

Discussion Paper No. 77-4

August 1977

GROWTH, EMPLOYMENT AND WAGE PERFORMANCE
IN THE MANUFACTURING SECTOR:

A Comparative Study of Japan and the Philippines

By

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ABSTRACT

This paper looks into the "growth vs equity" issue by comparing wages and employment in the manufacturing sector in the Philippines and in Prewar Japan (with special emphasis on the period before 1920).

On the whole, it seems that the growth of the manufacturing sector contributed more to increased inequality in the Philippines than in Japan. To some extent, this might have been due to the effects of government policies in the Philippines. Thus, changes in policies may lead to both increased growth and reduced inequality.

It is also very possible, however, that the growth of the manufacturing sector in the Philippines contributed more to increased inequality than in Japan (or failed to make for a narrowing of income disparities) because of more basic and non-policy induced factors. The differences between the size-structures of factory employment in the Philippines and in Prewar Japan, for example, are not as striking as suggested by a superficial comparison of factory statistics of the two economies. The major dissimilarities between the manufacturing sectors of the two economies can be found in the unorganized sub-sectors and the rather early setting in of dualism in Philippine manufacturing. As such, nothing short of a sustained boom in export of manufactures may be required to make growth and equity objectives complementary.

GROWTH, EMPLOYMENT AND WAGE PERFORMANCE
IN THE MANUFACTURING SECTOR:
A COMPARATIVE STUDY OF JAPAN AND THE PHILIPPINES*

by

Felipe Medalla**

INTRODUCTION

The GNP of the Philippines grew at an average annual rate of 5 to 6 percent in the last 25 years. Considering the country's human and natural resource endowment and exceptionally high rate of population growth, this growth record can hardly be considered spectacular. Given favorable internal political and external economic conditions, the government would probably be in a position

*/ A preliminary report based on a draft written while the author was a visiting research associate at the International Development Center of Japan (IDCJ) in connection with one of IDCJ's on-going projects, the Comparative Analysis (C.A.) project.

One of the main objectives of the C.A. project is to gain insights into the relationship between equity and growth by comparing Japan's Prewar experience with those of contemporary developing countries.

**/ The Japan Foundation provided research support. Very helpful comments and suggestions were received from Prof. Kazushi Ohkawa, Dr. Le Thanh Nghiep and Dr. Toshiyuki Otsuki of IDCJ and from Dr. Mahar Mangahas of the School of Economics, University of the Philippines. I am also indebted to Prof. Konosuke Odaka of Hitotsubashi University for recommending very useful reading materials. Any remaining errors are, of course, mine.

to implement policies that will accelerate economic growth.¹

Recently, however, increased attention has been focused on the social and distributive aspects of the country's economic growth. One conclusion that seems to emerge from this relatively new interest in the relationship between equity and growth is that past shortcomings in growth performance pale in comparison with those in the concern for better distribution. The relative position (and probably even the absolute position) of the lower income groups and the common worker has not improved or even worsened in some cases. Clearly, the fruits of a modest economic growth rate were not equitably shared.²

Conventionally, it has been assumed that in the early stages of economic growth, distribution tends to worsen as per capita GNP rises. Some economists,³ on the other hand,

¹ The National Economic and Development Authority (NEDA), for example, considers a 7 percent growth rate attainable and uses a 7 percent growth rate in the four year plan instead of the historical rates.

² Mahar Mangahas (ed.), Measuring Philippine Development, Development Academy of the Philippines, 1976.

