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An Assessment of the Macroeconomic Policy Framework for Employment Generation in the Philippines

A REPORT SUBMITTED TO USAID/PHILIPPINES
BY
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AN ASSESSMENT OF

THE MACROECONOMIC POLICY FRAMEWORK FOR EMPLOYMENT GENERATION

IN THE PHILIPPINES

A Report Submitted to USAID/Philippines

by

Dr. Richard Hooley

The views expressed in this report are those of the author and do not necessarily reflect those of the Agency for International Development

April 1981

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MACROECONOMIC POLICY FRAMEWORK FOR EMPLOYMENT GENERATION IN THE PHILIPPINES

Richard Hooley

This report is an assessment of the macroeconomic policy framework of the Philippines as it affects employment generation and income distribution. Quantitative estimates are provided of the impacts of the current package of World Bank-supported policy reforms on industrial employment. The report also considers policies appropriate to achieving a good match between the proposed USAID/ Philippines assistance strategy and the macroeconomic policy environment likely to emerge in the foreseeable future.

The Postwar Economic Environment

The extensive war damage in the Philippines required an extended period of reconstruction. From 1946 until 1952 the country experienced an unprecedented reconstruction boom which resulted in an annual growth rate for manufacturing output of 15 percent and an expansion of the industrial labor force of comparable magnitude.

By 1952 the reconstruction was largely complete. Output levels in both industry and agriculture were roughly at or near their 1940 levels. However, resuscitation of the economy had been achieved at a heavy cost in foreign exchange, and consequently the Philippine Government adopted import controls in 1949. The immediate

aim was to utilize foreign exchange more effectively by channeling it into the importation of capital goods and raw materials for "new and necessary" industries. During this period (1952-1960) manufacturing output grew by 11 percent per annum--a satisfactory growth rate but clearly below that of the reconstruction period. By 1960 manufacturing employment, which had accounted for only 8 percent of the labor force just before the war, accounted for 12 percent of the total labor force. In these years the shift of labor was out of the services sector and into agriculture and manufacturing. By the late fifties, however, the movement of labor into agriculture was reaching its peak. Thereafter the share of the labor force in agriculture began a steady decline. The industrial sector was not in a position to increase its share of aggregate employment and consequently alternative employment outlets had to be found. Indeed, by the middle-sixties there also began a slide in the share of the labor force in manufacturing; this is the beginning of a new period in which the labor absorption problem in the Philippines takes on a more ominous character.

The economic shortcomings of this import-dependent industrialization strategy, the strain it put on foreign exchange resources and the stultification of agriculture and the export sectors are now widely appreciated. Two additional points should also be made. The system was successful in absorbing labor at a reasonably satisfactory rate in spite o its capital intensive bias as long as output growth was in the 8-11 percent per annum range. It is when output growth settled down to the 5-6 percent range after the

mid-1960's and growth continued along a capital intensive path that the foundation for an employment absorption problem was fashioned.

The system of controls also had an important impact on the political environment of the economy. Philippine entrepreneurs became highly politicized. Under controls it was no longer simply a matter of the most (economically) efficient producer garnering the largest share of profits. On the contrary, the producer able to win an extra allocation of foreign exchange at an overvalued rate or additional tariff protection for his domestic market usually emerged with an overwhelming advantage over rivals, regardless of differences in costs per unit of output. The net effect of this was to downgrade the whole dimension of production efficiency and to lead to sub-optimal performance of industry from a broad productivity-growth perspective.

The decontrol and devaluation measures adopted by the Government in 1962 might have generated a policy thrust which would have rectified the shortcomings of the import substitution strategy. That did not happen for several reasons. First, the business community retained an important base in the political system which it used to defend and in fact to increase, tariff protection in the domestic market. The political lessons of the previous decade had been learned only too well. Because protection from outside competition remained complete for most of manufacturing, there was no significant increase in manufacturing productivity growth during the 1960s. A second reason for the stagnation was the failure of agriculture to react to the devaluation in a truly dynamic way. True, there was a shifting of land and other resources into production of export

crops. However, such input shifts were the result primarily of resource shifts among crops and not the result of any overall increase in the productivity of agriculture. The net effect was that production of food crops, which had been subsidized by the over-valued exchange rate, suffered a relative decline. The Central Bank index of retail foods items increased 75 percent between 1962 and 1970, while non-food manufactured items during the same period rose by 50 percent.

The stagnation of industrial activity, the continued capital intensive bias of production and the absence of significant positive efficiency effects from the previcus devaluation exacerbated the sluggishness of labor absorption. By the mid-sixties, the fraction of the total employment in Manufacturing had clearly plateaued between 11 and 12 percent. By 1973 the same figure showed unmistakable signs of a further erosion to 10.7 percent. With the appearance of the export drive, the figure rose slowly to 11.6 percent by 1977, but was still below the peak of 12.5 percent reached in 1956.[1]

These declines in the fraction of total employment accounted for by manufacturing may appear of rather small magnitude to some readers. On the contrary, what appears as the erosion in the contribution of the manufacturing sector to total employment is the result of some very sharp declines in the year-to-year marginal contribution of manufacturing. That is to say, the contribution of

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[1]Appendix B.

manufacturing to absorption of increments to the labor force had declined markedly in recent years. This can be seen from data in the following table on the percent of incremental employment accounted for by different sectors.

Table 1

Percent of Incremental Employment by Sector, 1960-1976

Years	Total	Agriculture	Manufacturing	Other Industries	Services
1960-64	100.0	47.4	10.3	5.9	36.4
1964-71	100.0	12.5	11.3	9.0	67.2
1971-76	100.0	59.3	7.3	0.4	33.0
1960-76	100.0	42.1	9.3	4.5	44.1

SOURCE: Journal of Philippine Statistics (January-March, 1967) and Philippine Yearbook - 1978 (NCSO).

Note particularly that while manufacturing contributed between 10 and 11 percent to incremental employment between 1960 and 1971 (already less than its share in total employment), this figure fell to 7.3 percent between 1971 and 1976. Thus the fraction of the labor force being absorbed into manufacturing during this last period was about the same as at the end of the Colonial Period.[2]

While industrial employment turned in a sluggish performance during this period, the financial system continued to expand rapidly. One of the rather neglected dimensions of the industrialization

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[2] The share of manufacturing employment in 1939 was 7.1 percent. See Appendix B.

efforts of this era was the expansion in volume and diversity of financial instruments. In 1955 the flow of funds through financial intermediaries amounted to 12 percent of GNP whereas by 1970 the same figure had risen to 40 percent. This pace of financial development was sustained by the unrelenting demand for external finance emanating from domestic industry. It was further stimulated by the sharp rise in interest rates that followed the devaluation of 1962 and the relatively tight monetary environment that emerged as the Central Bank endeavored to maintain the exchange rate during the 1960s.. With an expanding supply of increasingly attractive financial instruments, the national gross saving rate rose from 12-14 percent in the fifties to roughly 18 percent by the late sixties. Saving in financial form, which constituted only about 25 percent of household saving in the early 1950s, was over 50 percent by the end of the 1960s. Clearly this period saw the establishment of an important piece of the country's development structure.

Continued balance of payments difficulties led to a crisis in the country's external accounts, and in 1970 a second devaluation was initiated along with a float of the peso. Once again, however, the political leverage of the Philippine business community enabled it to fend off efforts at across-the-board trade liberalization. The legacy of the politicization of business enterprises remained: protected markets, a capital-intensive industrial structure and low levels of overall efficiency. However, some important openings were made in the next few years. An export processing zone was established in Bataan, and non-traditional exports increased by 25-30 percent per annum during the past few years. The Board of Investment (BOI)

began focusing on the need to redirect the industrial sector toward more efficient directions of import substitution and export orientation. Again, both the BOI and the Ministry of Industry (MOI) now explicitly recognize the importance of shifting the production structure in the direction of labor-intensive production. Indeed, a promising sign on the horizon is that the potential positive political impacts of industrial employment expansion are now clearly recognized in the political establishment, and this promises to provide a counter-weight to the overwhelming leverage of domestic business in determining the macro policy mix in regard to industrialization. Finally, the government has begun to take steps to increase the yield of the domestic financial system--steps which are long overdue if this sector is to make a major contribution to the growth of the employment absorption capacity of domestic industry.

Having reviewed some of the salient features of recent Philippine industrial experience, we can now proceed to take a closer look at the current employment situation and policies aimed at stimulating labor absorption in manufacturing.

The Trend of Real Wages

Our knowledge of income distribution is based primarily on the Household Income and Expenditure Surveys taken periodically by the National Census and Statistics Office (NCSO). Four such surveys were taken between 1956 and 1971. Several broad trends are evident. For the country as a whole, income distribution became somewhat more

unequal. In Manila and other urban areas the trend was towards more equality, whereas for rural areas there was a progressive increase in inequality.[3]

Tracing out the shifts in income distribution since 1971 is a more difficult task. A fifth household income and expenditure survey was taken in 1975, but students familiar with the survey dismiss the results in view of substantial undercoverage in the top quartile of income receivers. For an alternative source of evidence we are forced to turn to the analysis of real wages. Wage income is not, of course, equivalent to household income even for median income families. Nevertheless, fundamental trends in wage income may indicate at least the direction of major trends in family income distribution.

The most commonly used measure of real wages is the Central Bank index of real wage rates. For unskilled workers the index declined from 100 in 1972 to 68 in 1978--a decrease of 32 percent. For reasons explained fully in Appendix A, we feel that this is probably an overstatement of the decline in real wages. Fortunately, there are other data on real wages available for both urban and rural areas separately, and we now turn to an analysis of this body of information.

Data on money wages in manufacturing are collected by the Census Office, while the Bureau of Agricultural Economics publishes information on money wages in agriculture. To obtain real wages we

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[3]See M. Mangahas, "Income Inequality in the Philippines: A Decomposition Analysis." IEDR Discussion Paper No. 74-15, p. 52 ff.

deflate by the consumer price index prepared jointly by the Central Bank and the NCSO. This index is broken down into two components: Metropolitan Manila and the rest of the Philippines. The former was used to deflate Manila urban wages while the latter was used to deflate other urban and rural wages.

Data on real earnings are shown in Table 2, on the following page. A number of significant trends are evident. For manufacturing firms with 20 workers or more, real wages in Manila fell by 26 percent during the period 1970-1978. In contrast, the decline in the corresponding figure outside Manila was 49 percent. Since average hours worked per week changed little during this period, and because workers in the larger firms are predominantly full-time, we consider this a reasonably reliable indicator of the trends in real non-agricultural wage rates in these areas. The general trends in smaller firm wage rates seem to be broadly the same.

Agricultural wages also declined. As in manufacturing, the trend in real wages was down after 1972. There appears to have been a rather steady erosion in real agricultural earnings throughout the period, with occasional sharp fluctuations in particular regions like Central Luzon due to locally specific weather conditions.

We cannot make direct inferences about trends in household income distribution from these trends in real wages. We need to know about the large number of self-employed farms and industrial entrepreneurs, as well as something about property incomes. There is, unfortunately, a scarcity of consistent, reliable data on these other income shares. However, after reviewing the data available to us

Table 2

Indexes of Real Earnings in Manufacturing and Agriculture, Selected Years, 1958-1978[a]

	Manufacturing[b]				Agriculture[c]	
	Metropolitan Manila		Outside Manila		All Philippines	Central Luzon
	5 workers	20 workers	5 workers	20 workers		
1958	107	126	102	114	158	175
1960	107	126	112	124	153	162
1962	106	123	110	113	141	138
1965	---	---	---	---	---	116
1968	103	121	117	116	131	108
1969	106	124	122	124	120	129
1970	109	129	118	125	108	120
1971	110	131	110	108	102	108
1972	100	100	100	100	100	100
1973	---	---	---	---	---	---
1974	79	92	80	84	---	---
1975	---	---	---	---	90	96
1976	---	---	---	---	---	---
1977	---	95	---	---	---	---
1978	---	95	---	---	---	---

[a]Deflation by use of the urban/rural consumer price index, as explained in the text.

[b]Indexes of average annual earnings of employer workers. Earnings include remuneration both in cash and in kind, and bonuses paid to workers.

[c]Indexes of daily wages, including the value of meals, where applicable.

SOURCE: Appendix A-6.

along with some intensive studies on the subject, it is our conclusion that on the whole income distrubtion remained static or became somewhat more unequal during the past decade.[4] Hence the urgency of developing policy approaches which can act as equalizing forces to the trends in real wages.

Explanation of the Trends in Real Wages and Income Distribution

One reason often adduced to explain the fall in real wages is the sharp rise in energy prices which has had a direct impact on consumer good prices. However, the deterioration in real wage earnings began around 1970-71 for manufacturing, and in agriculture still earlier. Thus it antedates the energy price rise which began in earnest only with the onset of the Arab-Israeli war of 1973. We feel that while rising energy prices have indeed exacerbated the situation, the failure of Philippine industry to expand rapidly and its capital-intensive bias in production represent more persistent reasons for the decline. These conditions are in turn closely connected with low rates of growth of total factor productivity, all of which have operated to prevent Philippine industry from expanding rapidly enough to absorb an increasing portion of new entrants to the labor force, thus in effect "pushing" workers into other sectors where the marginal product of labor is low and/or declining.

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[4]See Appendix F.

A factor contributing to the problem of low wage levels and employment is the extremely rapid growth of the labor force during the past decade. The ILO Report projected a growth rate of the labor force of 2.6 percent for the decade of the seventies. In fact, the average annual rate of growth of the labor force has been 4.3 percent between 1970 and 1979.[5] The difference between the projected and realized growth rates has been entirely due to a sharp and unanticipated rise in the labor force participation rate which began in 1971. While an exhaustive examination of trends in the participation rate is not possible in view of the time available to this mission, we have detected what appears to be a significant inverse relationship between changes in real wage rates and the labor force participation rate. This leads to the speculation that declining real wage rates prompted members of Philippine households to accelerate entrance into the labor market in search of additional income sources to offset the erosion of real income from the usual sources. To the extent such behavior is actually taking place, it obviously puts additional downward pressure on wages.

Chart 1 on the following page gives a general overview of changes in the structure of the labor force. Several points are readily observable. The share of the labor force represented by agricultural workers reached a peak in 1960 and has been declining fairly steadily ever since. That is to say, agricultural employment has been increasing each year, but since 1960 has been growing at a rate below the average rate of increase of the labor force. This is

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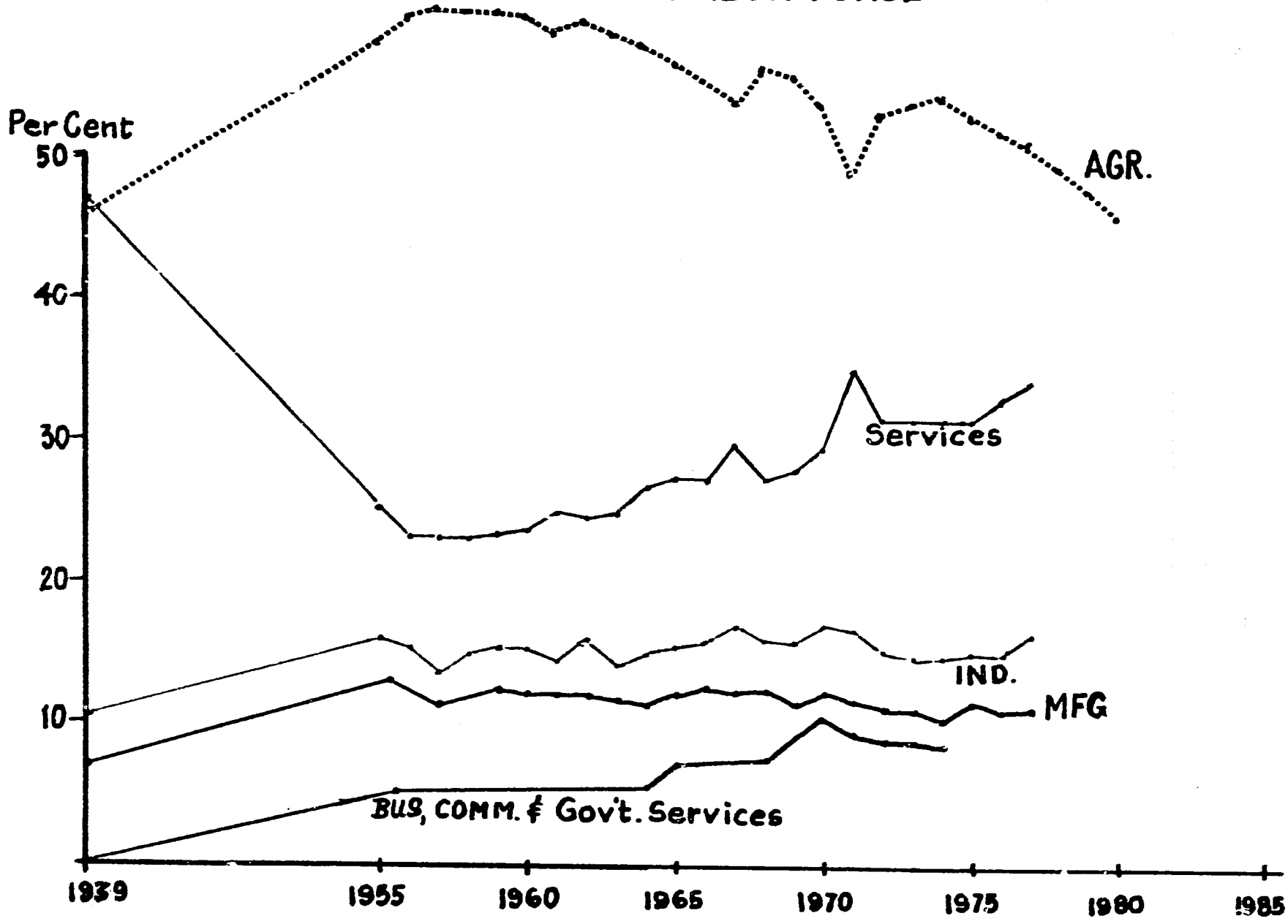
[5] I.L.O., Sharing in Development (Geneva: International Labor Office, 1974), p. 397. See also Appendix B of this report.

