 persons per family, or roughly 10 percent.[3]

This increase in the number of earners per family was the result of an exceptional rise of employment which grew between 1970 and 1979 at a rate of 5.1 percent per year (which compares with 3.1 percent for Thailand). This in turn was associated with the rise in participation rate of the working age population (15 years and over) from 55.5 to 62.8 percent. One may conjecture that falling or stagnating real wages of the main earner may have induced housewives and others into the labor market to maintain subsistence levels of income. But there was also an acceleration in the growth of the working-age population (due to the population explosion of the 1960's and 1950's). Working-age population grew at a rate of 3.3 percent compared to the growth of the labor force of 4.7 percent. (The difference between 4.7 percent and the 5.1 percent in

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2. Incidentally, technically speaking a substantial portion of value added per worker in the unorganized sector should be classified as proprietors' income, not as employee compensation, as published in the official national accounts.

3. Employed persons from NCSO *Bulletin on Labor Force and Employment* (mimeographed); number of families from *Family Income and Expenditure Survey* for 1971 and *Census of Population* for 1980.

employment increase represents the reduction in the unemployment rate.)[4]

If productivity were not doing so poorly, real wages would be rising, the participation rate would not have risen so much, and more of the population 15 years and over might have continued schooling, etc., until full employment shall have been approached, as was the case of Japan in the 1950's, Taiwan in the 1960's, and South Korea and Malaysia in the latter 1970's, even though there was also an accelerating rise in the labor supply of these countries. In the Philippines, the failure of productivity to rise kept wages low and forced the population reaching working age levels and housewives to seek employment, reinforcing from the supply side the tendency of real wages to sag.[5]

One other implication of the foregoing findings may be briefly noted. Family survey data on incomes are difficult to interpret, but if we accept the above findings, their implications on the trend of income distribution from the 1960's to the 1970's may be as follows.

If the additional worker in the household compensated for the decline in the real earnings of the household head, then there was little or no gain in the total incomes of households in the lower brackets of the distribution. Hence, much of the increase in per capita income (and hence per family incomes) shown in the national accounts data may have gone to the upper income brackets. This means that the share of the lower income groups grew more slowly in the 1970's than in the 1960's, indicating a widening in family income disparities. This is partially supported by the fact that the average personal savings from the national accounts have quadrupled from the 1960's to the 1970's while prices have only tripled. If we assume that positive savings come mainly from the upper income brackets and very little from the lower brackets (clearly shown in the 1971 and 1966 family income and expenditure surveys which report that the lower half of the income groups have negative savings), then the increased positive savings may have come from the rising share of the upper income groups.

Similar conclusions may be obtained from the data from the national accounts, which show that the share of corporate incomes in national income rose from an average of 4.4 percent in the 1960's to 6.0 percent in the 1970's and that the rest of incomes (mainly employee compensation and proprietor's income) fell from 95.4 to 93.5 percent. If what has been said above on wages and employee compensation is valid, then the drop in the share of the non-corporate incomes will be even larger and the rise of the corporate share larger than shown in the accounts. (Unfortunately there is no breakdown between employee compensation and proprietor's income for the 1960's.) If we assume that the urban proprietors' share was not decreasing more rapidly than the number of urban proprietors, the rise in the share of corporate income and the

4. All data from NCSO *Bulletin on Labor Force.*

5. See the discussion on dualistic theories in the *Malayan Economic Review,* October 1981.

APPENDIX TABLE
METHODS OF COMPUTING THE DIFFERENCE BETWEEN LABOR
PRODUCTIVITY GROWTH RATES IN ORGANIZED AND UNORGANIZED
MANUFACTURING SECTORS

I. From Annual Survey of Manufacturing 1977 (establishments with 5 or more workers)

	Census value added (₱1,000)	Implicit price index for manufacturing	Census value added in 1972 Prices	Total employment	Real value added per worker (₱1,000)	Annual growth rates
1968	4,490,450	62.5	7,184,720	394,336	18.22	
1973	11,225,469	116.1	9,668,793	537,944	17.97	−0.3%