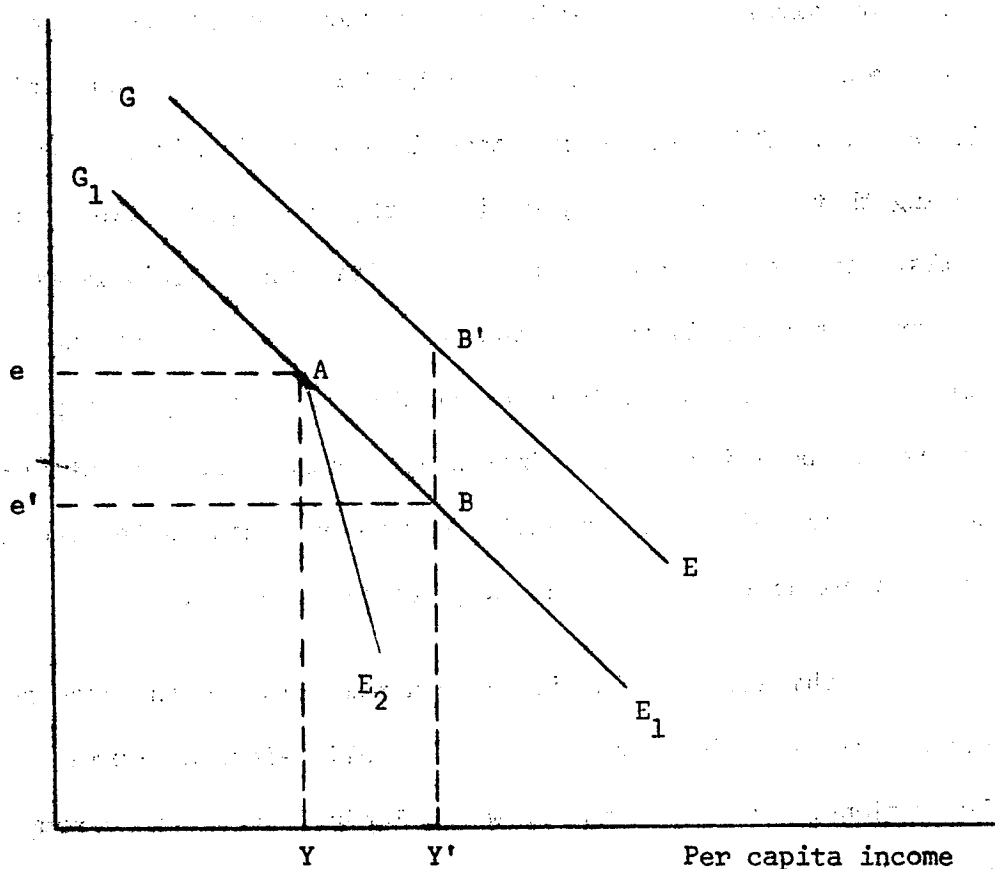
³ Dr. Gerardo Sicat, has held this view since the late 1960's. The most comprehensive and most widely discussed set of policy recommendations that suggests that growth and equity need not conflict in the Philippines is contained in ILO (1974) Sharing in Development (more popularly known in the media and the business community as the "Ranis Report").

think that the conflict between growth and equity objectives may not apply in countries where accelerated growth can be achieved by utilizing presently under-utilized human resources more intensively. The elimination of unemployment and under-employment is viewed as one way of having one's cake and eating it as well. This can be explained in a very simplified form by noting that as the unemployed find work, the capital-labor ratio falls. If the main reason why the capital-labor ratio is at its present level is the presence of trade restrictions and imperfections in the capital market which were brought by past government policies in the first place, output and the output-capital ratio will rise as employment rises, raising the incomes of the working (and by assumption, poorer) classes.

Graphically, let GE in the diagram below be the growth-equity relationship in the absence of policy-induced market distortions. The curve is downward sloping since the economy is in the initial stages of modern economic growth and is therefore on the negatively sloped portion of Kuznets' U-shaped curve.⁴ The economy, however, is on a lower curve G_1E_1 because of certain government policies (examples often mentioned are

⁴ Simon Kuznets, "Economic Growth and Income Equality," American Economic Review (March, 1955).

Equality
index



highly graduated tariff structure and cheap foreign exchange for favored importers of capital goods). Without policy reform, the equality index will fall from e to e' if per capita income rises from Y to Y' . If on the other hand, increased growth is achieved through the liberalization of trade policies, of capital markets and foreign exchange prices, income will rise to Y' without the cost of increased inequality (in the graph, B' is higher than point A so greater equality is simultaneously achieved with growth). Thus the degree of conflict between growth and equality depends on how efficient or inefficient the present allocation of resources is (the gap between GE and G_1E_1) and on how favorable or unfavorable the general socio-economic conditions are (the slopes of the curve).