CHART 1

STRUCTURE OF THE LABOR FORCE



SOURCE: APP. B

not surprising. Output per worker in agriculture would indeed have to grow rapidly (which it has not) if Philippine farms were to continue to absorb a constant proportion of a steadily enlarging labor force.[6]

Where, then, do the remaining additions to the labor force go? Between 1955 and 1966 a constant share went into industry--and most of this was accounted for by manufacturing. However, between 1966 and 1974 the share of additions to manufacturing declined. The decline was substantial--from about 12.5 percent of total employment to only slightly over 10 percent. Since 1974 there has been some strengthening in the share accounted for by manufacturing due to the growth of non-traditional manufactured exports. In broad perspective, however, the performance of the manufacturing sector with regard to employment absorption has been disappointing at best, particularly when we realize that between 1940 to 1977, the share of total employment rose only from 7 to 10 percent.

Indeed, service has now become the employer of last resort. Since the early sixties government, community, business and recreational employment doubled from 5 to 10 percent of total employment.

The implication for the level of real wages is clear. Additions to the labor force cannot all be absorbed in agriculture, and only a small portion of such additions can be absorbed by industry. As a result, the labor supply "backs up" into agriculture tending to depress real wages. What is not absorbed by agriculture moves into

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[6]For a discussion of labor absorption in Philippine agriculture see R. Barker, M. Mangahas and W. Meyers, Labor Absorption in Philippine Agriculture (Paris: O.E.C.D., 1972). Their labor absorption equation includes, among other variables, the money wage rate.

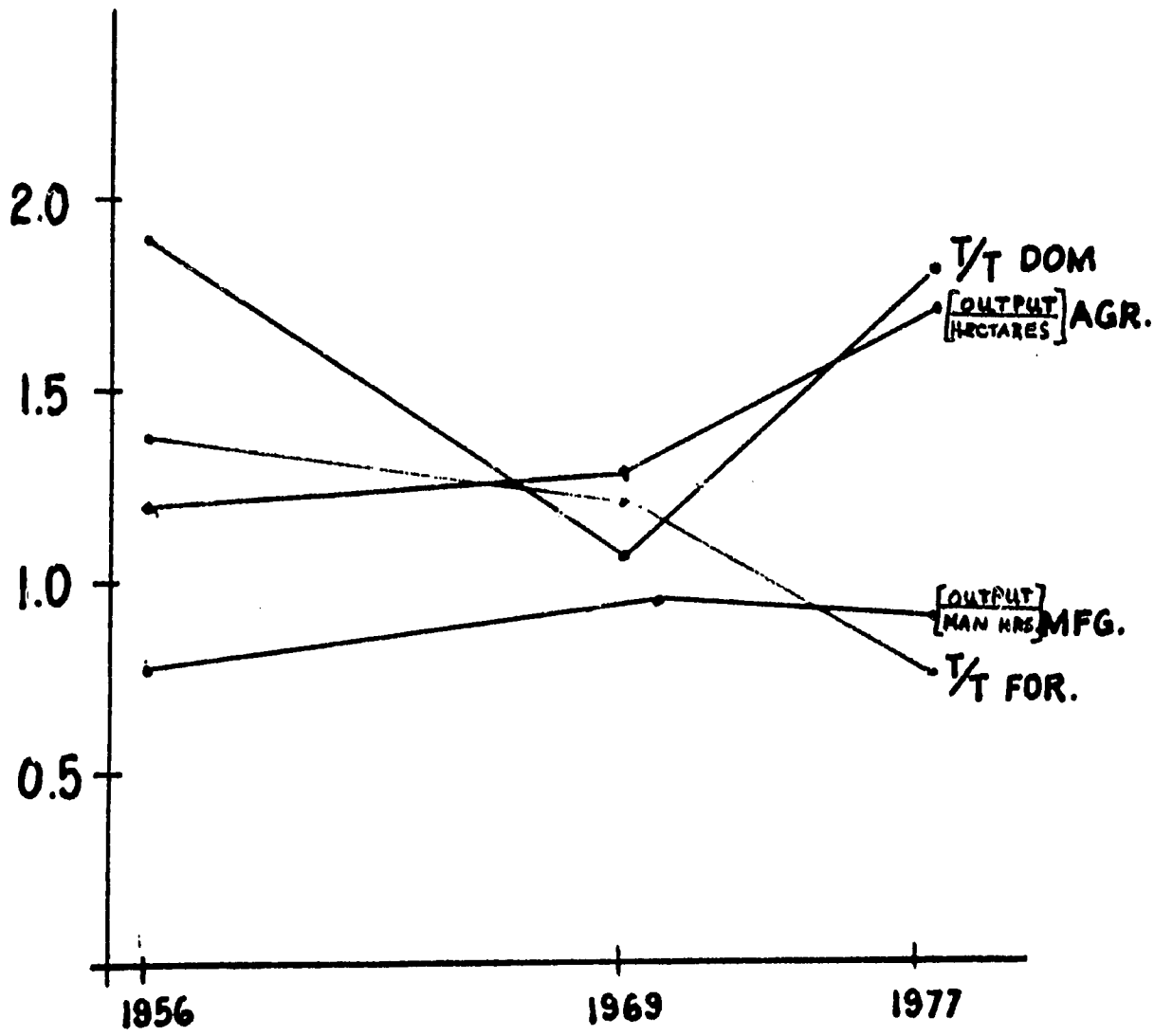
services depressing real wages in that sector also. The net result is a depressing effect on real wages in general and a government sector burdened by excess labor which ultimately creates inflationary pressures on the fiscal side.

The situation in the rural areas is further complicated by unusual developments in sector prices and productivity, as Chart 2 on the following page makes clear. Prior to 1970 productivity appears to have been rising in manufacturing at about the same rate as in agriculture. After 1970 productivity in agriculture rose much more rapidly due to the technical improvements brought about by the Green Revolution. In industry productivity turned downward as the result of the effects of the inappropriate import substitution policies became fully manifest. The domestic terms of trade which had been moving against manufacturing up to 1970, reversed and moved sharply against agriculture from 1970-1977. The coup de grace was administered to agriculture by a simultaneous decline in the foreign terms of trade after 1970. Those households dependent on agriculture for their income thus suffered a severe setback both in absolute terms and also in relation to industrial workers.

The failure of manufacturing productivity to grow at satisfactory rates has not only created problems of labor absorption in general, but also has had special effects on the trends of real wage income in the rural areas. We will return to the topic of productivity changes later. Suffice to say at this point that a successful labor absorption strategy should include explicit attention (and policies) to raise overall factor productivity (output per unit of input, not just labor productivity) in Philippine industry.

CHART 2

PRODUCTIVITY IN INDUSTRY AND AGRICULTURE AND THE TERMS OF TRADE



Source: NEDA, Philippine Statistical Yearbook, 1979;
See also Appendix A and Table 9, text.

World Bank Structural Adjustment Assistance

To estimate development and labor absorption in the Philippines the World Bank has proposed a structural adjustment loan of $600 million to be taken down in three tranches. The first tranche of $200 million would become effective in 1981 and will involve support to industrial, agricultural and population planning strategies. Subsequent tranches would be directed towards industrial expansion in the form of programs to be agreed upon. The industrial restructuring aspect of the loan involved covers five major areas: (A) tariff reform and trade liberalization; (B) export incentives and promotion; (C) shifts in investment incentives and other fiscal policies affecting capital intensity in manufacturing; (D) reforms in the financial system and complementary measures; and (E) the financing of new industrial development projects and restructuring of key industrial subsectors. We review each aspect separately with a view of gauging the impact of each on employment. These will then be combined into a summary projection of employment at the end of the analysis.

A. Tariff Reform and Trade Liberalization.

In August 1980 the Government of the Philippines (GOP) adopted a comprehensive tariff reform which will substantially reduce tariffs on a wide variety of commodities. The average effective protection rate (EPR) for manufactured goods is being reduced from 44 percent to 29 percent. However, the most significant aspect is the change in the structure of rates. For some industries such as manufactured food products the average reduction in the EPR will be from 163 to 39 percent; for textiles from 78 to 53 percent; while for a few

commodities there will be an increase, such as machinery where the average rate rises from 7 to 17 percent. Generally, the 'cascading' effects of the present tariff structure will be substantially reduced. The average EPR for the consumer goods will be reduced from 77 to 41 percent while that for intermediate goods would rise from 23 to 29 percent. These adjustments are to be achieved in stages between 1981 and 1985. Current peak nominal rates of 100 percent or more are to be reduced to 50 percent over a two-year period. Industries with lower nominal rates will be reduced to 50 percent on January 1, 1981. Fourteen industries which are expected to require more extended time to readjust will have nominal rates reduced over a four-year period.[7]

A decrease in the EPR will increase the volume of imports and therefore reduce domestic output and employment. The change in EPRs will be uneven by industry, and therefore the impact on output and employment will be correspondingly selective. Estimation of the "true" impact of tariff changes entails the comparison of the growth path of output and employment for each industry cum EPR restructuring with the alternative growth path without EPR restructuring. The difference between these two yields the net impact of tariff restructuring on employment. Table 3, below, sets forth the detailed computations. Here we summarize the major conclusions:

(a) the expected increase in manufactured imports by 1985 is approximately 3.0 billion pesos, (valued in 1972 pesos). This is approximately 11 percent

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[7]Norma A. Tan, Report on A Program for Tariff Reform in the Philippines (Mimeo), 1980.

of the projected 1985 level of total imports projected on the assumption of no change in the tariff structure. On an annual basis, (assuming for illustration that EPR changes are equal in each of the five years) this implies that change in imports would be approximately 2 percent of total imports;

(b) the expected decrease in manufacturing output over the five-year period amounts to 3.8 percent, or a decrease in annual output growth of about three-fourths of one percent;

(c) the expected decrease in growth of manufacturing output should produce a decline in the growth of manufacturing employment of 2.3 percent for the entire period, or approximately one-half of one percent per year.

In making the above estimates we allowed for the discriminatory effects of EPR change by industry. We did not, however, make a separate allowance for the possible discriminatory effects of changes in tariff structure by size of establishment, except insofar as establishment size is caught up by our industry breakdown. We do not think that the remainder of this effect is large enough to substantially affect the estimates.

The reduction in domestic output will also have an impact on employment. We have estimated the direct employment impact of the tariff restructuring. When the tariff restructuring is complete in

TABLE 3

IMPACT OF CHANGE IN EFFECTIVE RATES OF PROTECTION ON IMPORTS AND EMPLOYMENT IN MANUFACTURING BY 1985

(Value figures in million of 1972 Pesos)

Industry	Actual Imports 1980	Projected Imports 6% Growth of GNP & No Change in Effective Protection Rates 1985	Change in Imports by 1985 Due to Adoption of New Schedule of Effective Protection Rates Proposed by World Bank & Approved by Phil. Tariff Commission	Percent Changes of Employment by Industry 1985 (Percent)
Food	1,798	2,403	+1,684	- 3.72
Beverages	9	12	+ 194	- 3.21
Tobacco	85	113	+ 565	-16.47
Textiles	369	493	+ 79	- 1.67
Footwear & Apparel	2	2	- 6	+ .35
Wood	5	7	- 42	+ 1.17
Furniture & Fixtures	2	2	0	
Paper	348	465	+ 191	- 4.84
Printing & Publishing	53	71	- 6	+ .18
Leather	5	7	+ 9	0
Rubber	118	158	+ 57	- 2.13
Chemicals	2,862	3,827	+ 37	- .16
Petroleum Products	3,611	4,827	- 8	+ .03
Non-metaliic Mineral Products	154	205	0	0
Basic Metals	1,639	2,191	+ 41	- .59
Metal Products	330	441		
Machinery	2,310	3,088	- 5	+ .25
Electrical Machinery	577	772	+ 11	- .46
Transport Equipment	1,451	1,941	+ 234	- 1.39
Miscellaneous Manufactures	1,930	2,580	+ 16	- 2.31
Total Manufacturing	17,658	23,605	+3,057	- 2.33
Other Non-Manufacturing Imports	917	1,341	+ 8	- .01
Total Imports	18,575	24,946	+3,065	- 2.34

Source: Appendix E

1985 we estimate that it will produce a decline of 2.34 percent in manufacturing employment, which is equivalent to a loss of approximately 56,000 jobs. The effects, by industry, are shown in Table 3 on page 20.

Besides the direct employment effects there will be some indirect effects. That is, industries supplying intermediate goods to those industries whose final demand is directly affected by changes in EPR will also be affected. We have not made a separate estimate of this because there is no table of interindustry labor coefficients available. However, Philippine industry is not highly integrated by production stages. While there will be some secondary employment effects, they will be of relatively modest magnitude.[8]

B. Export Promotion

The GOP is now pursuing a group of policies to expand labor-intensive exports. In 1979 the government streamlined documentation and procedures associated with the duty-drawback system. Bonded warehouses have been established near exporters enabling them to operate on a genuine free-trade basis without the necessity of locating inside an export zone. The availability of export financing has been improved with the establishment of the Philippine Export and Foreign Loan Guarantee Corporation. Perhaps the most important single step has been the implementation of the establishment of the export zones. The original export zone in Bataan has been expanded,

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[8]These and other projections in this report are on a ceteris paribus basis with respect to factors outside the industrial restructuring policy package. That is, we project only the changes in employment that will come about from the assumed policy changes, while holding other factors "constant" as a fixed relationship to GNP.

and two more zones have been added--one in Cebu and one in Baguio. Present plans call for the opening of an additional twelve zones in various parts of the Philippines--ten of these to be opened by 1985. These plans appear basically realistic in view of the continued interest of visitors, as reflected in the following data on applications and approvals.

Table 4

Industrial Occupancy of the Bataan Export Zone

Year	No. of Applications	No. of Enterprises Approved	No. of Operating Enterprises (Cumulative)
1970	4	2	-
1971	20	4	-
1972	19	7	-
1973	30	13	3
1974	16	11	14
1975	12	10	23
1976	17	13	31
1977	13	8	44
1978	18	14	

SOURCE: Export Processing Zone Authority Records

We expect these trends to continue. Philippine wage rates are substantially below those of competitors within this general region--such as Hong Kong, Korea and Taiwan. According to plant managers we talked to, productivity of Philippine labor (i.e. output per worker) within the zones is as high or higher than labor in

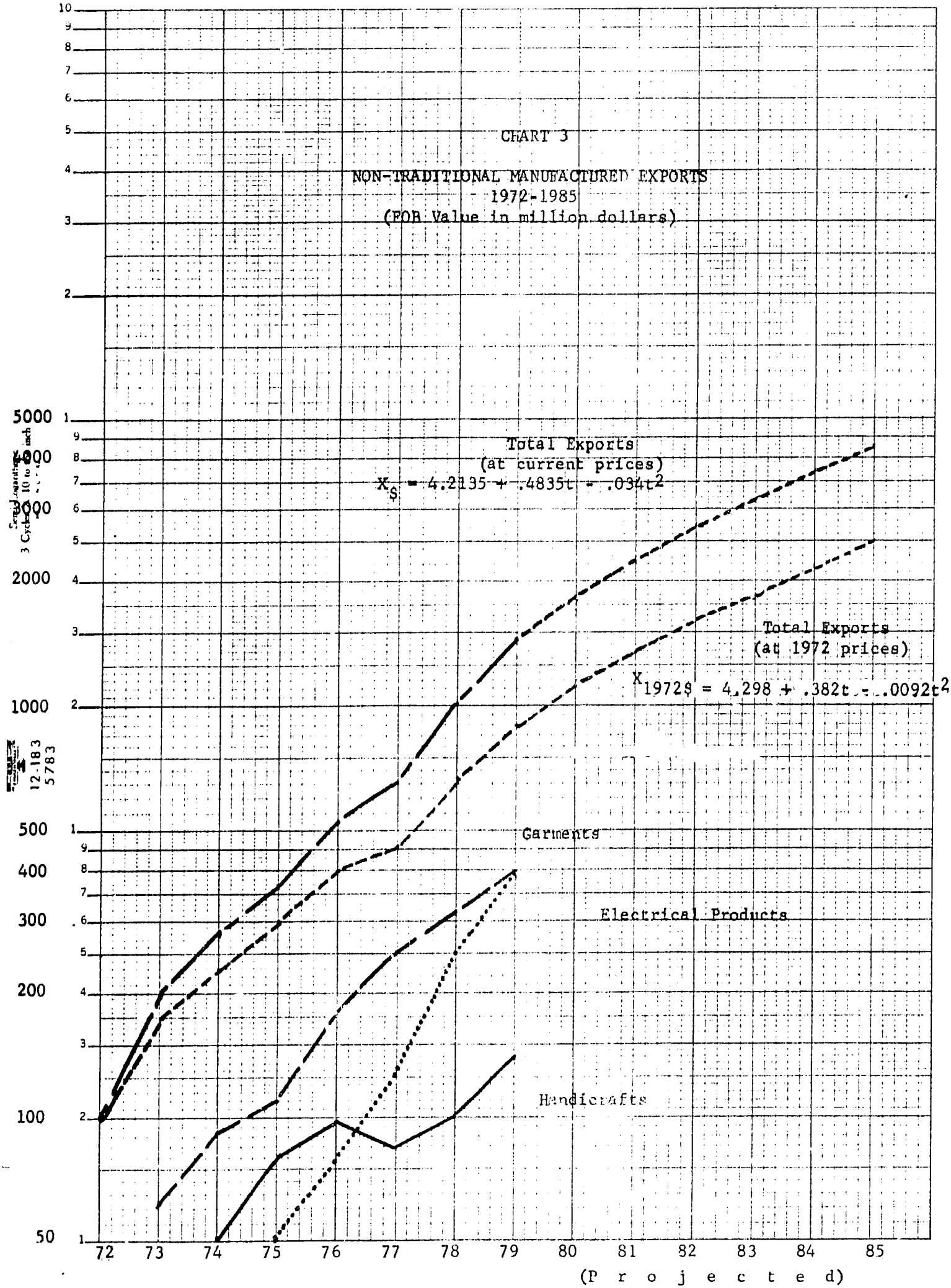
CHART 3
NON-TRADITIONAL MANUFACTURED EXPORTS
1972-1985
(FOB Value in million dollars)
Total Exports
(at current prices)
$X_{\$} = 4.2135 + .4835t - .034t^2$
Total Exports
(at 1972 prices)
$X_{1972\$} = 4.298 + .382t - .0092t^2$
Garments
Electrical Products
Handicrafts
5000
2000
1000
500
400
300
200
100
50
72
73
74
75
76
77
78
79
80
81
82
83
84
85
(P r o j e c t e d)

establishments located in other nearby competing countries. Thus the GOP has already implemented or is currently implementing the recommendations of the original ILO Employment Mission and subsequent World Bank missions regarding the strengthening of institutional support for labor-intensive exports.