II. From national accounts and NCSO Labor Force Survey (include all firms in manufacturing)

	GDP in manufacturing (million pesos) in 1972 prices	Employment	Real GDP per worker (₱1,000)	Annual growth rates
1968	10,478	1,234,000	8.49	
1973	15,252	1,396,000	0.93	5.2%

III. Growth rate of GDP per worker: establishments with less than 5 workers

(1) Contribution of establishment with 5 or more workers to real GDP/worker = −0.3% x 0.354 (average share of establishments with 5 or more workers in total employment, 1968 and 1973)

= −0.106%

(2) Contribution of establishment with less than 5 workers to real GDP/worker = 5.2% − (-0.106%)
= 5.31%

(3) Growth rate of real GDP per worker of establishments with less than 5 workers

$$\frac{5.31\%}{0.646} = 8.2\%$$

Note: 0.646 is the average share of establishments with less than 5 workers in total employment, 1968 and 1973.

fall in the share of employee compensation (with the number of employees rising) will imply increasing "within" variances in the family income distribution.

Moreover, within the employee group, disparities may have been widening. Data from the Central Bank show that real wages in nonagriculture have been falling at an annual rate of 2.8 percent between 1969 and 1979 while real salaries have been falling at a lower rate of 1.9 percent. And within the wage earning group, real wages of unskilled workers have been falling at a rate of 6.2 percent compared to a fall of 5.4 percent for the skilled workers.[6] If the size of the salaried, skilled and unskilled workers group is not declining, these results show that within the employee population, disparities were rising, with the lowest income receivers getting less. (This analysis could be made more conclusive if data on proprietors' incomes can be made available for the 1960's from the unpublished worksheets from the production accounts.)

Postscript

The foregoing, originally written a year ago — before the current crisis of the Philippines — fails to take note of one other possible culprit in the poor performance of the economy over the past decades. And this is the prospect of rampant misallocation of funds borrowed abroad which now are reported to be over $20 billion. With so much funding from abroad, its efficient utilization should have enabled the economy to be doing as well as the other ASEAN countries which have borrowed for less per capita-wise. These huge debts will prove to be a heavy drag on the performance of the economy for the rest of the 1980's if adequate steps are not taken now for their proper liquidation.

Steps to bail out the faltering firms may worsen matters, since inefficiencies will be perpetuated and more borrowing will be needed for future rescue operations, as may be the case in countries like Mexico, Brazil and Argentina. Such rescue operations may be normal procedures in Communist countries but the rules of the capitalist game are to penalize inefficiencies by letting them go bankrupt, their physical assets sold to the other more efficient firms which move in to take on the business that the bankrupt firms used to do. To carry out the added business, the efficient firms hire most of the staff of the bankrupt firms, leaving the inefficient managers and

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6. Central Bank data on wages from its *Statistical Bulletin, 1979* have been deflated by the Manila consumer price index.

other staff members to look for jobs paying lower remuneration. Very few persons are hurt except stockholders and the inefficient (who may hustle to become more efficient in the future) and society is better off for the bankruptcy because of improved, overall efficiencies. It is rules such as this which enable capitalist economies to develop productivity so much better than communist economies, and the latter are increasingly becoming aware of them (for example, China has recently dropped its "iron bowl" philosophy).

Nevertheless, some firms do get into trouble through no fault of their own. Hence, there is a need to study each case thoroughly, including the scale of the misallocations, and how they occurred, if only to avoid them in the future. These misallocations have occurred too often in the past decades; and without a good study and the adoption of policies to prevent them in the future, foreign funds will not be forthcoming in sufficient volume to raise productivity in the future. This country has many topnotch business executives and academic economists to carry out such a study and come up with recommendations which may brighten the prospects for the future.

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