Unfortunately, it does not seem possible to arrive at unchallengeable estimates of the necessary parameters. The relationship between equity and growth has been estimated from cross sections of countries⁵ since it is not possible to obtain adequate time series data for the Philippines. Similarly, estimates of the production effects of various government policies vary widely according to the set of restrictive assumptions

⁵ Mindanilla Barlis, "Preliminary Projections of GNP and Income Inequality in the Year 2000," PREPF Phase I Report, School of Economics, University of the Philippines, August 1975.

used. Thus, it seems more promising to study a more limited aspect of the problem of growth and equity by comparing the historical experience of the Philippines with that of Japan (particularly Prewar Japan).

Since human resources are the most important and most evenly distributed (across families) resource in the Philippines, it seems logical to focus the comparative study of the two economies on employment and wages. Since Japanese economic progress is often described, at least in its initial stages, as partly based on increased utilization of her abundant labor while the Philippine case has been viewed as one which failed to increase labor utilization, a comparison of wage and employment patterns in Prewar Japan and Postwar Philippines may offer insights on how to minimize trade-offs between growth and equity objectives.

On the other hand, the promise of complementarity between growth and equity objectives at an early stage of economic development sounds too good to be true in the light of the experience of many nations (including Japan).⁶ Thus the

⁶ International Development Center of Japan, Japan's Historical Development Experience and the Contemporary Developing Countries: Issues for Comparative Analysis, March 1977.

nagging fear that hopes are being raised too high and too soon remains since even more than modest achievements are difficult to appreciate if preceded by even bigger expectations. Also, there is the danger that the Philippine government may become more inclined to postpone more difficult decisions which can directly reduce inequality (e.g. extending the scope of land reform to sugar) since less painful measures may be considered quite adequate.

A comparison of Japan and the Philippines will perhaps help us get a better assessment of Philippine performance and potentials in the area of employment and wages and hence give us a partial indication as to whether Sharing in Development and its predecessors have indeed created unreasonably high expectations.

Finally, it must be noted that the study will focus on the manufacturing sector. Conceptual and data availability problems make it practical for us to limit our scope. It is, for example, very difficult to make international comparisons of both output and employment in the service sector. This is not surprising since, unlike the output of other sectors, physical indices are non-existent in the service sector. Also, it should be noted that the service sector plays a rather "spongy" labor

absorption role during the initial stages of modern economic growth of late - comer countries and that labor force data for both Prewar Japan and Postwar Philippines make it almost impossible to arrive at comparable estimates of residual employment in the service sector.

This limitation of scope, however, does not severely limit the relevance of the comparative study. As in the case of Japan, the role of the manufacturing sector will be a crucial one in the Philippines. It is very difficult to visualize sustained progress in the other non-agricultural sectors without a dynamic manufacturing sector.

In the next section we will provide what we think is a necessary backgrounder for a comparative study of the manufacturing sectors of the two economies. In the terminology of the Comparative Analysis (C.A.) Project, this is known as phasing. As to be expected, the two economies display both similarities and differences at various points in time. As a result, no direct lessons can be derived from the study. We nevertheless believe that several similar forces were at work in the growth process of the two countries so that some insights can still be drawn.

In the last two sections we will compare the employment and wage performance of the manufacturing sectors of the two economies. Hopefully, this will lead us to a more coherent interpretation of the distribution of manufacturing output between labor and capital.

ON CHOOSING COMPARABLE GROWTH PHASES

First, we must decide which portions of Japan's economic history can be most fruitfully compared with the contemporary Philippine experience. Since it is not our intention to compare a more developed economy with a less developed one, much of Japan's postwar growth record is not directly relevant for our purposes. Further generalizations, however, cannot be as unconditional nor as totally free from some degree of arbitrariness. We must therefore draw our criteria from other comparative studies.

One approach is to start by sub-dividing Japan's economic growth into a phase displaying approximately constant (unskilled) wages and high wage-elasticity of unskilled labor supply and another phase with substantially lower labor supply elasticity and rising wages.⁷ Periods within or close to the former phase are generally more important for our purposes. Thus, as mentioned above, we will exclude the period after the late 1950's or the

⁷This is the approach used in IDCJ, op. cit., 1977. We will evade the classical vs. neo-classical debate. Thus, we will not use the phrase "unlimited supply" of labor or assume equality or inequality between wage and marginal product.

early 1960's (Ryoshin Minami's Turning Point)⁸ from our reference period. What needs further elaboration is the treatment of the interwar years.⁹