As a result of these efforts non-traditional exports have grown very rapidly in recent years. Between 1972 and 1979 growth rate of this class of exports has averaged approximately 48 percent per annum (in current dollar terms). Even after deflation the rate is still a very satisfactory 40 percent per year (see Chart 3).

GOP officials are highly optimistic about maintaining these growth rates in future. Personnel in the Export Processing Zone Authority (EPZA) have told us that they expect to have fifteen export zones in operation by 1985, and they point to an increase in employment inside the zones from the present 27,000 to 300,000. On this projection, employment in the zones would be increasing by about 60 percent per annum. While we do not doubt that the Philippine Government can open twelve additional export zones, we do question whether these zones can all be completed and filled with firms operating at full capacity by 1985. When taking this into account, plus the existing international trade situation and the difficulties faced by handicrafts in foreign markets, we feel that an overall annual growth rate of about 26 percent for all non-traditional manufactured exports (in real dollar terms) is reasonable for a projection, and on that basis we project nearly a four-fold growth of these exports in the period 1981-1985. By combining these export projections with the estimates

of changes of imports, we can project the main trends in the country's external accounts. The details of these projections are found in Table 5 on the following page. The main points can, however, be briefly stated at this time:

(a) non-traditional exports are expected to increase from their present level of ₱3.5 billion to nearly ₱13.9 billion in 1985. Thus, by 1985 non-traditional manufactures will constitute about 45 percent of total exports. Traditional manufactures such as sugar and dessicated coconut products will account for about 12 percent, and the remaining 43 percent will consist essentially of non-processed primary commodities.

(b) this expansion of non-traditional manufactured exports should be somewhat faster than the projected increases in imports, so that the foreign trade deficit of ₱3 billion in 1979 can be converted to a surplus of ₱1.5 billion by 1985.

This rapid expansion of exports is, however, conditional on the maintenance of a favorable environment. Such an environment can be facilitated by policies which lie within the control of the Philippine Government, business and labor community. These will be discussed individually later in the report.

C. Fiscal Incentives

Legislation providing tax incentives for industry has frequently been used to stimulate development. The Investment Incentives Act (RA 1580) of 1967 is perhaps the most important such piece of

Table 5

Exports and Imports, 1978 (Actual) and 1985 (Projected)[1]
(million pesos in 1972 prices)

	Actual 1978[2]	Estimated Increase (Decrease) Due To Indicated Policy By 1985	Projected 1985
1. Exports of manufactures	6,809	11,094	17,903
a. Traditional manufactured exports--projected increase at 2.5 percent p.a.	3,248	682	3,930
Add: Increase in exports due to change in EPR		39	39
b. Non-Traditional manufactures[3]	3,561	10,373	13,934
Garments	1,132		
Electronic Equipment	878		
Handicrafts	347		
Chemicals	213		
Non-Metallic Manufactures	145		
Food Products and Beverages	141		
Other Non-Traditional Manufactures	705		
2. Non-traditional, Non-manufactured Products	1,419	3,665	5,084
3. Other traditional, non-manufactured products--projected increase at 6 percent p.a.	5,752	2,896	8,648
4. TOTAL EXPORTS	13,980	17,655	31,635
5. Imports of Manufactures	15,505	13,289	28,794
a. Imports of traditional consumption goods and others, projected to increase at 6 percent p.a.	15,505	7,808	23,313
b. Additional imports of manufactures due to restructuring of EPRs[4]	----	3,058	3,058
c. Additional imports of intermediate goods to support growth of non-traditional manufactured exports[5]	----	3,423	3,423
d. Less: estimated net foreign exchange savings from 11 major industrial projects[6]	----	(1,000)	(1,000)
6. Imports of Non-manufactured Products--projected increase of 6 percent p.a.	874	440	1,314
7. TOTAL IMPORTS	16,379	13,729	30,108
8. TRADE BALANCE (line4-line 7)	(2,399)		1,527

[1]The reader is referred to p. 18 for a discussion of the methodology and for a reminder of the ceteris paribus assumptions underlying this projection.
[2]From NEDA, 1979 Philippine Development Report.
[3]Data for 1978 from Journal of Philippine Statistics, Jan-Mar. 1980, extrapolation by methods explained in text.
[4]For methods of estimation of impact of EPR change on imports, see Table 3 in text.
[5]This item is estimated as .33 of the increase in value of non-traditional manufactured exports.
[6]The Ministry of Trade estimates gross foreign exchange earnings at full capacity operation of $3.3 billion. Our smaller estimate of ₱1 billion reflects the net foreign exchange saving at less than full capacity operation which we think is reasonable for the year 1985.

legislation now in effect. It grants a wide range of fiscal and other benefits to firms investing in priority industries. These firms are generally eligible for one or more of a variety of fiscal incentives, including accelerated depreciation, income tax reduction for expansion of reinvestment, tax exemption on imported capital equipment, etc. Additional incentives are available to firms that engage in an export venture. The determination of which firms fall under each provision of the Act rests with the Board of Investments which administers the Act.

The Export Incentives Act (RA 1635) was passed in 1970 to accelerate the export drive. It is a complementary measure to the Investment Incentives Act, extending various incentives to all exporters of manufactured products registered with the BOI. Firms must generally produce more than 50 percent of output for export to qualify for such incentives as tax and duty-free importation of capital equipment, spare parts, credits for duties paid on imported equipment, raw materials and intermediate goods used in production. Firms may also receive tax credits, reinvestment tax reductions, infrastructure and/or market development subsidies, etc.

In addition to the fiscal incentives contained in the above laws, there are a number of special incentives availables for investment in particular industries--including cottage industries, chemical fertilizers, mining, textiles and overseas shipping. A common feature of these laws, as in the case of RA 5186 and RA 6135, is exemption from duties on capital equipment and intermediate goods, and from compensating sales taxes.

The fiscal incentives described above have had a significant capital deepening effect both within and among industries. They have affected the rate of return, the user-cost of capital and the factor (especially labor) employment policies of firms receiving the incentives. In any particular case the precise impact on employment policy depends on the mix of incentives approved by the Board of Investments (BOI) for that firm. It is desirable to make some broad estimates of the magnitude of such incentive packages on employment.

We have made estimates of the impact of the major BOI incentives contained in RA 5186 and RA 6135 on employment, and these are shown separately on our employment projection worksheets (see Table 6).

We estimate that elimination of the average package of incentives available to qualifying firms would result in an increase of 45,700 in manufacturing employment when these policy effects are entirely worked out. This estimate contains an allowance for the fact that BOI policies cover only a portion of operating firms--although in recent years that proportion has been increasing.[9]

D. Financial System Reform

While policies designed to bring about more labor intensity in production are needed, it is also essential to enlarge the volume of industrial investment to the maximum extent possible. In recent years

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[9]For a description of the general methodology, see Renato Gregorio, "An Economic Analysis of the Effects of Philippine Fiscal Incentives for Industrial Promotion," in Romeo Bautista and John Power and Associates, Industrial Promotion Policies in the Philippines (Manila, Philippine Institute for Development Studies, 1980). See also Appendix D of this report.

TABLE 6

IMPACT OF RESTRUCTURING OF FISCAL INCENTIVES ON EMPLOYMENT GROWTH IN MANUFACTURING, 1980-85

Industry	Actual Employment 1980 (000)	Projected Employmnet with 6% Annual Growth of GNP & No Change in K/L Ratio 1985 (000)	Difference: Equals Growth in Mfg. Empl. 1980-85 (000)	Projected Employment with 6% Annual Growth of GNP & 5.6% Reduction K/L Ratio in Mfg.[1] 1985 (000)	Difference: Equals Growth in Mfg. Empl. 1980-85 (000)	Expansion of Mfg. Employment due to Reduction of 7.5% in K/L Ratio (Col.4-Col.2) (000)
Food	153.0	207.2	54.2	213.2	60.3	6.0
Beverages	27.3	36.0	8.7	37.5	10.2	1.5
Tobacco	26.8	40.4	13.6	42.4	15.6	2.0
Textiles	111.1	154.0	42.9	162.4	51.4	8.4
Footwear & Apparel	126.0	190.0	64.0	204.0	78.7	14.0
Wood Products	45.0	52.2	7.2	53.5	8.5	1.3
Furniture & Fixtures	18.4	22.1	3.7	23.2	4.8	1.1
Paper	18.8	28.2	9.4	29.2	10.4	1.0
Printing & Publishing	14.3	14.7	0.4	14.7	0.4	0
Leather Products	3.1	3.9	0.8	3.9	0.8	0
Rubber Products	16.0	21.9	5.9	24.7	8.8	2.8
Chemicals	36.5	44.7	8.2	44.7	8.4	0
Petroleum Products	1.4	1.7	0.3	1.8	0.4	0.1
Non-Metallic Products	35.4	48.9	13.5	49.0	13.6	0.1
Basic Metals	18.0	27.4	9.4	28.9	10.9	1.5
Metal Products	28.6	38.1	9.5	38.2	9.6	0.1
Machinery (excluding Electric	19.1	28.2	9.1	29.3	10.2	1.1
Electrical Machinery	43.3	63.6	20.3	65.8	22.5	2.2
Transport Equipment	26.9	33.7	6.8	34.2	7.3	0.5
Miscellaneous Manufactures	34.7	52.4	17.7	54.4	19.7	2.0
Total	803.7	1,109.3	305.6	1,155.0	352.5	45.7

[1] Restructuring of fiscal incentives is estimated to result in a decline of the K/L ratio of 5.6 percent

Source: Appendix D

the country has been devoting an increasing share of output to capital formation, as shown in Table 7. The rise in the overall rate is reflected in the components, and has been an important contributing factor in the expansion of output and employment. However, these high rates have depended increasingly on the contributions of the government and external sectors. There has been a decline in the relative contribution of households to national saving, particularly since 1977.

Table 7

Capital Formation and Sectoral Saving

a. Rates of Gross Domestic Capital Formation
(Percent of GDP)

	GDCF/ GDP	Fixed CF/GDP	Inventories/ GDP
1970	22.0	15.7	6.3
1974	26.9	18.7	8.2
1977	28.6	23.5	4.7
1978	28.7	23.6	5.1
1979	29.4	24.2	5.2

b. Gross Saving by Sector
(Percent GDP)

	Households	Corporations	Cap. Cons.	Gen. Govt.	ROW	Total
1970	7.8	2.7	8.7	2.3	0.5	22.0
1974	9.6	2.5	8.6	4.9	1.3	26.9
1977	9.7	2.4	10.1	3.1	3.3	28.6
1978	6.9	2.8	10.1	4.2	4.7	28.7
1979	6.7	2.8	10.1	5.0	4.8	29.4

SOURCE: NEDA

Without better financial statistics than are available in the Philippines it is not possible to tell for certain whether this apparent weakening in the household contributions to saving is evenly distributed over all forms of saving. We will have to assume that it is.

One way to increase household saving is to raise the rate of interest on deposits. In the past, banking institutions have been loathe to do this because a large portion of resources flows to the banking system in the form of retained earnings--much larger than in many countries.[10] However, holding down the deposit rate of interest only makes sense if the spread between deposit and lending rates of interest is a more powerful influence on commercial bank resources than the deposit rate itself. We tested this hypothesis by fitting an equation in which commercial bank assets (A) are a function of the deposit rate of interest (r_d) and the spread between the average lending rate and the deposit rate ($r_L - r_d$). The result was:

$$\log A = \underset{(7.86)}{1.251g\ r_d} - \underset{(1.11)}{.141g\ (r_L - r_d)} \quad \bar{R}^2 = .88$$

The results show clearly that the deposit rate of interest is a much more powerful determinant of the growth of commercial bank resources than the borrowing-lending spread.[11] The size of the deposit rate coefficient indicates that the elasticity of bank resources with respect to the rate of interest is above unity. The elasticity of resources with respect to the deposit rate spread is very small and,

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[10] In the past approximately one-third of commercial bank resource increases has been traceable to retained earnings.

[11] Richard Hooley and Honorata Moreno, A Study of Financial Flows in the Philippines (pre-publication copy) (Quezon City, University of the Philippines, p. 34).

in fact, not significantly different from zero. We conclude that the policy of holding deposit rates down which has been followed by the Central Bank in the recent past has had an unfavorable impact on household saving in the form of bank deposits. Since this is a large part of personal financial saving, it probably depressed household financial saving in general. We conclude that raising the deposit rate of interest would make an important contribution towards increasing rate of personal saving in financial form.

A considerable volume of funds has in the past found its way into capital intensive, relatively low productivity investments. Consider the case of luxury residential housing. The private life insurance companies, the GSIS and SSS and to a lesser extent the banking system, have all engaged in the financing of residential housing. The result is that a substantial portion of capital formation in this country has taken the form of residential structures. The following data for four countries show where the Philippines stands.

Table 8

Role of Residential Structures in Capital Formation, Selected Countries, 1973-1975

	Ratio of Investment in Residential Structures to Non-Residential Structures	Ratio of Gross Capital Formation to GNP	Ratio of Gross Capital Formation Less Residential Structures to GNP
Philippines	1.44	.200	.169
South Korea	.91	.250	.209
Thailand	.82	.220	.191
United States	1.20	.175	.136

SOURCE: U.N. Yearbook of National Accounts (1978).

The Philippines has the highest ratio of capital formation in residential structures to non-residential structures of any of the four countries shown. The Philippine ratio is more than 50 percent higher than either South Korea or Thailand, and 20 percent higher than the United States. The impact of this on the availability of investment funds for industrial purposes is shown in column two and three. Whereas the ratio for the Philippines of gross capital formation to gross national product is .20, when residential structures are eliminated the ratio drops to .169. In Thailand, the country closest to the Philippines in terms of per capita income, the decline in the ratio is slightly less--from .220 to .191. The relatively heavy investment in residential structures is not really servicing overall housing needs because of the large share of luxury housing in the total.

The GOP has recently taken action to reduce the share of funds going into housing by limiting the size of government loans to ₱50,000 maximum for each structure. This should be continued and we feel that some appropriate limit should also be imposed on loans from private financial institutions.

Earlier it was pointed out that the initial impetus for the growth of the financial system came from the establishment of import substituting industry. The financial system played a role in promoting capital intensity in production. The conservative cannons of bank lending in Manila have favored large firms with substantial assets--especially real estate. Loan decisions are closely tied to the value of collateral rather than prospective profitability. Since real estate has the broadest secondary market among business assets, loan

decisions tend to be closely geared to real estate ownership. This tends to favor existing firms. These are also the firms who are likely to be short of administrative talent because with increasing size the direct relationship between ownership and management is severed. Capital-intensive processes are often a substitute for a shortage of managerial resources. This is one of the reasons why larger firms are generally more capital-intensive than smaller ones.

There is no doubt that the Philippine financial system has been biased towards larger firms. This bias has been manifested in different ways. Lending by government financial institutions at subsidized rates is one form of this bias that has been significant in the past. Another has been due to the administrative difficulties put in the path of borrowing by small firms. Still another has been the concentration of banking facilities in the urban areas, where most of the large firms are located. Some of these biases, such as the subsidization of interest rates, have at least been substantially reduced in magnitude in recent years. There remains a problem, however, with regard to the availability of banking facilities for small and medium sized industries (SMI), particularly those located in the rural areas. Branch banking in the countryside has grown, but it is still limited in scope. The Philippine National Bank remains the anchor of the rural branch system. The PNB, however, is engaged in banking in a wide variety of directions, and may not be the best vehicle for dealing with SMI. Perhaps the private banking system could be induced to expand operations in rural areas by favorable tax treatment and/or other fiscal inducements such as a subsidy toward establishment of rural branches. The object of these policies should

be to reduce the admittedly high unit costs of servicing SMI outside Manila and other major urban areas. It is important that any subsidies given for branch banking to be tied to actual lending operations for SMI. Otherwise the branches may simply be the "collecting agents" for deposits in rural areas and their transfer to urban areas. The development of SMI will obviously involve much more than opening up of facilities for bank lending. This is only part of the task ahead.

E. Industrial Development Financing and the Restructuring of Industry

The GOP Industrial Development Program includes plans for undertaking certain new industrial projects and for the promotion of small and medium scale industries. Some aspects of these plans may have substantial implications for employment; other aspects have the potential for a substantial impact. Various aspects of these plans deserve some comment insofar as they are pertinent to employment policies.

(1) Major industrial projects. A number of major industrial projects are under consideration by the GOP at this time. Projected employment is available for nine of these projects. Estimated direct employment for these projects by 1985 are as follows:[12]

Petrochemicals complex	569
Diesel engine plant	1,710
Phosphate fertilizer plant	526
Copper smelter	750
Steel mill	2,000
Pulp and Paper mill	3,000
Aluminum smelter	400
Heavy engineering industries	272
Alcogas Program	1,755
Total	10,982

[12]Estimates are developed from information supplied by the Ministry of Industry and PNOC. The steel mill, pulp and paper mill, aluminum smelter and heavy engineering industries are assumed to be operating at one-half capacity by 1985.

(2) Medium and Small Scale Industry. It is now widely appreciated that the expansion of medium and small scale industry is a critical element in any feasible strategy aimed at the problems of unemployment and underemployment. This was made clear by the ILO Mission, and it is just as true today as it was when the report was written.

During the two decades from 1956 to 1977, employment in manufacturing grew at an average annual rate of 2.8 percent. This is only half the rate of growth of manufacturing output over the same period of 5.6 percent. In previous sections we have pointed to one reason why employment growth lagged output growth--i.e., high capital-intensity induced by a special policy mix associated with import substitution.

There is another reason for lagging employment growth. That is the slow growth of small manufacturing firms. Between 1956 and 1977 employment in small firms (19 workers or less) proceeded at an average annual rate of 1.6 percent, compared to 5.4 percent for firms with 20 or more employees. Moreover, the rate of growth of employment in small firms has been retarding over time. To illustrate, between 1956 and 1966 firms with less than 20 workers registered an average annual rate of growth of 2.1 percent, while from 1966 to 1976 the rate was only 1.3 percent. The slow growth of these small firms invariably leaves its imprint on the growth of total manufacturing employment for the simple reason that small firms account for two-thirds of all employment in manufacturing.[13]

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[13]In terms of hours worked the ratio is probably lower, but even on this basis the share of small-firm employment in the total is undoubtedly very substantial.