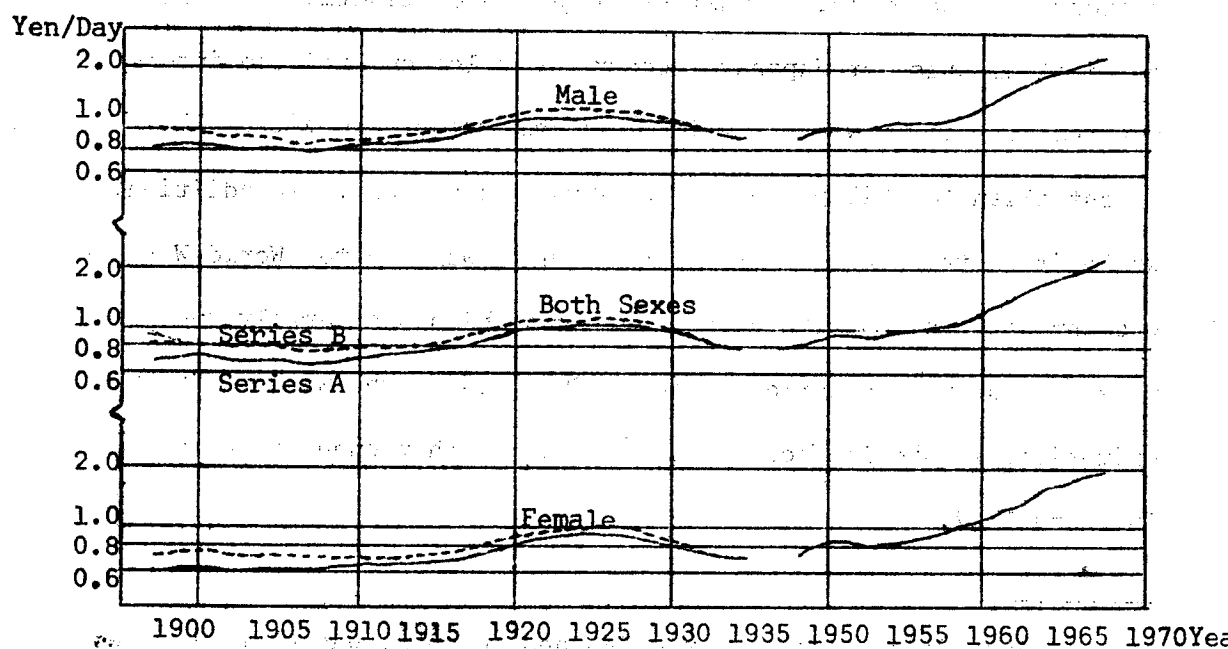
Although we accept Minami's view that wage and labor market behavior after the late 1950's was unique in Japan's economic history (see Chart I), we must still make a distinction between the initial phase of Japanese economic development and the interwar years. Rising wages, cyclical or otherwise, are after all almost alien to Philippine postwar economic history. In addition, while it is true that the rise in Japanese wages after World War I was abnormal, so was the subsequent drop which was largely due to a very depressed world economy. Thus, using the wage behavior criterion, we should focus on the sub-phase that ended between 1914 and 1917.

⁸ According to Minami, the Japanese economy was characterized by unlimited supplies of unskilled labor until the end of the 1950's. Fei and Ranis, on the other hand, placed the "turning point" at a much earlier date (1916-1919). See: Ryoshin Minami, The Turning Point in Economic Development: Japan's Experience, Tokyo: Kinokuniya Bookstore, 1973; and John C. H. Fei and Gustav Ranis, Development of the Labor Surplus Economy: Theory and Policy, Homewood, Illinois, Richard Irwin, Inc., 1964.

⁹ Much of the 1950's can be viewed as "catching-up" years, so we can also exclude them from our analysis. It should be noted, however, that there are links between the 1950's and the 1930's so that it may be useful, in some cases, to draw on data from this period to gain insights about the 1930's since more data are available after 1950. This is especially true with respect to size-differentials in labor productivity and wages.

CHART I

REAL WAGES OF DAILY WORKERS IN
AGRICULTURE IN JAPAN (1934-36 PRICES)



Notes:

Chart is from Minami op. cit., Figure 7-7, p. 151.

Series A: Wages $\div$ CPI for rural area $\times$ 100.

Series B: Wages $\div$ implicit price deflator for consumer expenditures $\times$ 100.

The levels of other indicators give further justification for giving emphasis on the initial phase of Japan's modern economic growth. One example is the concept of the agricultural surplus which plays a key role in both neo-classical and classical dualistic growth models. Although it is very difficult to compare agricultural productivity of two economies that produce very different crops, one could say with some amount of confidence that the level of the agricultural surplus generated by the Philippine agricultural sector in the 1950's and the 1960's was much closer to the level for Japan before World War I than after World War I. A comparison of agricultural productivities per male agricultural worker computed by Hayami and Ruttan¹⁰ illustrates this point (Table 1). The figures in the table are, of course, not beyond question since output is gross and the presence of products like coconuts in the Philippines and silk in Japan leads to index number problems. But if we recall that the use of improved seeds and technology were already widespread in Japan by 1920, whereas the diffusion of new varieties is a relatively more recent development in the Philippines, the figures do not seem implausible.

¹⁰ Yujiro Hayami and Vernon Ruttan, Agricultural Development: An International Perspective, Baltimore and London: The Johns Hopkins Press, 1971.

Table 1

Agricultural Output¹
Per Male Worker in Agriculture
Japan and the Philippines
(In Wheat Units)²

A. Japan

1880	2.4	1920	5.6
1885	2.7	1925	5.6
1890	3.0	1930	6.1
1895	3.1	1935	7.1
1900	3.6	1940	7.7
1905	4.1	1945	6.8
1910	4.6	1950	6.1
1915	4.6	1955	7.5
1920	5.2	1960	10.7

B. Philippines

1955	3.7
1960	3.8
1965	4.1

Source: Yujiro Hayami and Vernon Ruttan, Agricultural Development: An International Perspective, Baltimore and London: The Johns Hopkins Press, 1971, pp. 328, 320-321.

¹Gross agricultural output net of intermediate inputs from agriculture.

²For relative weights used, see pp. 309-316.

The structure of exports is another commonly used indicator in comparative studies.¹¹ In this case, the figures tend to overstate the relative backwardness of the Philippine economy (Table 2). The high demand for minerals from present day developed economies and the relatively richer Philippine natural resource endowment raises the proportion of primary exports for the Philippines, while the presently more advanced state of world technology accounts for the much lower ratio of Philippine machinery exports to total exports. Yet, the table does not fail to convey that Japan during the interwar period had a more mature economy than the Philippines in the 1960's.

A comparison of the sectoral structures of the two economies suggests the same conclusion. Using the agriculture (A), industry (I) and services (S) classification scheme, it can be seen by (Tables 3A and 3B) comparing the shares of industry in employment and the shares of agriculture in NDP and in employment that the sectoral structure of the Japanese economy after around 1915 (or at the latest 1920) became significantly different from the sectoral structure of the postwar Philippine economy. Thus,

¹¹For a listing of indicators of the level of development for cross country comparisons, see Hollis Chenery and Moises Syrquin, Patterns of Development, 1950-1970, London: Oxford University Press, 1975. Our problem, however, is slightly different since we want to compare two economies with the same level of development at two different time periods.

Table 2
Distribution of Exports
(In Percent of Total Merchandise Exports)

	Japan			Philippines				
	Primary ¹	Textile	Machinery	Mineral	Primary ¹	Food Manu.	Machi	
1875	62.9	31.8	-	1875	21.1	46.7	24.5	.0
1880	66.3	31.6	-	1880	22.2	43.2	19.2	.0
1885	62.5	38.9	-	1885	14.2	32.9	21.4	.1
1890	60.2	31.1	-	1890	17.8	34.9	20.3	.0
1895	41.7	47.4	-	1895	20.4	33.4	20.2	.0
1900	32.2	52.1	.3	1900	23.3	33.5	22.0	.1
1905	27.5	45.5	1.1	1905	27.9	40.5	25.3	.2
1910	19.7	47.7	1.2	1910	22.5	38.7	24.8	.2
1915	18.7	45.5	1.9					
1920	10.9	52.4	3.0					
1925	11.2	57.2	1.6					
1930	7.8	51.8	6.6					
1935	7.2	51.4	7.7					
1940	6.5	38.9	14.3					

Sources: Japan: Worksheets. Mr. Katsuo Otsuka helped me with worksheets.