Why this steady erosion in the position of small firms? This question can only be answered when we have some idea of the factors which determine the growth rate of SMI. We have seen a number of interesting papers on this topic, and they generally point to such things as inadequate financing, inadequate procurement facilities for intermediate goods, the indisposition of large firms to subcontract to small firms, lack of knowledge of appropriate technology, and poor adaptation of technology to the economic environment of small firms.[14] Again, some scholars have suggested that rural income has much to do with rural manufacturing employment because of multiplier effects of the former on the latter.[15] While most of these ideas undoubtedly contain an element of truth, we have been unsuccessful in uncovering systematic studies of an empirical nature testing these hypotheses.

We ran a test of the rural income hypothesis by fitting an equation of the type:

$$\frac{N_s}{N_t} = a + B_1 t + B_2 \frac{Y_f}{Y}$$

where:

$\frac{N_s}{N_t}$	is the share of small firm employment (less than 20 workers) in total manufacturing employment
$\frac{Y_f}{Y}$	is the ratio of income from food crops to national income
t	represents time

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[14]For thorough review of this subject see David L. Gordon (ed.), Employment and Development of Small Enterprises (Washington: World Bank, February, 1978).

[15]Barker, Mangahas and Meyers, op. cit.

We chose to use income from food crops as a proxy for income going to small farmers rather than income from all crops, because we wanted to omit those crops which generate large income flows to wealthy farmers and landowners who often do not even live in the rural areas and who in any case spend a large portion of their income elsewhere. The results were as follows:

$$\frac{N_s}{N_t} = .795 - \underset{(118.7)}{.0086t} + \underset{(3.33)}{.436}\ \frac{Y_f}{Y}$$

The result shows two things. First there is a highly significant time trend in the share of small firm employment in total manufacturing employment. This negative time trend undoubtedly combines the effects of many of the factors discussed above such as inadequate financing, resources, etc. Second, employment in small manufacturing firms is significantly affected by the share of rural (farm) income in national income (t-value of 3.33). The sign is positive and the coefficient is rather large, confirming a significant rural income-manufacturing employment multiplier linkage. We use this relationship later to estimate the impact of trends in farm income on manufacturing employment. It will suffice here to observe that policies which depress rural farm income will have significant adverse effects on small firm manufacturing employment, and conversely any augmentation of rural farm income will have a positive impact on rural industrial employment.

We still know very little about why small firms are growing so slowly in this country. Many agencies are formally charged with a responsibility for the problem including the Ministry of Industry,

the University of the Philippines and others. But while there is a plethora of agencies dealing with one aspect or another of small and medium sized firms, not much of consequence is being done on a policy-level to stimulate growth. Meanwhile, the export drive is becoming increasingly a phenomenon of large firms. Particularly troublesome to us is the fact that we have observed almost zero linkage between the boom in the export zones and small firms in the same area. Many firms who export buy almost none of their intermediate goods locally. This is unfortunate because, although the export zones have a very favorable direct impact on employment, the impact could be strengthened if there were a secondary impact on employment in the surrounding areas. Furthermore, exports of handicrafts have been declining as a proportion of non-traditional manufactured exports in the recent past, thus further attenuating the potential impact of exports on rural non-farm employment.

If the Philippines is to reap maximum benefits from the export drive, the capacity of SMI to participate in it must be increased, both as suppliers of intermediate goods to larger export firms and by meeting final export demand as well. Policies now in the process of adoption will go a long way to establishing an economically rational set of resources prices--i.e., prices that truly reflect resource costs. But "getting the prices right," while absolutely necessary, may not be sufficient to turn around the present growth trends of SMI. We feel that many of the smaller firms have other problems--problems of internal organization and control--which keep them operating at low levels of productivity. We feel that for many

firms not just labor productivity, but the productivity of all inputs, is low. If this inference is correct, then there is an urgent need to find out what are the main reasons for low productivity levels in these firms and to develop policies which can assist in reversing the situation.

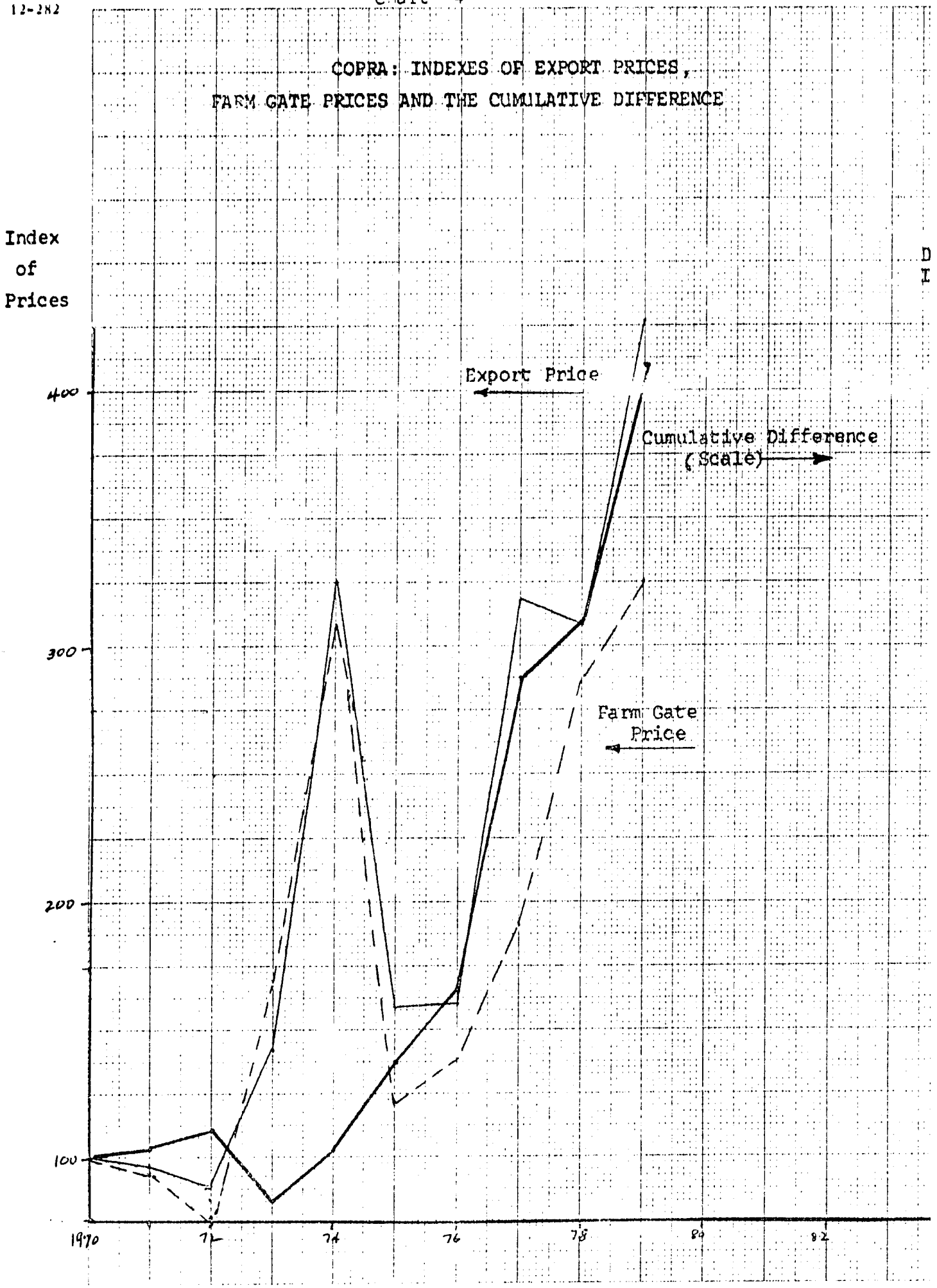
(3) Restructuring of existing industries. The GOP is in the process of developing subsectoral restructuring programs for selected industries with a view to increasing their efficiency and competitiveness. Programs are currently being developed for the cement and textile industries. It is not possible at this time to project employment effect of these two programs. We can say only that increases in competitiveness should increase employment because of the enlargement of the market that increased efficiency brings about.

A program of restructuring is currently underway in the coconut industry, apparently similar to the rationalization of the sugar industry that has been underway for some time. We note that in both of these industries there has been a widening of the spread between farm gate and world market prices, the difference presumably used for modernization (Charts 4 and 5). We are not aware of any estimates of the direct impact of these programs on employment. However, there probably will be substantial adverse secondary impacts, which are described below.

(4) Secondary impacts. The development projects described above as well as the restructuring programs may have significant secondary or indirect impacts on employment. To measure such indirect employment impacts would require an input-output table with a matrix

Chart 4

COPRA: INDEXES OF EXPORT PRICES,
FARM GATE PRICES AND THE CUMULATIVE DIFFERENCE



Source: Appendix A and Central Bank Statistical Bulletin.

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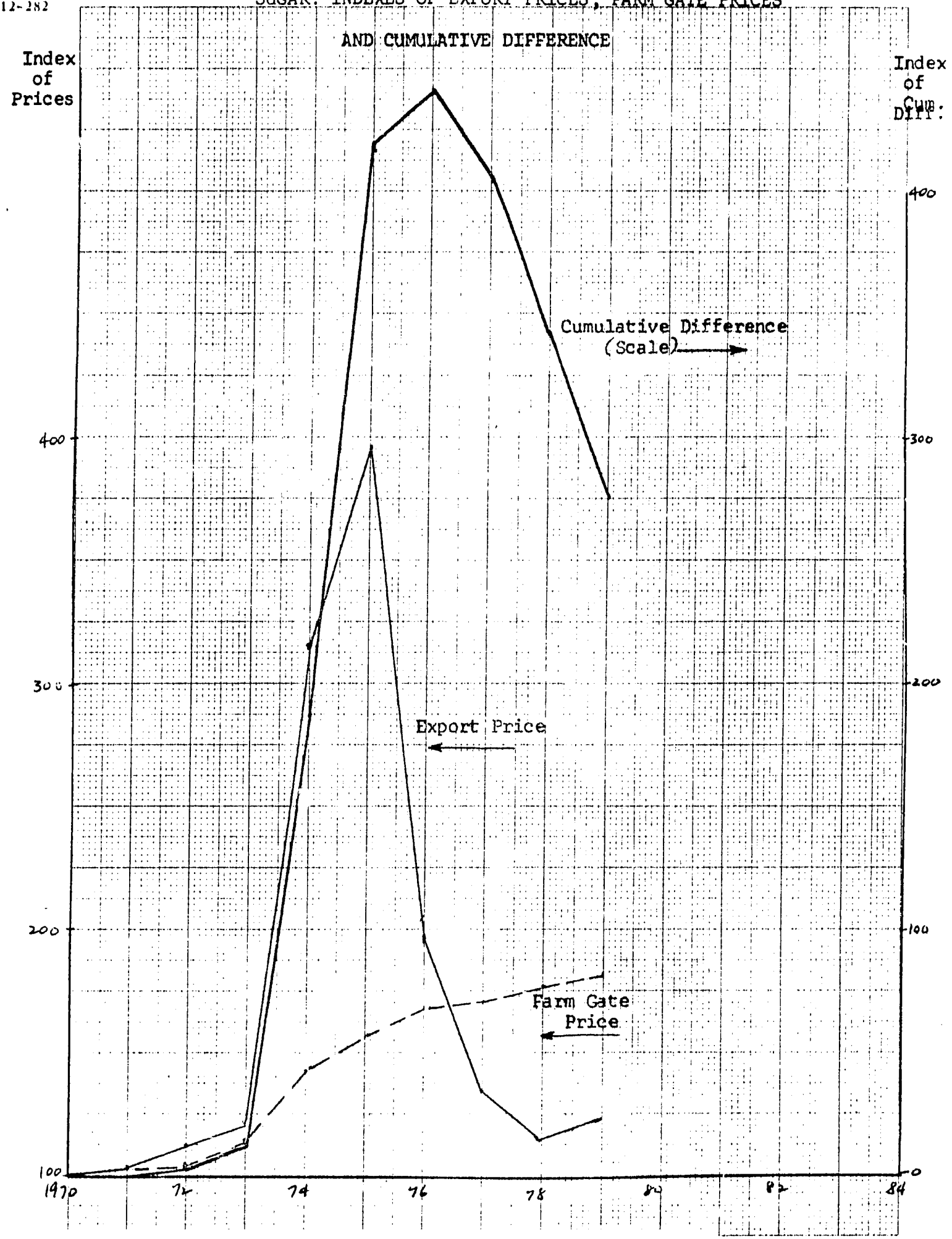
SUGAR: INDEXES OF EXPORT PRICES, FARM GATE PRICES AND CUMULATIVE DIFFERENCE



of labor input coefficients--which is unavailable for the Philippines. We have, however, made estimates of the indirect employment impacts of two projects in which the secondary employment effects seem to be important.

In the case of the Alcogas program, aimed at increasing the nation's production of alcohol from sugarcane, the Ministry of Industry has estimated that an additional 100,075 jobs would be created in agriculture to produce the raw materials to be used as input for the expanded alcohol distillery capacity.

On the other hand, the rationalization of both coconut and sugar has resulted in increasing farm gate--world market price spreads. If these price spreads continue the same trend in the next five years as they have followed in the recent past, we estimate that the negative impact on rural agricultural incomes will be translated into a loss of 29,000 jobs in small rural industry.

F. The Problem of Productivity Growth

We have already suggested that increased productivity is a critical dimension of the revitalization of Philippine manufacturing industry. It is now widely appreciated that increasing total factor productivity was a major factor in the growth of dynamic economies such as the U.S., Japan and Korea. When productivity increases, the price of output can be reduced (or may be increased less than competing products), resulting in an enlarged demand for the final product. Returns to factors can rise at the same time drawing more factors into production of these commodities. The net result is an increase in employment of labor, and not a decrease as is sometimes

believed. This connection between employment and total factor productivity increase is well documented for numerous countries at the industry and sector level. A similar point can be made at a macro level of analysis. Power has argued that at low levels of total factor productivity, it may be impossible to achieve a growth rate of industry which is sufficient, given existing levels of capital intensity--to absorb increases in labor supply, within the context of saving-investment and foreign exchange equilibria. That is to say, where overall factor productivity is low, the sheer volume of resources necessary to achieve a given level of output may imply disequilibria in the capital market and/or the external accounts. Such a situation can be remedied by raising productivity.[16]

The data in Table 9 below throw light on the productivity performance of Philippine manufacturing. These data show the trend in three productivity indices for the period 1956-1974. Output per worker-hour increases over virtually the whole period--at what looks like a reasonably satisfactory rate of nearly two percent per year. However, the source of this increases is largely increased in capital per worker, as evidenced in the persistent decline of the output per unit of capital index. That is, much of the increase in output per worker has been bought at the price of increased capital per worker. This is reflected once again in the index of total productivity--which rises modestly in the period before 1970 and then appears to plateau after that date.

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[16]John Power, "Protection and Employment: A Macroeconomic Approach," The Philippine Review of Business and Economics, June, 1973.

Table 9

Indexes of Partial and Total Productivity, Philippine Manufacturing 1956-1976

	Index of VA per Worker hour (Q/N)	Index of VA per unit of Capital Q/K	Index of Total Productivity ($Q/Nw_1 + Kw_2$)
1956	76.6	149.5	84.7
1957	73.4	150.7	80.4
1958	80.4	155.6	87.7
1959	84.9	159.1	93.1
1960	84.1	150.4	90.5
1961	90.5	146.1	97.1
1962	84.3	124.5	89.5
1963	89.7	129.1	95.2
1964	87.7	124.3	92.8
1965	83.2	109.8	87.2
1966	84.1	104.8	87.5
1967			
1968	94.2	107.9	97.5
1969	95.4	99.3	97.9
1970	96.1	96.8	97.4
1971	99.0	97.0	99.2
1972	100.0	100.0	100.0
1973	88.9	104.1	90.1
1974	97.5	100.8	98.9
1975	90.7	-----	----
1976	90.8	-----	----

SOURCE: Value added and number of workers from NCSO Annual Survey of Manufacturers. Labor hours from Philippine Yearbook. Capital includes fixed and inventories and is derived from capital expenditure data as shown in the Annual Survey, deflated by a 1972 price index. All data refer to firms with 20 or more workers. w_1 and w_2 are the respective income shares of labor and capital, used to combine the inputs for the total productivity index.

In addition to the importance of capital-labor substitution in raising output per worker-hour, the other major observation that can be made is the very modest gains in total factor productivity which are implied by the data in Table 9. Considering the fact that the labor force grew by three-fold during the period 1956-1977 one would expect quite substantial gains from internal and external economies of scale--if nothing else. Technology was improving in many of these industries--as we know from studies of productivity in other countries using approximately the same technology.[17] Indeed, if we were to make elementary adjustments for changes in quality of inputs (e.g., education of the workforce), we probably would reduce the productivity growth further. Overall, productivity growth in the Philippine manufacturing has been quite disappointing.

One explanation for this lackluster performance is the environment of controls surrounding industry during the past 20 years. Now that this environment is changing, some expect to look forward to dramatically rising levels of productivity. The new environment will undoubtedly provide gains in output from better resource allocation. There will, however, also be offsetting developments. First, it is well known that productivity decreases as output decreases. The new environment will bring about declines in productivity in many industries due to lower levels of output. Second, entrepreneurship in the Philippines is highly politicized in its behavior patterns--as explained earlier. A considerable part of the entrepreneurial

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[17]By the terms 'technology' we do not mean simply capital technology but the whole spectrum of methods of organization of production, marketing, etc. that is implied in the term 'management of resources'.

community may therefore not react to the new environment by focussing on efficiency, but rather by focussing on making still further alterations in the environment. In the end, there just may not be a sufficient supply of progressive, rational entrepreneurs dedicated to putting Philippine industry on an efficient track. For these reasons, we believe that the positive productivity effects of the restructuring program will not be as pronounced as some observers apparently believe.