Philippines: Foreign Trade Statistics of the Philippines: 1965-1972, (IDE Statistical Series No. 14, 1974).

¹Agriculture, Fisheries, Forestry and Mining.

Table 3A

Sectoral Shares in NDP
(In Percent)

Japan				Philippines			
	A	I ¹	S		A	I ¹	S
1887	41.1	11.8	47.1	1960	34.8	26.0	39.2
1890	39.5	12.3	48.2	1962	34.9	25.7	39.4
1895	35.7	14.1	50.2	1964	33.3	26.8	39.9
1900	34.1	17.1	48.8	1966	33.7	26.9	39.4
1905	33.3	19.7	47.0	1968	33.8	27.3	38.4
1910	31.4	24.3	44.3	1970	33.5	27.8	38.7
1915	29.4	27.2	43.3	1972	30.8	30.2	39.0
1920	24.9	29.6	45.4				
1925	22.4	35.6	42.0				
1930	21.3	41.1	37.6				
1935	18.5	45.9	35.6				
1938	16.2	49.7	34.1				

Sources: Japan: LTES Vol. 1 (Table 36, p. 242; Smoothed series).

Philippines: NEDA, Statistical Yearbook of the Philippines, 1975.

¹I includes mining, manufacturing, facilitating and construction industries.

Table 3B

Sectoral Shares in Employed Labor Force
(In Percent)

	Japan				Philippines		
	A	I	S		A	I	S
1890 ¹	68.8		31.2	1956	59.0	19.4	21.6
1895 ¹	66.0		34.0	1960	61.2	19.2	19.6
1900 ¹	65.5		34.5	1965	56.8	18.0	25.2
1905	64.8	17.0	18.2	1968	53.8	19.6	24.6
1910	62.4	18.3	19.2	1972	54.5	18.4	27.1
1915	58.8	20.2	21.0	1973	56.0	17.1	26.9
1920	53.9	24.7	21.4				
1925	51.2	25.8	23.0				
1930	49.6	26.6	23.8				
1935	46.7	27.0	26.3				
1940	44.1	30.8	25.1				

Source: Japan: 1890, 1895, 1900: Ryoshin Minami, *The Turning Point in Economic Development: Japan's Experience*, p.312. Kazushi Ohkawa and Henry Rosovsky, *Japanese Economic Growth: Trend Acceleration in the Twentieth Century*, p. 310.

Philippines: NEDA, *Statistical Yearbook of the Philippines*, 1975.

¹Primary and non-primary.

the phasing suggested by wage constancy coincides roughly with the phasing suggested by agriculture's share in employment and output, and industry's share in employment.

In spite of the above discussion, however, we are still very hesitant to exclude a substantial portion of the interwar period from our analysis since the manufacturing sector is our main concern. Regardless of whether or not Japanese wages would have grown faster during the interwar period had her economy grown much more smoothly but at the same long-term rate, the interwar years may be more relevant for purposes of comparison simply because they represent more recent experience in technological borrowing from abroad especially in the industrial sector. For this reason, Philippine manufacturing may be much more similar in structure to the manufacturing sector in interwar Japan than in the initial phase. This will be discussed later in greater detail, but is already partly illustrated by the fact the I share in NDP in the Philippines is closer to the levels in Japan between 1910 and 1925 than before 1910¹² (Table 3A). Thus, while we consider the initial phase of Japan's economic growth as more

¹²The bias of Philippine policies in favor of the industrial sector is probably partly responsible for this.

relevant for comparative purposes, we cannot afford to exclude the interwar period.

Finally, we must raise some qualifications before proceeding with our main comparative work. As already indicated earlier, we do not expect any direct lessons from this study. There are many factors, known and unknown to us, that limit the amount of inferences that can be drawn. Worth noting is the declining relative price of capital goods in Japan during much of our reference period¹³ and the rising relative price of capital goods¹⁴ in the Philippines. This certainly affected wage and employment behavior in both economies. We are, however, not in a position to quantify its effects. We nevertheless maintain that existing similarities are important enough to warrant further comparisons. The concurrence of the wage-constancy criterion with most of the other indexes presented above can be taken as a good sign.

¹³ This is considered to be a major factor in Japanese development by Allen Kelley and Jeffrey Williamson, Lessons from Japanese Economic Development: An Analytical Economic History, Chicago: Chicago University Press, 1974. See also Le Thanh Nghiep, "The Structure and Changes of Technology in Prewar Japanese Agriculture," IDCJ Working Paper Series No. A-03, March 1977.

¹⁴ Complete data on prices of capital goods are not available. The price index for imported machinery, however, may not be a bad proxy since a substantial portion of capital goods is imported. The Central Bank's price index for imported machineries has risen faster than wages.

THE GROWTH OF EMPLOYMENT IN MANUFACTURING

While the employment share of the manufacturing sector in the Philippines has remained close to 12 percent of total employment since 1956, it grew from about 12 percent in 1906 to over 20 percent in 1937 in Japan. Although this is partly attributable to higher growth rates of labor force in the Philippines (around 2.5 percent in the Philippines and close to 1 percent in Japan), it is also partly due to differences in demand for labor in the manufacturing sector. Since high labor force growth rates are expected in the Philippines even under assumptions of reduced fertility, it is important to understand the differences in labor absorption in the manufacturing sectors of the two economies.

Employment in Small, Medium and Large Scale Establishments

One factor which is considered a major reason for the sluggish growth of manufacturing employment in the Philippines is the bias in favor of large-scale firms inherent in the country's import-substitution policies. Data from the Annual Survey of the Manufactures (ASM) for example, indicate that employment in large establishments grew faster than employment in small establishments, and that employment in small establishments grew faster

after 1962¹⁵ (import controls were lifted in 1961, Table 4).

Compared with data for Japan, the growth rate of employment in small establishments in the Philippines appears very small. In Japan, employment in medium and small scale establishments kept pace with employment in large establishments -- lagging behind in the upward phases of the long swings but catching up in the downward phases.¹⁶

A comparison of the size structure of factory employment in the Philippines (also using ASM data) with that of Japan gives the same impression (Table 5). It appears that the employment share of large establishments was higher in Postwar Philippines and that the share of small establishments was higher in Prewar Japan.

It is therefore very tempting to accept the inference¹⁷ that growth of employment in small establishments was retarded

¹⁵ ILO, op. cit., pp. 140-141.

¹⁶ Kazushi Ohkawa and Mutsuo Tajima, "Small-medium Scale Manufacturing Industry: A Comparative Study of Japan and Developing Nations," IDCJ Working Paper Series No. A-02, March 1976.

¹⁷ ILO, op. cit.

Table 4

Employment in Small¹ and Large² Establishments
Philippines

	(1) <u>5 or more</u>	(2) <u>20 or more</u>	(3) <u>(1)-(2)</u>
1956	205,809	150,878	54,931
1957	223,551	172,708	50,843
1958	228,307	178,328	49,979
1959	238,666	185,580	53,086
1960	248,781	199,094	48,877
1962	278,473	230,469	48,004
1963	300,383	250,128	50,255
1964	316,415	266,241	50,174
1965	323,770	273,459	50,311
1966	327,354	275,979	51,375
1968	394,336	325,131	69,205
1969	402,064	331,841	70,223
1970	403,874	331,121	72,753
1971	420,988	353,008	67,980
1973	537,944	455,894	82,050

Source: NCSO, Annual Survey of Manufactures

¹With 5 or more persons engaged

²With 20 or more persons engaged

Table 5

SIZE STRUCTURE OF FACTORY EMPLOYMENT, JAPAN AND THE PHILIPPINES
(in percent)

Establishment Size (No. of Persons Engaged)	Employment Share of Size Class					
	Philippines			J a p a n		
	1957	1962	1970	1909	1919	1931
5 - 49	39.8	29.4	24.9	45.7	34.0	37.6
50 - 99	10.6	9.7	7.5	12.3	11.2	11.4
100 - 499	24.3	28.5	26.1	21.3	23.3	25.4
500 and over	25.3	32.4	41.5	20.7	31.5	25.6
T o t a l	100.0	100.0	100.0	100.0	100.0	100.0

Sources:

Philippines: NCSO, Annual Survey of Manufactures (1970 from ILO, op. cit. p. 539).