Before leaving this subject we wish to report significant qualitative evidence on Philippine labor productivity. It is sometimes averred that enterprises in this country, particularly those located in rural areas, are at a marked international disadvantage because of the poor working habits and low productivity of Filipino labor. We visited a dozen firms operating in the export zones in Bataan and Cebu and have spoken to most of the managers. In every case but one they reported to us that output per worker in their Philippine plant was as high or higher than in their other branches which are located in various parts of the world. Several managers told us that labor productivity in this country is as high or higher than in other parts of Asia, including Korea and Japan. Several commented on what they saw as very superior learning curves for Filipino workers. Only one firm (a medium-sized plant) reported lower output per worker here--but that firm had only been in operation for about one month. These observations suggest that the problem of low productivity growth in the Philippines is management centered. Possibly the central core of the problem is similar for both large and small firms.

Summary of Employment Effects of World Bank-Supported Industrial Restructuring Program

We have reviewed the Industrial Restructuring Program and shown through a set of quantitative projections that the main impact on employment will be felt from the expansion of non-traditional manufactures. The main conclusion of this study is that in order to maximize employment benefits from this program, a series of other supporting policies are also required. These supporting policies fall into three categories. One is the need to strengthen efforts toward improving the share of income going to rural workers. A second is the need to stimulate the growth of SMI. A third pertains to measures necessary to improve productivity growth in Philippine industry. Finally, there is the need for policies to make saving in financial form more attractive to households and business. We emphasize that these policies are not substitutes but complementary to one another. They are interrelated in the sense that achievement of the target of one set supports achievement of the other policy targets.

Quantitative estimates of the various aspects of the Restructuring Program are shown in Table 10 below. Let us briefly review the main points. The Restructuring Program is expected to produce an increase of 1.1 million jobs in manufacturing by 1985. Of this total, 833 thousand (or approximately 74 percent) will be accounted for by the growth of non-traditional manufactured exports. The restructuring of tariffs is expected to result in a decline in employment of 56 thousand jobs. Substantially offsetting this loss of employment, however, are the proposed changes in fiscal policies affecting new investment which should bring about a reduction of the

Table 10

Projected Employment Generation in Manufacturing by 1985

	Employment 1978	Estimated Increase (Decrease) in Employment Resulting from Indicated Policy by 1985	Estimated Employment 1985
A. Non-traditional Manufacturing Exports[1]	330,700	833,033	1,163,733
B. Employment in manufacturing, excluding non-traditional manufactured exports, projected to grow at 3% p.a.	1,410,300	324,277	1,734,527
1. Reduction in manufacturing employment resulting from increased imports following restructuring of effective protection rates.[2]	---	(56,141)	(56,141)
2. Gains in manufacturing employment from increased exports of traditional manufactures due to restructuring of EPRs by commodity.	---	2,439	2,439
3. Gains in manufacturing employment from restructuring of BOA fiscal incentives administered under RA 5186 and RA 6135	---	45,700	45,700
4. Gains in manufacturing employment from the 11 major national projects.[3]			
a. Petrochemicals complex, diesel engine plant, fertilizer plant, copper smelter, steel mill, etc.	---	9,227	
b. Alcogas program[4]	---	1,755	(18,518)
c. Coconut and sugar rationalization[4]		(29,500)	
C. Total Manufacturing Employment	1,741,000	+1,130,740	2,871,740
D. Total Philippine Employment projected to grow at 3.5 percent to 1985	15,808,000		20,113,000
E. Manufacturing labor force as percent of total labor force	11.0		14.3

[1]Non-traditional manufactured exports are projected to increase 291 percent during the period. We have assumed an employment elasticity of 1.559 for these commodities, which is the weighted average for the recent past.

[2]See Table 3 for details on methods of estimation of this item.

[3]The figures for petrochemicals, etc. were supplied by the Ministry of Industry. Our estimate for the Alcogas program is based on data supplied by the Ministry and PNOC. For an explanation of the estimate for coconut and sugar rationalization, see text.

[4]Indirect employment effect of Alcogas on agriculture of estimated 100,755 jobs in agriculture not included here. Negative impact of coconut and sugar rationalization is estimated indirect impact on rural manufacturing jobs.

degree of capital intensity, and when fully implemented will result in an estimated gain of 46 thousand jobs. The direct gains from major new national manufacturing projects amount to approximately 11 thousand jobs. However, when the indirect effects of these national projects are added (particularly of the Alcogas project), the total impact becomes higher. Indirect employment effects (in agriculture) of the Alcogas project amount to 101 thousand jobs. Indirect effects of the rationalization of coconut and sugar amount to a loss of 30 thousand manufacturing jobs, on the assumption that sugar and coconut rationalization continue to have the same negative impact on rural incomes as they have had in the recent past.

The key to success of the program is clearly the expansion of non-traditional manufactured exports. Assuming substantial success in this export drive, and upon implementation of other aspects of the program, we project a rise of the proportion of manufacturing employment to total employment from the present 11 percent to 14.3 percent by 1985. The reader may be surprised that the percentage of the labor force in manufacturing does not rise more rapidly. That is partly because the labor force is now increasing rapidly--we are projecting a 3.5 percent annual increase. That is somewhat faster than originally projected by the ILO Report, primarily because of the increase in labor force participation rates, as discussed earlier.

It is clear from the foregoing that there is not much room for "policy slippage" if the Philippines is to achieve its goal of substantially increasing the share of manufacturing employment in total employment by 1985. Unfavorable exogenous forces over which policy makers have little or no control, could conceivably emerge

accompanied by increased political opposition and general unrest. In the Philippines, however, possibly because of the low level of political consciousness of the majority of the people, this has not taken place.

Some of the causes of the decline in real wage income have been external to the system--e.g., the oil price increase. But a factor of major importance--and in our opinion the most important single factor--has been the failure of industrial employment to expand. For a variety of reasons, Philippine industry has expanded at only a modest rate in recent years, and has remained capital-biased in production methods and organization, damping still further the demand for labor. Out of an average annual increase in the labor force of some 600,000 only about 60,000 find jobs in manufacturing. A large part of the remainder find jobs in agriculture--but only at static or declining real wage levels, because labor productivity levels in agriculture cannot rise fast enough to absorb a larger portion of the labor force additions at constant or rising real wage levels. The remainder, consisting of those that cannot find productive employment in either agriculture or industry, are absorbed in the service sector. Thus, the chief employer of last resort is the service sector. Such a solution to the employment problem creates unmanageable burdens in the organization of production, prepares the way for further price inflation, sets the stage for further declines in real wages, and contributes nothing to the needed increase in productivity.

The Industrial Restructuring Program proposed by the World Bank seeks to attack the problem of income distribution and declining real wages by augmenting income-earning opportunities available to wage earners. The program consists of several parts. One is the

expansion of light-manufactured exports. This part of the program is underway and we feel that employment in non-traditional manufactured exports should increase by approximately 833 thousand by 1985. We emphasize that this expansion of exports is the anchor of the employment and income distribution policy impacts of the restructuring Program. If the expansion of manufactured exports lags behind our estimates, the favorable employment impacts of the Program will be correspondingly reduced.

Other elements of the Restructuring Program include reductions in tariffs on a selective basis for a large number of import-substituting industries and reform of the system of fiscal incentives for investment in BOI approved projects (e.g. accelerated depreciation and exemption from duties on capital imports). We estimate that the direct impact of tariff reductions will be a reduction of manufacturing employment by approximately 56,000 persons in 1985. A possible offset to this, however, is a reduction of capital intensity of production by the proposed fiscal reforms. We estimate that if the present structure of capital-biased investment incentives available to new projects approved by the BOI is eliminated, it would result in an addition of 46,000 jobs in manufacturing by 1985. The net effect of the entire policy package, according to our estimates, is to raise the share of manufacturing employment in total employment from the present 11 percent to slightly over 14 percent.

The GOP is considering the establishment of eleven major industrial projects designed to provide linkage from consumer industries backward to intermediate and primary goods industries. Our conclusion is that, based on existing available information, the

maximum additional direct employment from these projects will be approximately 11,000 jobs by 1985. This will be more than offset by the effects of the rationalization of the sugar and coconut industries which is expected to cost the manufacturing sector approximately 29,000 jobs through adverse impact on rural-based small manufacturing firms. An offset to this, however, is the GOP estimated creation of approximately 100,000 jobs in agriculture as a result of the Alcogas program.

While international organizations may supply funds for the restructuring of industry, there is reason to believe that the performance of the Philippine financial system can be improved to help augment the flow of domestic resources. Reform of the Central Bank interest rate policies, tighter restrictions on loans for construction of luxury residential dwellings, and other measures to improve the attractiveness of holding financial instruments can improve the flow of household saving and its distribution to more productive uses.

Policy Recommendations

We agree with the general thrust of the Industrial Restructuring Program--particularly with the emphasis on the expansion of industrial employment as a means to improve the distribution of income. As a whole, the Program represents a significant extension of the general strategy recommended by the ILO in its earlier study of the Philippines and sketched out in detail in the USAID Country Development Strategy Statement (CDSS). On a number of specific points we would be prepared to go even further than the policy actions now indicated, with the objective of raising

the projected share of manufacturing employment in total employment to at least 16 percent by 1985.

1. The emphasis on expanding exports of light-manufactured goods is justified, in our opinion, by the potential for expanding foreign trade in these commodities. However, we would also like to see additional emphasis placed on the linkage of these exporting firms and domestic Philippine industry. Presently there is a surprising lack of inter-firm contracting work being undertaken, except in very special situations in the garment industry. The absence of the development of subcontracting arrangements will significantly dampen the potential secondary employment effects generated by these exports. Moreover, it will make the export zones politically vulnerable to the charge that they are enclaves of foreign firms with minimal impacts on the rest of the economy.

2. At present, the Labor Ministry appears to have little input into the economic planning process. The employment aspect of economic planning is correspondingly weak. The Labor Ministry should be drawn into the planning process to a greater extent. This will serve to clarify to labor leaders the problems encountered in expanding employment. It will also provide a natural "spokesman" with a concern for the employment effects of proposed industrial projects and national plans.

We wish to caution, however, that until some reliable research is done on Philippine industrial productivity levels and/or rates of change, it would be premature to attempt to set employment "goals". Once such work is undertaken, however, the sketching out of some employment targets--even of a broad type on a sectoral basis--would

be desirable. This is possible only after more is known about the process of productivity change in the Philippines--because by definition, productivity is the relationship between output change and change in inputs, including labor.

3. Exports of light-manufactures are the anchor of the employment gains from the Restructuring Program. However, over the long-run, domestic industry will continue to account for the lions' share of manufacturing output. If the employment impact is to be maximized, it is essential that efficiency in domestic industry be raised markedly. Hopefully a more competitive environment will produce substantial improvements along this line. But even in industries where the economic environment now is reasonably competitive, we feel that the organization and management of production is far from optimum. There is need for the establishment of a Productivity Center--preferably outside of government--to study productivity trends in Philippine manufacturing and to assist individual firms with improving their operating procedures. Such a center would have three main functions:

(a) Measurement of productivity in both large and small firms with the aim of determining exactly where Philippine manufacturing stands vis-a-vis other relevant countries on the matter of productivity change, both for individual factors and with respect to inputs as a whole.

(b) Develop recommendations for reorganization and operation of large firms, especially those serving the domestic market, and particularly those in industries hit hard by the restructuring of tariffs.

(c) Develop recommendations for the raising of efficiency in small manufacturing firms, particularly in reference to the already observed paucity of sub-contracting of work from the large manufacturing exporters to small and medium-sized domestic manufacturers. Such a center could give special attention to the problems of the handicraft industry, and explore how it might satisfactorily solve existing problems in producting and manufacturing.

The World Bank loan contains a provision for $5 million for consulting services. Services by visiting consultants may not be adequate. We feel that a major effort must be made to upgrade productivity performance in Philippine industry. In our opinion such an effort will require central direction from a well funded, permanent institution with capabilities in the areas of productivity research, analysis and policy prescription.

4. In an earlier part of this report we noted that there has apparently been a modest increase in total factor productivity in Philippine manufacturing over the past quarter century. We have also seen that there has been a significant deterioration of real wages over the same period. This suggests that the productivity dividend was not shared with labor, but instead accrued entirely to entrepreneurs and owners of capital. The question arises as to what can be done to raise labor's share in productivity gains?

We emphasize that the first priority should be given to employment expansion. It is important that this point be made clearly to the Philippine labor movement. Until industrial employment expands

apace, there is no feasible way to raise real wages. Once a significant expansion of industrial employment is under way, the expansion itself will constitute a necessary condition for a rise in wages. Under competitive conditions a rise in wages would automatically occur as soon as full employment is reached. However, the labor market may not be competitive. Indeed, it appears to us to resemble an oligopoly on the demand side with labor supply organized along thoroughly competitive lines. Not everyone will agree with this description. In any event, there is a genuine need for much closer scrutiny of the process of real wage determination in industry and the question of labor's share in productivity gains. A related question is the uses to which the productivity dividend is put--i.e., whether it is used for further expansion of plant and employment or for luxury consumption. These questions have not generally been raised in Philippine society, but it is inevitable that they ultimately will be. They will certainly become critical if productivity in industry increases substantially. The time to do the background gathering of facts and the basic analysis in order to get a policy handle on the matter is now.

(5) The expansion of exports and the readjustment of fiscal incentives to favor more labor-intensive production mixes will make major contributions to the expansion of employment in industry. Expansion of manufacturing output is also important. To accomplish this, sources of capital funds should be expanded. While foreign borrowing should play a role here, more needs to be done with regard to the mobilization of domestic finance. We have pointed to the importance of raising deposit rates of interest and taking additional

measures to hold down luxury consumption, particularly luxury residential housing. Additional measures could undoubtedly be suggested if we had time to study more intensively the pattern of financial flows in the Philippines. The overall thrust is, however, clear: to increase the attractiveness of holding financial assets among the public so that a larger share of saving is channeled into productive uses.

(6) There is an urgent need to strengthen policies directed toward improving the share of income going to rural workers. This can be accomplished by providing expanded employment opportunities through project assistance in rural areas, such as that now being extended by USAID to the Southern Tagalog region. Another aspect of this same general thrust is assistance to improve productivity in domestic industry, which acts both to expand output and employment and also to improve the terms of trade of agriculture. Finally, and of equal importance, policies must be developed to reduce the spread between farm gate and export prices. Success in these efforts is directly linked to acceleration of SMI and the potentially large volume of employment that SMI provide.

Policy Implications for CDSS Strategy

The broad policy thrusts which have emerged from our assessment of the macroeconomic framework in the Philippines lend strong support to the desirability of an overall strategy of employment generation. Let us be more specific.

(1) The most effective way to redress the maldistribution of income in the Philippines is through a policy of employment generation. Increased employment adds directly to the sources of income of median

and low income families. In addition, if the employment generation is successful in absorbing workers in the marginal service areas, real wage rates will also rise, adding a second important thrust towards equalizing the distribution of income.

(2) All the evidence points to labor saturation in the agricultural sector. That is because too much of the burden of absorbing the expanding additions to the labor force has been put on agriculture in the past. It is necessary to stimulate labor absorption in manufacturing. We feel that a much more rapid growth of employment in manufacturing is not only an essential aspect of any strategy to improve income distribution but also entirely feasible.

(3) Any successful strategy aimed at increasing employment should focus on (a) the expansion of labor-intensive exports; (b) the removal of trade and fiscal structures which favor capital-intensity in production; and (c) assisting medium and small industries to expand. Items (a) and (b) appear to be getting substantial attention, and policy reforms in these areas are either underway or being seriously considered by the GOP in consultation with international financial organizations. USAID may be able to make a special contribution to (c) because of its past experience in this direction both in the Philippines and in other countries.

(4) There is a need to increase farm income as an integral part of a strategy to increase industrial growth in rural areas. This is a particularly important component of assistance to small and medium industries.

(5) In the longer run, the ability of Philippine industry to increase employment will be heavily dependent on the rate and pattern of productivity increases. We have in mind increases in total factor productivity which are not capital-biased and which would affect the performance of domestic manufacturing industry as well as that of indigenous enterprises in the export sector. The appropriate kinds of productivity increases can raise employment and, ultimately, real wages in a dramatic way, as the experience of countries such as Korea and Taiwan demonstrates. We have suggested the establishment of a Productivity Center to pursue work in this area of industrial productivity and prescribe policies appropriate to Philippine industry. USAID can contribute to this vital dimension by continuing to emphasize its importance and by lending support to whatever organizational forms seem most appropriate in undertaking activity in this area.

(6) Overall there has emerged a favorable policy environment in the Philippines for efforts directed at employment generation. There is a growing realization within the more articulate segments of the GOP of its importance, and a commitment to its achievement as evidenced by reforms undertaken and others under serious consideration as part of the World Bank supported industrial adjustment program. USAID can continue to help by supporting policies emphasizing the priority concern of more rapid employment generation and increased industrial productivity and efficiency.

APPENDIX A

WAGE RATES, EMPLOYMENT AND SELECTED PRICE INDEXES

Appendix on Real Wage Rates

The most commonly used indicator of real wage rates for Philippine industry is that published by the Central Bank. The CB index has an unskilled and a skilled component and is collected from cooperating establishments in the Manila area. As an index of the change in real wages for industry in the country as a whole, this series has three disadvantages: (a) It covers only firms in the Metropolitan Manila area. Thus it cannot reflect industrial wages in the non-Manila area. The latter represents approximately 45% of total manufacturing payroll. (b) The coverage of the wage information is for existing firms. New firms are not systematically incorporated into the sample. Some bias in the results is likely, although whether upward or downward is uncertain. (c) Although the Central Bank administrators have instructed the surveyed companies to report money wages <u>including</u> allowances (which are required by the minimum wage legislation), it is highly questionable that all respondents do this. At least this is the inference that can be made from the fact that the CB index of real wage rates declines much faster than other comparable real wage indicators, including one other published by the CB itself. With 1972=100, the CB index of wage rates declines to 70.4 while the CB index of real monthly earnings in manufacturing declines to 86.3

There are some differences in the coverage of the two series. Theoretically, the monthly wage series reflects changes in hours worked as well as changes in wage rates. However, hours worked show no significant variation over this period. Again, the average monthly wages will include skilled as well as unskilled workers. However, if we look at the

Central Bank index of skilled workers, it declines even faster than the unskilled index of wage rates. The only conclusion left seems to be that of underreporting of the allowances.

There are two reasons for preferring the NCSO data on wages to other sources. First, the NCSO series are presented by geographical region, and it is particularly important to break Metropolitan Manila out from the rest of the country, where many of the smaller firms are located. Second, the Census data are based on establishment payrolls. Payrolls are based on written accounting records. Again, payroll records include all payments to employees -- allowances, 13 month bonuses, etc. Payrolls as defined by the Census are defined to include the money value of non-cash payments to workers as well.

The wage data on agriculture which we use are collected by the Ministry of Agriculture. These are also shown on a regional basis. The use of both manufacturing and agricultural wage information together, supported by regional consumer price indexes, gives us a more complete perspective on wage trends than wage rate surveys taken in Manila alone.

Table A-1

Indexes of Real Wages in Manufacturing

	Central Bank Index of Real Wage Rates of Unskilled Workers[1]	Central Bank Index of Real Monthly Earnings In Manufacturing[1]	NCSO Real Monthly Earnings In Manufacturing (20 Workers Or More)[2]
1956	116.6		115.7
1957	113.4		117.6
1958	110.0		118.0
1959	112.2		126.3
1960	107.9		123.3
1961	108.8		
1962	105.9		118.0
1963	105.6		
1964	98.6		
1965	102.7		
1966	104.8		
1967	103.2		117.7
1968	112.2		119.4
1969	115.2		124.1
1970	111.6		126.1
1971	104.1		123.9
1972	100.0	100.0	100.0
1973	90.0	99.8	94.1
1974	72.8	82.6	89.0
1975	72.9	84.9	
1976	70.3	89.0	
1977	70.4	86.3	92.4[3]
1978	68.2	96.4	87.3[3]

1/ Central Bank, Statistical Bulletin.
2/ Appendix Table A-5. Regional weights based on payroll were used to derive the aggregate index.
3/ Preliminary estimate.

Table A-2

Real Agricultural Wage Rates*(Pesos/Day)

	Ilocos	Cagayan	Central Luzon	Index	Southern Tagalog	Bicol	Western Visayas	Eastern Visayas	North-eastern Mindanao	South-eastern Mindanao	ALL Philippines Index
1954-55	3.8	3.7	4.3	179	5.8	3.4	3.1	2.7	4.1	3.6	165
1957-58	3.8	3.9	4.2	175	4.4	3.3	3.1	2.8	3.7	3.8	158
1958-59	3.7	4.0	4.1	170	5.0	3.1	3.0	2.9	3.7	3.9	160
1959-60	3.6	3.7	3.9	162	4.1	3.0	2.8	2.9	4.0	4.0	153
1960-61	3.2	3.4	3.6	150	4.2	2.9	3.0	2.8	3.3	3.6	144
1961-62	3.3	3.4	3.3.	138	3.9	3.0	2.9	2.8	3.3.	3.5	141
1962-63	3.2	3.3	3.3	138	3.8	2.9	2.8	2.6	3.2	3.3	136
1964-65	2.8	3.0	2.8	116	3.4	2.8	2.7	2.5	3.0	3.0	124
1965-66	3.2	2.7	3.4	141	4.0	2.4	2.2	2.7	3.2	3.2	129
1966-67	3.3	2.9	3.1	129	4.4	2.3	2.2	2.5	2.9	3.6	130
1967-68	3.5	2.8	2.6	108	4.9	2.5	2.3	2.1	3.2	3.5	131
1968-69	2.8	2.8	3.1	129	4.2	2.1	2.0	2.3	3.1	2.6	120
1969-70	2.5	2.9	2.9	120	3.2	2.0	1.8	1.9	2.8	2.5	108
1970-71	2.5	2.3	2.6	108	3.0	2.1	2.1	1.7	2.7	2.4	102
1971-72	2.3	2.1	2.4	100	3.0	2.2	2.1	1.8	2.6	2.4	100
1974-75	2.3	1.6	2.3	96	2.4	2.0	2.0	1.9	2.2	2.2	90

* Nominal wage rates were deflated by Regional CPI (1965=100) from Table III. 12. of the Statistical Appendix of World Bank Poverty Study.

SOURCE: World Bank Poverty Study, Statistical Appendix, and Bureau of Agricultural Economics.

Table A-3

Agricultural Real Wage Rate Index, (1972=100)

	Central Luzon & Southern Tagalog	Outside Central Luzon & Southern Tagalog
1954-55	187.0	157.4
1957-58	159.3	157.4
1958-59	168.5	156.8
1959-60	148.2	154.8
1960-61	144.4	143.2
1961-62	133.3	143.2
1962-63	131.5	137.4
1964-65	114.8	127.7
1965-66	137.0	126.4
1966-67	138.9	127.1
1967-68	138.9	128.4
1968-69	135.2	114.2
1969-70	113.0	105.8
1970-71	103.7	101.9
1971-72	100.0	100.0
1974-75	87.0	91.6

Source: Table A-2

Table A-4
Employment and Average Earnings In
Manufacturing Establishments Employing 20 or More Workers

	Metro Manila			Ilocos Region			Cagayan Valley			Central Luzon		
	Total* Payroll (000 ₱)	Total** Employment	Average Annual Earnings	Total Payroll (000 ₱)	Total Employment	Average Annual Earnings	Total Payroll (000 ₱)	Total Employment	Average Annual Earnings	Total Payroll (000 ₱)	Total Employment	Average Annual Earnings
1956	162,451	73,624	2,206	2,992	2,186	1,369	1,055	909	1,161	16,840	9,669	1,742
1957	189,447	82,337	2,301	3,396	2,207	1,539	1,902	1,475	1,289	21,415	12,499	1,713
1958	203,144	86,413	2,351	3,454	1,817	1,901	3,186	2,171	1,468	20,908	11,422	1,830
1959	228,142	92,808	2,458	3,486	1,725	2,021	2,770	1,612	1,718	21,141	11,082	1,908
1960	246,657	101,229	2,437	3,523	1,742	2,022	2,772	1,762	1,573	25,753	12,132	2,123
1961												
1962	288,530	113,036	2,552	4,371	1,949	2,243	4,459	2,402	1,856	35,522	15,912	2,232
1963												
1964												
1965												
1966												
1967	575,441	176.292	3,264	7,174	2,480	2,893	14,103	6,595	2,123	75,341	24,798	3,038
1968	528,233	156,291	3,380	10,567	3,936	2,685	10,295	4,379	2,351	79,141	23,216	3,409
1969	549,702	155321	3,539	12,897	3,750	3,439	10,456	4,696	2,226	82,415	23,435	3,517
1970	515,020	122,591	4,201	13,763	4,308	3,195	9,861	3,974	2,481	89,471	23,856	3,750
1971	636,551	130,005	4,896	16,234	4,816	3,371	11,091	3,930	2,822	110,475	25,490	4,334
1972	1,007,477	246,012	4,095	22,752	6,989	3,255	16,525	5,780	2,859	127,448	31,618	4,031
1973	1,261,516	283,012	4,457	18,202	5,079	3,584	16,398	5,736	2,859	143,262	33,605	4,263
1974	1,638,157	284,562	5,757	29,807	5,647	5,278	19,921	6,036	3,300	183,708	36,242	5,069

* Total payroll and extra benefits for the Calendar Year, i.e. overtime pay, allowances, bonuses, employers contribution to SSS/GSIS
** Average employment for the year.

SOURCE: NCSO Survey of Manufacturing Establishments.

Manufacturing Establishments 2

	Southern Tagalog			Bicol			Western Visayas		
	Total Payroll (000 ₱)	Total Employment	Average Annual Earnings	Total Payroll (000 ₱)	Total Employment	Average Annual Earnings	Total Payroll (000 ₱)	Total Employment	Average Annual Earnings
1956	30,641	22,535	1,360	2,561	1,985	1,290	35,250	17,762	1,985
1957	42,492	29,136	1,458	3,486	2,694	1,294	32,730	17,944	1,824
1958	49,900	30,686	1,626	2,490	1,599	1,557	34,173	18,086	1,889
1959	60,963	34,160	1,785	2,379	1,486	1,601	38,160	18,320	2,083
1960	76,029	39,915	1,905	2,254	1,279	1,762	38,373	18,111	2,119
1961									
1962	100,386	48,138	2,085	2,674	1,909	1,401	42,511	18,572	2,289
1963									
1964									
1965									
1966									
1967	184,398	62,273	2,969	8,802	4,515	1,949	63,664	20,255	3,159
1968	195,527	62,851	3,111	4,170	2,057	2,025	62,931	18,441	3,380
1969	217,608	66,902	3,253	3,570	1,611	2,216	75,297	21,126	3,564
1970	330,093	97,565	3,383	4,409	1,497	2,945	89,636	23,041	3,890
1971	415,190	101,610	4,086	5,816	1,925	3,021	108,682	25,204	4,312
1972	82,337	19,349	4,255	11,485	3,501	3,280	116,092	28,073	4,135
1973	83,291	19,048	4,373	10,691	3,778	2,830	133,436	29,463	4,529
1974	115,403	21,334	5,409	8,112	2,799	2,898	196,355	29,788	6,592

Manufacturing Establishments 3

	Central Visayas			Eastern Visayas			Western Mindanao		
	Total Payroll (000 ₱)	Total Employment	Average Annual Earnings	Total Payroll (000 ₱)	Total Employment	Average Annual Earnings	Total Payroll (000 ₱)	Total Employment	Average Annual Earnings
1956				11,967	7,073	1,692			
1957				12,877	7,433	1,732			
1958				12,975	7,789	1.666			
1959				13,912	7,733	1,799			
1960				14,287	7,675	1,862			
1961									
1962				17,624	8,977	1,963			
1963									
1964									
1965									
1966									
1967				46,281	18,876	2,452			
1968				42,384	15,176	2,793			
1969				46,642	15,496	3,009			
1970				59,325	15,588	3,806			
1971				59,617	15,696	3,798			
1972	61,368	17,653	3,476	8,909	2,450	3,636	30,087	7,130	4,220
1973	71,993	18,779	3,834	6,996	1,267	5,522	18,513	4,352	4,254
1974	94,624	19,709	4,801	8,598	1,298	6,624	16,936	3,915	4,326

Manufacturing Establishments 4

	Northern Mindanao			Southern Mindanao			Central Mindanao		
	Total Payroll (000 ₱)	Total Employment	Average Annual Earnings	Total Payroll (000 ₱)	Total Employment	Average Annual Earnings	Total Payroll (000 ₱)	Total Employment	Average Annual Earnings
1956	13,877	8,723	1,591	7,329	4,867	1,506			
1957	15,975	9,920	1,610	7,784	5,254	1,482			
1958	17,831	10,644	1,675	10,313	6,347	1,625			
1959	18,552	9,899	1,874	8,707	5,551	1,568			
1960	19,614	9,896	1,982	8,281	4,239	1,953			
1961									
1962	18,319	9,702	1,888	12,648	8,582	1,474			
1963									
1964									
1965									
1966									
1967	75,533	26,656	2,834	68,052	28,457	2,391			
1968	55,389	20,389	2,719	41,459	16,948	2,446			
1969	60,822	19,543	3,112	49,386	18,636	2,650			
1970	72,949	19,445	3,752	61,802	20,268	3,049			
1971	87,090	20,025	4,349	79,941	23,611	3,386			
1972	121,137	28,342	4,274	93,352	27,350	3,413			
1973	56,873	15,596	3,647	88,636	22,298	3,957	48,326	12,657	3,818
1974	108,300	21,924	4,940	88,365	20,011	4,416	43,902	10,017	4,383

Table A-5

*Real Average Earnings of Persons Employed in Manufacturing (20 or More Workers)
(Pesos)

	Metro Manila	Ilocos	Cagayan	Central Luzon	Southern Tagalog	Bicol	Western Visayas	Central Visayas	Eastern Visayas	Western Mindanao	Northern Mindanao	Southern Mindanao	Central Mindanao
1956	3009	1904	1615	2426	1894	1817	2784		2334		2414	2063	
1957	3089	2140	1793	2386	2031	1822	2558		2389		2443	2030	
1958	3053	2566	2091	2480	2197	2130	2642		2258		2320	2175	
1959	3226	2795	2328	2639	2466	2184	2950		2434		2756	2187	
1960	3058	2643	1984	2790	2474	2271	2891		2384		2840	2597	
1961													
1962	2992	2739	2300	2706	2597	1758	2890		2299		2375	1759	
1963													
1964													
1965													
1966													
1967	2909	2520	1973	2720	2689	1782	2783		2207		2757	2196	
1968	2942	2339	2197	2998	2770	1772	2937		2503		2492	2232	
1969	3022	2883	1991	3050	2939	1889	3015		2677		2882	2337	
1970	3149	2392	1978	2839	2610	2134	2903		1883		3073	2401	
1971	3190	2071	1816	2752	2598	1841	2678		2205		2742	2019	
1972	2424	1751	1654	2289	2524	1889	2381	1992	2023	2396	2555	1938	
1973	2314	1720	1413	2151	2320	1428	2282	1878	2783	2112	1988	1965	1870
1974	2239	1828	1172	1874	2094	1027	2293	1752	2293	1499	1852	1530	1600
1975													
1976													
1977	2305												
1978	2316												

* Nominal earnings were deflated by Regional CPI (1965=100) from Table III. 12 of the Statistical Appendix of the World Bank Poverty Study.

SOURCE: NCSO Survey of Manufacturing Establishments

Table A-6

Real Earnings Index of People Employed in Manufacturing
(20 or More Workers)
(1972=100)

	Metro Manila	Central Luzon Southern Tagalog	Rest of the Philippines
1956	124.1	89.8	105.2
1957	127.4	91.8	106.9
1958	126.0	97.2	114.0
1959	133.1	106.1	124.3
1960	126.2	109.4	124.1
1961			
1962	123.4	110.2	113.6
1963			
1964			
1965			
1966			
1967	120.0	112.4	114.3
1968	121.4	119.8	116.1
1969	124.7	124.4	124.5
1970	129.9	113.2	125.2
1971	131.6	111.2	108.3
1972	100.0	100.0	100.0
1973	95.5	92.9	95.7
1974	92.4	82.4	84.5
1975			
1976			
1977	95.1		
1978	95.5		

Source: Table A-5

Table A-7

Employment and Earnings in Manufacturing Establishments
Employing 5 or More Workers

	Manila and Rizal			Outside Manila		
	Total Payroll (000 ₱)	Total Employment	Average Monthly Earnings	Total Payroll (000 ₱)	Total Employment	Average Monthly Earnings
1956	188,253	90,238	2,086	151,906	105,812	1,436
1957	212,261	99,003	2,144	167,254	114,688	1,458
1958	228,632	103,076	2,218	180,849	115,306	1,568
1959	264,455	113,679	2,326	192,569	115,425	1,668
1960	272,677	118,585	2,299	214,182	121,020	1,770
1961						
1962	307267	126.052	2,438	262,686	140,826	1,865
1963						
1964						
1965						
1966						
1967						
1968	577,448	181,036	3,190	547,472	199,018	2,751
1969	595,099	178,063	3,342	604,032	208,011	2,904
1970	566,621	144,964	3,909	785,479	244,044	3,219
1971	689,243	151,324	4,555	948,651	255,293	3,716
1972			4,864			
1973						
1974	1,701,092	310,161	5,484	933,284	204,684	4,560
1975						
1976						
1977						

* Includes extra benefits, i.e. allowances, overtime pay, bonuses, employers' contribution to SSS/GSIS.

Table A-8
*Real Average Earnings of People Employed in Manufacturing
(5 or More Workers)
(Pesos)

	Manila & Rizal	Index (1972=100)	Outside Manila	Index (1972=100)
1956	2846	1.06	2011	.96
1957	2878	1.07	2042	.98
1958	2880	1.07	2136	1.02
1959	3052	1.13	2320	1.11
1960	2885	1.07	2341	1.12
1961				
1962	2858	1.06	2283	1.10
1963				
1964				
1965				
1967				
1968	2776	1.03	2448	1.17
1969	2854	1.06	2550	1.22
1970	2930	1.09	2459	1.18
1971	2967	1.10	2294	1.10
1972	2689	1.00	2084	1.00
1973				
1974	2133	.79	1664	.80
1975				
1976				
1977				

*Nominal earnings were deflated by CPI (based on 1965 prices) for Manila and outside Manila from table III. 15, of the Statistical Appendix of World Bank Poverty Study.

Trade A-9
Price Indexes and Terms of Trade

	Implicit Price Index*			Prices Rec'd by Farmers 1/				Gen. Wholesale Price Index in Manila						
	Food Crops	Commercial Crops	All Crops	Palay	Average Copra & Sugar	Copra	Sugar-Cane	Manufactured Goods (Old CB Series)	CB Price Index of Domestically Produced Manufactured Goods 2/	Domestic T/T Manufactured Price Index AGR Price ÷ Index	Foreign T/T Export Price Index ÷ Import Price Index 3/	AGR Output (N.I. Acct.) (₱ Million) 1972 Prices	AGR Labor Force (Million)	Output Per Worker (1972 Pesos)
1955	.243	.310	.267					.435		1.631	1,431	8085	4.112	1966
1956	.242	.302	.261					.474		1.814	1.434			
1957	.242	.311	.265					.491		1.855	1.406			
1958	.249	.325	.279					.491		1.760	1.432			
1959	.247	.295	.264					.521		1.972	1.519			
1960	.251	.366	.290					.536		1.848	1.464	9338	5.065	1843
1961	.290	.332	.303					.552		1.821	1.328			
1962	.289	.370	.318					.570		1.795	1.318			
1963	.303	.405	.343					.590		1.721	1.300			
1964	.349	.432	.381					.610		1.602	1.280			
1965	.365	.450	.395					.625		1.582	1.280	11786	5.552	2122
1966	.398	.528	.441					.632		1.435	1.271			
1967	.441	.587	.493					.631		1.279	1.265			
1968	.528	.665	.574					.635		1.106	1.231			
1969	.581	.751	.637					.658		1.032	1.214			
1970	.701	.953	.786	.631	-	1.431	-	.852		1.082	1.188	14013	5.764	2441
1971	.812	.948	.864	.918	1.173	1.374	.973	.931		1.077	1.106			
1972	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000			
1973	1.000	1.111	1.052	1.135	1.771	2.453	1.090		1.191	1.132	1.133			
1974	1.353	1.742	1.495	1.490	2.861	4.380	1.342		1,763	1.179	1.145			
1975	1.555	1.386	1.502	1.544	2.304**	1.685	1,472**		1.932	1.286	.878	16913	7.190	2352
1976	1.455	1.038	1.305	1.615	1.748	1.894	1.602		2.119	1.623	.777			
1977	1.571	1.831	1.667	1.675	2.239	2.853	1.625		2.320	1.391	.710			
1978	1.640e		1.741e			4.10	1.677		2.489	1.429	.782	19828	7.627	2599
1979	1.839e		1.952e			4.70	1.775		2.998	1.535	.816			

* Served by reference to data on quntity and value of crop production, in NEDA, 1979 Statistical Yearbook.
** Indicates interpolation.
1/ From Bureau of Agricultural Economics
2/ Including food, beverage and tobacco (new CB series).
3/ CB Statistical Bulletin
e Estimated from CB Statistical Bulletin wholesale price index of "agricultural crops".

APPENDIX B

POPULATION AND LABOR FORCE

Table B-1

Population and Labor Force by Employment Status
('000)

	Working Age Pop'n (15 yrs old & over)	Labor Force Participation Rates (%)	Labor Force	Total Employment	Un-Employment	Un-Employment Rate (%)
1956			8487	7504	983	11.6
1957			8343	7659	684	8.2
1958			8758	8016	742	8.5
1959			8784	8158	626	7.1
1960			8947	8277	670	7.5
1961			9395	8663	732	7.8
1962			9831	9016	815	8.3
1963			10067	9407	660	6.6
1964			10237	9603	634	6.2
1965			10459	9672	787	7.5
1966			11112	10292	820	7.4
1967			11774	10300	974	8.3
1968			11705	10753	952	8.1
1969			11849	10993	856	7.2
1970	20822	55.5	11566	10734	832	7.2
1971	20792	59.7	12415	11777	638	5.1
1972	21591	59.7	12899	12068	831	6.4
1973	22726	59.0	13419	12774	643	4.8
1974	22951	60.0	13794	13220	571	4.1
1975	23772	60.7	14435	13815	620	4.3
1976	24992	61.8	15459	14663	796	5.2
1977	25695	59.7	15328	14574	781	5.1
1978p/	26866	62.1	16681	15808	873	5.2
1979p/	27918	62.8	17543	16808	735	4.2

p/ Preliminary.

Sources: 1970-1976 series from NEDA Statistical Appendix, Economic Report on the Philippines, July 1978, Table 1.2.
1977-1979 series from NCSO as published in Current Labor Statistics, Ministry of Labor & Employment.
1956-1969 series came from Tidalgo's Labor Absorption in the Philippines, 1956-1973 but labor force and employment figures have been adjusted by 0.94 and 0.937 factors, respectively. Latter was obtained by comparing the 1970-73 new LF data of NEDA with Tidalgo's 1970-73 series.

Table B-2

Employment by Sector
(in '000s)

	Employment				Percent Shares			
	Agriculture	Industry (Incl. Mftg)	Manufacturing	Services	Agriculture	Industry (Incl. Mftg)	Manufacturing	Services
1939	3663	851	601	3950	43.2	10.1	7.1	46.7
1956			938		59.0	15.8	12.5	25.1
1957			942		60.9	15.6	12.3	23.5
1958			889		63.3	13.6	11.1	23.1
1959			946		61.8	14.7	11.6	23.5
1960			1001		61.2	15.4	12.1	23.4
1961			1030		59.8	15.2	11.9	25.0
1962			1081		61.1	14.4	12.0	24.5
1963			1138		58.7	16.0	12.1	25.3
1964			1133		59.3	13.7	11.8	27.0
1965			1121		57.4	14.9	11.6	27.7
1966			1245		56.9	15.5	12.1	27.6
1967			1339		53.6	16.3	12.4	30.1
1968			1193		57.7	14.7	11.1	27.6
1969			1264		56.3	15.3	11.5	28.4
1970	5614	1814	1323	3324	52.3	17.2	12.3	30.5
1971	5780	1969	1419	4026	49.1	16.7	12.0	34.2
1972	6364	1884	1353	3821	52.7	15.6	11.2	31.7
1973	6773	1895	1369	4105	53.0	14.8	10.7	32.1
1974	7183	1914	1429	4124	54.3	14.5	11.0	31.2
1975	7190	2165	1609	4460	52.0	15.7	11.6	32.3
1976	7538	2231	1638	4894	51.4	15.2	11.2	33.4
1977	7276	2390e/	1691e/	4911e/	49.9	16.4e/	11.6e/	33.7e/
1978p/	7627				48.2			
1979p/	8113				46.2			

* Source: IBRD Poverty Study Appendix 3-A, pp. 221, Table III-1.
e/ Estimated.
p/ Preliminary.

Table B-3

Percentage Shares of "Services" Employment to Total Employment, By Sector

				Other Services of Which:		
	Transport	Commerce	Other Services	Government Community Business	Domestic	Personal Services
1956	2.9	9.9	10.9	5.0	4.0	1.9
1957	2.7	9.6	11.2			
1958	2.9	8.9	11.4			
1959	2.9	9.5	11.2			
1960	3.2	8.8	11.4			
1961	3.4	9.5	12.1			
1962	3.5	9.7	11.3			
1963	3.5	10.2	11.6			
1964	3.2	11.1	12.2	5.9	4.0	2.3
1965	3.4	10.8	13.8	6.8	4.7	2.3
1966	3.5	10.9	13.3			
1967	3.4	12.1	14.6			
1968	3.2	10.9	14.3	7.6	4.4	2.3
1969	3.4	9.9	15.1			
1970	4.6	7.6	17.9	10.4	5.0	2.5
1971	4.4	12.6	17.2	9.9	4.8	2.5
1972	3.9	12.5	15.4	9.0	4.4	2.0
1973	3.9	12.1	16.2	9.0	5.0	2.2
1974	3.8	12.0	16.1	8.9	5.0	2.2
1975	3.5	11.5	17.3	9.8	5.3	2.2
1976	3.7	12.4	17.3	10.2	5.0	2.1

Sources: -IBRD Study on Poverty in the Philippines, Table III.1., Appendix 3-A.

-Tidalgo, Labor Absorption in the Philippines, PEJ.

-NEDA Statistical Appendix, July 1978.

Table B-4
Employment in Manufacturing
(in thousands)

	No. of Employees			Total Manufacturing Employment
	≥ 20 Employees	5-19 Employees	1-4 Employees	
1956	150.9	55.0	732.1	938.0
1957	172.7	50.8	718.5	942.0
1958	178.3	50.0	660.7	889.0
1959	185.6	53.1	707.3	946.0
1960	199.1	49.7	752.2	1001.0
1961	214.8	48.8	766.4	1030.0
1962	230.5	48.0	802.5	1081.0
1963	250.1	50.2	837.7	1138.0
1964	266.2	50.2	816.6	1133.0
1965	273.5	50.3	797.2	1121.0
1966	276.0	51.4	917.6	1245.0
1967				1339.0
1968	325.1	69.2	798.7	1193.0
1969	331.8	70.3	861.9	1264.0
1970	333.1	70.7	919.2	1323.0
1971	353.0	67.9	998.1	1419.0
1972				1353.0
1973	455.9	82.1	831.0	1369.0
1974	454.2	77.7	897.1	1429.0
1975	494.9			1609.0
1976	535.7	1102.3		1638.0
1977	543.3			

Source: Appendix table on Labor Force and NCSO Annual Surveys of Manufacturers.

Table B-5

Manufacturing Employment in Establishments with Five or More Workers
(in '000s)

Industry	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976*	1977*
Food	69.3	67.7	75.4	83.2	82.9	85.0	88.0	102.8	117.6	111.7	116.2	120.7	127.5
Beverages	12.1	13.6	13.2	12.9	15.0	15.2	15.9	16.8	17.7	18.8	18.0	17.3	23.1
Tobacco	13.9	15.0	16.9	18.7	20.3	22.6	21.2	21.7	22.2	21.9	20.3	18.7	20.9
Textiles	33.7	36.2	41.4	46.6	47.3	52.4	48.3	66.6	84.9	86.9	87.0	87.2	91.4
Footwear & Apparel	29.0	27.5	32.6	37.8	39.1	34.7	37.2	38.9	40.6	42.2	70.2	98.3	98.4
Wood & Cork	32.8	34.1	36.6	39.1	38.5	38.9	41.7	44.7	47.7	42.9	49.1	55.4	41.2
Furniture & Fixtures	7.8	7.2	7.6	7.9	8.3	6.3	6.3	8.4	10.6	11.5	13.9	16.3	16.5
Paper	6.5	7.2	7.4	7.7	7.9	8.9	10.4	11.2	12.0	12.1	14.6	17.2	14.7
Printing & Publications	14.7	13.9	14.4	14.8	15.3	16.0	15.3	15.9	16.5	14.6	15.7	16.8	14.0
Leather (excluding footwear)	2.2	2.2	2.2	2.3	2.5	1.8	1.9	2.0	2.2	2.3	2.6	3.0	2.7
Rubber	6.7	7.4	8.2	9.1	8.4	8.6	9.1	11.0	12.8	13.0	13.2	13.3	13.3
Chemicals	19.7	20.9	22.0	23.2	23.9	22.7	25.7	27.0	28.3	28.8	30.3	31.8	32.4
Petroleum & Coal	1.0	1.0	1.0	1.1	1.1	1.5	1.7	1.4	1.2	1.3	1.2	1.2	1.2
Non-metallic Mining	13.6	13.2	14.8	16.3	17.6	18.7	21.7	24.6	27.5	25.5	26.9	28.3	29.1
Basic Metals	4.9	5.2	6.8	8.3	9.2	10.9	11.7	13.8	15.9	16.6	15.9	15.2	14.1
Metals, excluding machinery	17.6	18.1	20.8	23.4	23.1	16.1	18.1	19.8	21.4	17.7	21.6	25.4	24.1
Machinery, excluding elec.	4.0	4.0	5.0	5.9	6.1	6.7	6.9	9.0	11.2	12.0	14.9	17.8	15.1
Electric Machinery	14.0	13.0	13.0	13.1	12.3	13.5	14.9	16.1	17.3	19.3	22.0	24.7	34.4
Transport Equipment	12.7	12.9	13.9	14.9	15.2	13.5	14.7	14.3	13.9	15.3	18.4	21.6	23.5
Miscellaneous Manufacturing	6.9	6.5	7.1	7.7	7.6	8.9	9.7	13.0	16.2	17.7	21.4	25.1	27.1
TOTAL	323.7	327.3	360.8	394.3	402.0	403.8	420.9	479.4	537.9	531.9	593.6	655.3	664.7

* Estimated from preliminary data from NCSO on employment in firms of ≥ 20 employees. The ratio of employment in ≥ 5 or more employees to ≥ 20 employees was taken for each industry in 1974 and projected into 1976 and 1977.

APPENDIX C

VOLUME OF BOI APPROVED PROJECTS, PAID-IN CAPITAL AND NON-TRADITIONAL MANUFACTURED EXPORTS

Table C-1
CUMULATIVE TOTALS OF PAID-IN CAPITAL
INVESTMENT OF MANUFACTURING FIRMS
(in Million Pesos)

	New Firms	Net Increases of Existing Firms	Total
1946	12.55	12.19	24.74
1947	25.11	24.38	49.49
1948	37.66	36.57	74.23
1949	50.22	48.76	98.98
1950	112.16	69.41	181.57
1951	174.32	71.71	246.03
1952	217.07	73.31	290.38
1953	266.90	81.18	348.08
1954	305.47	87.80	393.17
1955	339.33	88.86	428.19
1956	371.29	99.57	470.86
1957	411.99	110.10	522.09
1958	452.25	138.12	590.37
1959	494.06	173.74	667.80
1960	541.13	213.04	754.17
1961	588.13	275.52	863.65
1962	652.35	303.46	955.81
1963	730.15	331.51	1061.66
1964	787.50	379.99	1167.49
1965	852.19	452.22	1304.41
1966	948.14	540.74	1488.88
1967	1033.76	633.47	1667.23
1968	1116.04	758.36	1874.40
1969	1164.21	900.99	2065.20
1970	1216.90	1080.69	2297.59
1971	1289.14	1283.26	2572.40
1972	1381.39	1504.79	2886.18
1973	1542.47	1757.25	3299.72
1974	1610.46	2396.82	4007.28
1975	1820.97	2926.77	4747.74
1976	2056.08	2944.75	5000.83
1977	2420.83	3218.93	5639.76
1978	2960.13	4155.48	7115.61

Source: Central Bank Statistical Bulletin

Table C-2

CAPITAL INVESTMENTS ON BOI PROJECTS IN MANUFACTURING[1/]
(in million pesos)

	Under R.A. 5186		Under R.A. 6135		TOTAL		Initial Paid-In Capital Investments of New Manufacturing Business[3/]	Ratio of Ratio of Paid-In Capital of BOI Projects To Total New Manufacturing
	Subscribed Capital	Paid-In Capital[2/]	Subscribed Capital	Paid-In Capital	Subscribed Capital	Paid-in Capital		
1968	179.0	68.9	-	-	179.0	68.9	82.3	83.8
1969	156.4	54.1	-	-	156.4	54.1	48.3	100.0
1970	120.0	42.6	-	-	120.0	42.6	52.7	80.8
1971	72.5	26.2	25.9	9.4	98.5	35.5	128.5	27.7
1972	49.1	20.8	25.4	10.8	74.5	31.6	92.3	34.2
1973	232.3	81.3	180.1	63.0	412.4	144.4	161.1	89.6
1974	343.5	143.2	371.0	154.7	714.5	297.9	309.3	96.3
1975	97.6	36.9	221.1	83.6	318.7	120.5	210.5	57.2
1976	310.5	118.9	100.4	38.4	410.8	157.4	235.1	66.9
1977	231.3	96.5	128.1	53.4	359.4	149.8	557.2	26.9
1978[a/]	235.7	87.0	210.5	77.7	446.2	164.6	274.5	60.0

1/ For years 1974-78, includes 50% of the investments in agro-based sector and all the investments in the metal-based and chemical-based sectors.

2/ Obtained by getting the ratio of paid-in capital to subscribed capital of newly registered corporations for each year.

3/ Includes new corporations, partnerships and single proprietorships in the manufacturing sector.

a/ Ist semester only.

NOTE: A) Firms engaged in BOI-approved projects may not solely be newly-established corporations.
B) Definition of manufacturing by BOI and SEC may be different.
C) Percentages in Col. 13 refer to BOI capital investments as percent investments in new (manufacturing) industries. A similar percentage for BOI ÷ all existing manufacturing would obviously yeild a much lower figure. See Norma Tan, Special Study No. 2 in Bautista & Power, Industrial Promotion Policies in the Philippines, p. 157

Sources: NEDA Statistical Yearbook; CB Statistical Bulletin.

Table C-3
NON-TRADITIONAL MANUFACTURED EXPORTS,
ACTUAL 1972-1979, PROJECTED 1980-85
(FOB Value in Million Dollars)

	Garments	Electrical Products[1]	Handicrafts	Ten Leading Non-Traditional Exports[2]	Total Non-Traditional Manufactured Exports (at current prices)	Total Non-Traditional Manufactured Exports (at 1972 prices)[3]
1972	38.9	0.4	12.9	96.1	96.1	96.1
1973	58.2	11.3	27.4	190.1	190.1	175.4
1974	94.4	27.2	46.0	284.5	284.5	223.5
1975	107.4	47.2	78.2	344.6	359.0	275.7
1976	185.3	84.1	94.8	504.1	544.0	404.5
1977	250.2	124.3	84.1	670.0	670.0	474.8
1978	326.9	253.4	100.1	919.9	1028.0	693.7
1979	405.0	397.0	135.7	1212.0	1458.0	899.4
1980[4]					1772.0	1091.2
1981					2231.0	1343.5
1982					2724.0	1623.0
1983					3262.0	1927.5
1984					3752.0	2246.2
1985					4273.0	2568.3

1/ Include electrical and electronics equipment and components.

2/ Aside from the three mentioned above, these include chemicals, non-metallic mineral manufactures, food products and beverages, machinery and transport equipment, textile products, wood manufactures, and cordage products.

3/ Deflated by using the U.S. Producer Price Index for Apparel products and for home eletrical equipments and the Peso-U.S. dollar exchange rate index for other items.

4/ Projections for 1980-1985 are based on trends analysis using the equation: $\log x_i = f(t_i, (t_i)^2)$.

Sources: Journal of Philippine Statistics, Vol. 31, No. 1.
First Quarter 1980
Foreign Trade Statistics, NCSO
IMF Report: Philippines-Recent Economic Developments, July 24, 1980.

APPENDIX D

ESTIMATING THE EMPLOYMENT IMPACT OF CHANGES IN THE CAPITAL-LABOR RATIO IN MANUFACTURING

APPENDIX D

Estimating the Employment Impact of BOI Fiscal Policies Resulting in Changes in the Capital-Labor Ratio in Manufacturing

We wish to know the impact of changes in the capital-labor ratio on employment in manufacturing. If we had data on capital stock we could establish a relationship between employment and K/N. Unfortunately there are no published data on fixed capital gross of depreciation in constant pesos over time. So we have to take a different approach.

Estimates of value added, employment and payrolls in manufacturing are available from the Survey of Manufactures. We begin by writing the identity

$$\left(\frac{VA}{N}\right)_t = \left(\frac{Yw}{N}\right)_t + \left(\frac{Yk}{N}\right)_t \qquad (1)$$

where VA is census value added in manufacturing

Yw is the labor share (payrolls)

Yk is the return to capital (capital share) = (VA - Yw)

N is employment in manufacturing

t is a subscript indicating time

To simplify the analysis, assume that the real wage does not change over time - an assumption that is not wholly unrealistic in the Philippine context if we deal with periods of time which are not too extensive. Then equation (1) can be rewritten

$$\left(\frac{VA}{N}\right)_t = A + \left(\frac{Yk}{N}\right)_t \qquad (2)$$

The share of capital, Yk, can also be written Kr, where r is the rate of return to capital. Assuming that r is a constant, and differentiating (2) with respect to time, we obtain

$$\frac{d\left(\frac{VA}{N}\right)}{dt} = r \frac{d\left(\frac{K}{N}\right)}{dt} \qquad (3)$$

Equation (3) is useful because it expresses the rate of change in the capital-labor ratio to the rate of change of value-added per worker.

The relationship between changes in employment and changes in value added can be directly estimated. We do this by fitting a regression of the following type

$$\lg N_t = \alpha + B_1 \lg GNP_t + B_2 \lg \left(\frac{VA}{N}\right)_t \qquad (4)$$

to annual data for all manufacturing and for individual manufacturing industries. The coefficient B_1 measures growth in employment due to growth in GNP. The second term captures changes in employment due to changes in output per worker. The expected sign for B_1 in positive, while that of B_2 is negative. We obtained values of B_1 and B_2 for all manufacturing of + 1.11 and -.61. (Values for individual industries at the two-digit level can be found by referring to the table in this appendix.) These coefficients are also the employment elasticities with respect to value added per worker. The coefficient B_2 can be converted into the elasticity with respect to the capital labor ratio by rewriting equation (3) in logarithms and substituting it into (4)

$$\lg N_t = \alpha + B_1 \lg GNP_t + B_2 \lg \left(\frac{VA}{N}\right)_t \frac{1}{r} \qquad (5)$$

In order to estimate the impact of BOI fiscal policy changes on employment, one final step is necessary. We know that only a portion of manufacturing firms obtain fiscal incentives under RA5186 and RA6135. Let us call the fraction of the capital stock under BOI fiscal incentives g. Then equation (5) can be rewritten

$$\lg N_t = \quad + B_1 \lg GNP_t + \left(\frac{g}{r}\right) B_2 \lg \left(\frac{VA}{N}\right)$$

In order to solve this for the relation of known changes in the K/N ratio to employment, we need only to derive estiments of the values of the constants g and r.

There is apparantly no easy direct way to estimate what portion of manufacturing capital going through the BOI. We decided to use the ratio of paid-in capital for BOI firm to paid-in capital for all manufacturing. Data in the table in this appendix show this ratio to average 59 percent for the years 1968-1978. This is only a rough measure, obviously, of the fraction of capital stock covered by the BOI. Moreover, it is certainly an overestimate because we have related the paid-in capital of BOI projects to new manufacturing firms - and not all of BOI projects are undertaken by newly incorporated firms. Also, BOI approved firms receive the fiscal incentives for a limited number of years. Considering all these factors, g = 1/4 seems reasonable and conservative

To estimate a reasonable value of r, we went to the unpublished flow of funds tables, and formulated a rate of return equivalent to census value added going to capital and divided by fixed capital at cost. This results in a ratio r = .625 for 1965. We then checked this against statistical data for some large corporations in recent years and decided that

it represents a reasonable estimate for the later period as well.[+]

In her article on the effects of Philippine Fiscal Incentives for Industrial Promotion[++] Gregorio presents data on the estimated change in the K/N ratio for BOI registered firms as a result of the proposed changes in fiscal incentives. The average change in K/N ratio derived from her data is 22.4%. This can be substituted in the above equasion along with values of the other coefficients to obtain the expected percent change in manufacturing employment.

[+]Note that this rate of return differs from more usual definitions of returns to capital because it is gross of income taxes, depreciation, and intermediate services which are not deducted from census value added.

[++]Renato Gregorio "An Economic Analysis of the Effects of Philippine Fiscal Incentives for Industrial Promotion" in Bautista, Power and Associates, Op. cit. pp. 175-236. See esp. pp. 216-217.

Table D-1
EMPLOYMENT PROJECTIONS BY INDUSTRY
(FOR MANUFACTURING FIRMS WITH 5 OR MORE WORKERS)

Industry	(1) Employment (1977) [in '000s]	(2) Annual % Change of GNP 1980-85	(3) GNP Coefficient	(4) cols. 2x3	(5) Annual % Change of GVA/E 1980-85	(6) GVA/S Coefficient	(7) cols. 5x6	(8) Annual % Change of Employment 1980-85	EMPLOYMENT PROJECTIONS With Constant E/S (9) 1978	(10) 1980	(11) 1985 in '000s	EMPLOYMENT PROJECTIONS with 22.4% decrease in $\frac{\Delta K/E}{K/E}$ (12) $\frac{\Delta(K/h)}{K/E}$	(13) B_2(.089) Col. 6 x col. 12	(14) Second Employment Projection [Col. 13x(Col.10+11)/2 + Col. 11
Food	127.5	0.06	1.041	.0625	0.00	- .380	0.0	.0625	135.5	153.0	207.2	- .089	.0338	213.2
Beverages	23.1		.949	.0569		-.546		.0569	24.4	27.3	36.0		.0468	37.5
Tobacco	20.9		1.431	.0859		- .632		.0857	22.7	26.8	40.4		.0562	42.4
Textiles	91.4		1.125	.0675		- .713		.0675	97.6	111.1	154.0		.0634	162.4
Footwear & Apparel	98.6		1.431	.0859		-1.001		.0859	106.9	126.0	190.0		.0890	204.0
Wood	41.2		.501	.0301		- .320		.0301	42.4	45.0	52.2		.0290	53.5
Furniture & Fixtures	16.5		.620	.0372		- .653		.0371	17.1	18.4	22.1		.0581	23.2
Paper	14.7		1.411	.0847		- .479		.0847	15.9	18.8	28.2		.0426	29.2
Printing & Publishing	14.0		.103	.0062		- .010		.0062	14.1	14.3	14.7		.0008	14.7
Leather	2.7		.768	.0461		.440		.0461	2.8	3.1	3.9		-	3.9
Rubber	13.3		1.065	.0639		-1.663		.0639	14.1	16.0	21.9		.1497	24.7
Chemicals	32.4		.678	.0407		.066		.0407	33.7	36.5	44.7		-	44.7
Petroleum	1.2		.703	.0422		- .632		.0422	1.25	1.4	1.7		.0380	1.8
Non-Metallic	29.1		1.117	.0670		- .024		.0670	31.0	35.4	48.6		.0022	49.0
Basic Metals	14.3		1.444	.0867		- .702		.0867	15.3	18.0	27.4		.0624	28.9
Metal Products	24.1		.980	.0588		- .042		.0588	25.5	28.6	38.2		.0036	38.3
Machinery	15.1		1.357	.0814		- .592		.0814	16.3	19.1	28.2		.0416	29.3
Elec. Machinery	34.4		1.330	.0798		- .442		.0796	37.1	43.3	63.6		.0393	65.8
Transport Eqpt.	23.5		.770	.0462		- .177		.0462	24.6	26.9	33.7		.0157	34.2
Misc. Mfg.	27.1		1.437	.0862		- .583		.0862	29.4	34.7	52.4		.0447	54.4
Total Mfg.	664.7		1.110	.0666		- .606		.0666	709.0	806.9	1116.7		.0539	1168.5

(1) The average rate of decrease of $\left(\frac{\Delta K/E}{K/E}\right)$ for BOI registered firms is 22.4% as a result of projected fiscal reforms. The assumed value of g is .25, resulting in a 5.6% decline in the K/S ratio for all manufacturing.

APPENDIX E

ESTIMATING THE EMPLOYMENT IMPACT OF CHANGE IN EFFECTIVE PROTECTION RATES

'PENDIX E

Estimating the Employment Impact of a Change in Effective Protection Rates

In August, 1980, the Tariff Commission adopted a revised schedule of tariff rates which substantially alters the protection to a large number of industries. We wish to estimate the impact of a change in the effective protection rate on the level of employment. To do this we need to first estimate the affect of a change in EPR on output.

Norma Tan has fit a function relating the share of imports in total supply to changes in EPR.* Her result was obtained from data on a manufacturing industries at the three-digit level.

$$\frac{M}{Q} = 48 - .23 \text{ EPR}$$

We are interested in changes in the volume of imports rather than in the share of imports in total supply. So we rewrite her result in first differences

$$\Delta M_t = - .23\Delta EPR \ (\Delta Q_t)$$

We then must estimate ΔEPR - which we can do from her data on changes in EPR by industry. Her industries were classified at the 3-digit level, while ours are on a two-digit basis. This necessitates averaging (geometric mean) across 3-digit industries to convert to our 2-digit industry classification.

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*The basic equation is shown in N. Tan, "The Structure of Protection and Resource Flows in the Philippine", in Bautista and Power, op. cit., p. 166. EPR's by industry are contained in her Report to the World Bank, and supplement by conversations with Ms. Tan.

The term ΔQ can be estimated from value added estimates as shown in the Survay of Manufactures.

Once the change in imports is known we can add (subtract) that decrease (increase) from output and obtain the change in domestic supply. We then convert this change in output to the corresponding change in employment by use of an employment elasticity coefficient appropriate to that industry.

Table E-1
MANUFACTURING IMPORTS BY INDUSTRY, ACTUAL 1979 AND PROJECTED
(million pesos in 1972 prices)

	(1) 1979	(2) 1980	(3) 1985	(4) Effective Protection Rates[1] Present	(5) Effective Protection Rates[1] Proposed	(6) Change (Total) (Percentage Points)	(7) Domestic Mftg. Prod. Gross Value Added 1980	(8) Domestic Mftg. Prod. Gross Value Added 1985 (Projected)	(9) (=ΔGVA) 1980-1985	(10) (Col. 6 x -.23)	(11) =ΔM'[2] (Col. 10 x Col. 9)	(12) Ave. GVA (1980 and 1985)	(13) ΔO/O[3]	(14) ϵN/O[4]	(15) ΔN/N[5]
Food	1748.21	1797.58	2403.08	163.4	39.0	-124.4	5732	7671	1939	+28.6	+ 554.5	6701	-8.28%	.45	- 3.72%
Beverages	8.59	8.83	11.80	145.1	79.0	- 66.1	1242	1663	421	+15.2	+ 62.9	1452	-4.40	.73	- 3.21
Tobacco	82.43	84.76	113.31	204.9	71.9	-133.0	1795	2403	608	+30.6	+ 186.0	2099	-8.86	1.86	-16.47
Textiles	358.92	369.05	493.36	78.0	53.0	- 25.0	1323	1771	448	+ 5.8	+ 25.9	1547	-1.67	1.00	- 1.67
Footwear & Apparel	1.72	1.77	2.35	6.3	9.5	+ 3.0	787	1054	267	- 0.7	- 1.8	921	+0.19	1.83	+ .35
Wood	5.15	5.30	7.08	9.0	30.0	+ 21.6	840	1125	285	- 4.7	- 13.9	983	+1.41	.83	+ 1.17
Furniture & Fixtures	1.72	1.77	2.35	0	1.0	+ 1.0	96	129	33	- 0.2	- 0.1	113	+0.01	1.97	+ .02
Paper	338.31	347.86	465.03	159.0	35.5	-123.5	651	872	221	+28.4	+ 62.7	762	-8.22	.59	- 4.84
Printing & Publishing	51.52	52.97	70.81	19.0	24.0	+ 5.0	488	654	166	- 1.2	- 2.0	571	+0.30	.06	+ .18
Leather	5.15	5.30	7.08	145.0	40.0	-105.0	38	51	13	+24.1	+ 3.1	89	-3.48	0	0
Rubber	115.06	118.31	158.15	145.3	53.6	- 91.7	261	350	89	+21.0	+ 18.7	306	-6.11	.35	- 2.13
Chemicals	2783.74	2862.36	3826.52	47.6	43.4	- 4.2	3659	4897	1238	+ 1.0	+ 12.3	4278	-0.28	.56	- .16
Petroleum	3511.88	3611.06	4827.41	18.3	20.8	+ 2.5	1244	1666	422	- 0.6	- 2.5	1455	+0.17	.15	.03
Non-Metallic	149.41	153.62	205.36	44.7	44.6	- 0.1	738	987	249	0	0	863	0	1.14	0
Basic Metals	1593.65	1638.66	2190.63	49.2	36.5	- 12.7	1386	1855	469	+ 2.9	+ 13.6	1621	-0.83	.71	- .59
Metal Products	321.14	330.20	441.42												
Machinery	2246.23	2309.67	3087.66	7.3	16.9	+ 9.6	237	317	80	- 2.2	- 1.8	277	+0.64	.39	+ .25
Electrical Machinery	561.56	577.42	771.90	33.7	25.0	- 8.7	524	702	178	+ 2.0	+ 3.6	613	-0.58	.81	- .46
Transport Equipment	1411.62	1451.49	1940.40	127.0	46.0	- 81.0	1223	1637	414	+18.6	+ 77.0	1430	-5.38	.26	- 1.39
Misc. Manufacturers	1877.01	1930.02	2580 13	90.9	60.9	- 30.0	225	302	77	+ 6.9	+ 5.3	264	-2.01	1.15	- 2.31
Total Mftg. Imports	17173.00	17658.00	23605.83				22500	30110	7610	-	+1006.3	26305	-3.82%	.61	- 2.33
Other Non-mftg. Imports	892.00	917.19	1341.00	18.3	18.2		311	441	130	-	+ 2.6	376	- .01	.75	- .01
Total Imports	18065.00	18575.19	24946.83								1008.9	26681	-3.83	.60	- 2.34

1/ From Norma Tan, Report to World Bank, Table 6. EPR change is in percentage points, geometric average of her 3-digit industries to conform to our 2-digit industry classification.
2/ This column is change of M due to change of EPR. Therefore, we can estimate change in value added in production as identical to this column and change sign. Note that M here is measured in value added terms, in 1972 pesos. The 1974 Census of Manufacturers shows a ratio of /gross value added/gross value of production/ = .3291.
3/ ΔM' ÷ Ave. GVA. (Col. 11 ÷ col. 12.)
4/ Percent change in N, 1965-77 ÷ percent change in GVA, 1965-77.
5/ Change in employment rate assumed with change in output due to EPR.

APPENDIX F

REVIEW OF ADDITIONAL SOURCES OF INFORMATION ON TRENDS IN INCOME DISTRIBUTION

APPENDIX F

Review of Additional Sources of Information on Trends in Income Distribution

What inferences can be made from trends in real earnings data with regard to income distribution? It can be argued that the decline in real wages does not of itself imply a commensurate decline in the share of income received by median - and low-income families. First, there was an increase in the participation rate of the labor force after 1970, from 56 to 63 percent (Appendix A). This would be an expected response to declining real wages as women, children and others enter the labor force to augment the family income. Again, it can be argued that there has been an increase in the quality of goods available which is not reflected in the consumer price statistics and which therefore results in overstatement of price increases. This is probably true of some items - e.g. telephone and water service in Metropolitan Manila - although it is a more dubious claim for consumer goods in general. Furthermore, it is a fact that many rural families do not rely on wages for income. In the 1971 Family Income and Expenditure Survey, 14 percent of all rural families listed agricultural wages as their main income source while another 19 percent listed non-agricultural wages as the main income source - for a total of 33 percent relying mainly on wages. However, 29 percent of rural families received some income from agricultural wages and another 26 percent received some income from non-agricultural wages - for a total of 55 percent of rural families receiving some income from wages.

To complete the picture on income-distribution changes we need to fill in information on the distribution of income flows in non-wage forms.

This consists of income to entrepreneurs (which is a kind of labor income) and property income (which includes returns to capital and other forms of property such as land. Unfortunately it is not possible to separate these two, but some broad inferences can be made. The Survey of Manufactures provides information on wage and non-wage payments for a large sector of Philippine industry. The Survey data show that non-wage payments per worker have steadily grown at least twice as fast as wage payments for large firms. The data at hand on capital inputs do not suggest a comparable rate of increase in capital per worker during this period.[1]

	1971/66	1974/71
Large ($\geq$ 20 employees)		
Payroll per worker (Thou. Pesos)	+43.9%	+21.9%
Value added per worker (Thou. Pesos)	+87.5%	+66.9%
Small ($\leq$ 19 employees)		
Payroll per worker (Thou. Pesos)	+32.5%	+ 1.8%
Value added per worker (Thou. Pesos)	+37.8%	+ 2.3%

Non-wage payment also include entrepreneurial income. The Census data show that the rate of growth of large firms has generally been well ahead of that of small firms. This suggests the possibility of a shift of income from small-firm entrepreneurs to large-firm entrepreneurs. Ownership among large firms is highly concentrated. About two percent of manufacturing firms control 60 percent of manufacturing assets; the top

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[1] See section on productivity elsewhere in this report.

ten percent control 90 percent of manufacturing assets.[1] These considerations lead us to the conclusion that there may have been a shift toward inequality in this sector of the economy - a conclusion which is shared by Sta. Romana after a similar intensive study of many of these materials.[2]

There remains a large entrepreneurial class in agriculture and the rise in agricultural productivity and the implementation of land reform on rice and corn lands may possibly have brought about increased equality in this sector. The increase in agricultural productivity probably has not, however, affected all farmers equally. Incomes are probably up for irrigated rice farmers planting high yielding varieties and possibly down for the remainder (the majority of farmers) due to declining real commodity prices and higher input (fertilizer and transport) costs. Land reform does not appear to have operated as an equalizer on rural incomes. This in the conclusion of Mangahas.[3] Hayami goes even further. After an intensive study of a barrio in Laguna,

> It appears, however, that the inequality within the village has been aggrevated by the land reform

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[1] R. Hooley and N. Moreno, A Study of Flow of Funds in the Philippines. Unpublished Manuscript. School of Economics, University of the Philippines, pp. 10-11.

[2] Similar conclusions were reached by L. Sta. Romana, "Indication of Economic Well Being", in M. Mangahas (ed) Measuring Philippine Development, Development Academy of the Philippines, 1976.

[3] M. Mangahas and B. Barros, "The Distribution of Income and Wealth: The Survey of Philippine Research." Philippine Institute of Development Studies, 1979. (Mimeo), pp. 95-98.

operations because larger tenants captured major benefits and no gain accrued to landless workers.[1]

On the whole, therefore, we do not see any evidence of significant countervailing forces at work which could offset the negative implications of the decline in real wage rates. As observed earlier, there has been some increase in labor force participation rates. But there does not appear to have been any significant redistribution of income in favor of small industrial entrepreneurs or small farmers. In fact, the fragmentary information we have been able to collect suggests the reverse. Putting all this together suggests to us that income distribution during the 'seventies did not become more equal and possibly became less equal.

[1] Y. Hayami, Anatomy of a Peasant Economy. Los Banos. IRRI, 1978, pp. 108-109.