Japan: Ministry of International Trade and Industry, Kogyo Tokei 50 Nonshi (History of the Census of Manufactures 1909-1958).

by the Philippines' adherence to protective import-substitution industrialization policies since smaller firms did not have access to the bureaucratic system which granted the incentives. The only reason we hesitate to do so, however, is that small firms faced great difficulties in Japan as well¹⁸ and yet continued to employ a substantial portion of the labor force in manufacturing. Even in the 1920's and the 1930's, when inter-size differentials in labor productivities widened, the employment share of the small firms remained high (Table 6). As mentioned earlier, employment in small firms increased when employment opportunities in large firms decreased.

A re-examination of Philippine data on factory employment and of conclusions drawn from them is therefore in order. Pending more vigorous evidence, we are inclined to take the view that employment in small establishments would be substantially understated if estimated directly from ASM data¹⁹ and that the

¹⁸ Miyoei Shinohara, "A Survey of the Japanese Literature on Small Industry," in Bert F. Hoselitz (ed.), The Role of Small Industry in the Process of Economic Growth, Mouton, the Hague and Paris, 1968.

¹⁹ Rosa Linda Tidalgo, "Labor Absorption in the Philippines, 1956-1973," Philippine Economic Journal, Vol. XV, Nos. 1 and 2 (1976).

jumped to 69,000 in 1968, remained at approximately that level until 1971, and then increased to 82,000 in 1973.²¹ It is not by coincidence that the Census has so far conducted only two field canvass listings of establishments - the first in 1967 and the second in 1972.

To get a rough estimate of the extent of the understatement of the employment shares of smaller establishments in the ASM, let us compare the size structures of factory employment reported in the 1962 ASM and the 1961 Economic Census.²² The share of establishments with 5 to 49 workers in the ASM was only 29.4 percent, whereas the corresponding figure in the Economic Census was 35.2 percent. Since the 1961 Census was not based on a field canvass of establishments, it is possible that the actual share of the smaller size classes was even greater.

²¹The ASM publication no longer reports data by size class. Statistics are simply tabulated for establishments with 5 or more workers or 20 or more workers.

²²The distribution of employment by establishment size was not reported in the 1967 and 1972 Census publications.

We can therefore conclude that the employment shares of small establishments in Prewar Japan and Postwar Philippines were about the same. This is not surprising since, as mentioned earlier, both economies were labor-abundant economies.

What needs further elaboration is the smaller share of medium-sized establishments (especially the 50 to 99 and 100 to 199 size classes) and the relatively large share of large establishments (with 500 or more workers) in the Philippines. In our opinion, the smaller share of medium-sized firms in the Philippines was due more to technological change, the more volatile business conditions in Japan and the greater importance of natural resource - based manufactured exports in the Philippines than to the direct effects of import substitution on size structure. Until 1921, for example, less than ten out of a total of more than 4,000 establishments with 5 or more workers had 500 or more workers in the food and wood industries in Japan. In the same industries in the Philippines, 76 out of 5,000 establishments had 500 or more workers in 1972 (mostly from the sugar, lumber, coconut, etc. industries).

Also worth noting is the fact that the Japanese firms at that time, not unlike many contemporary firms, wanted to hold on to their skilled workers without becoming overstaffed during the

down swings. Thus, the more cyclical business environment in the Prewar period was more conducive to subcontracting. The big firms concentrated on essential operations and reduced the amount of work subcontracted to avoid the laying-off of an elite group of workers during the down swings.²³ We conjecture that the employment share of large firms in Japan would have been larger under more stable business conditions.

Thus, it seems that the "small-medium vs. large" dichotomy does not explain the slow growth of manufacturing employment in the Philippines or at best explains it only very partially. We would even go further by saying that we are less sanguine about the employment impact of merely removing existing biases against small and medium sized firms in the Philippines unless it results to a sizeable boom in exports of products of medium and small scale firms.²⁴

²³ In contrast to this, the ILO team of exports (ILO, op. cit.) emphasize direct competition among small, medium and large scale firms in the final market.

²⁴ This by no means implies that it is not desirable to provide a more conducive environment for medium and small scale industry. Whether or not larger firms are less likely to export is beyond our present scope. It is widely accepted, however, that firms in Japan had to increase capital intensity to become more competitive in the world market. For a discussion on export performance by firm size, see William V. Rapp, "Firm Size and Japan's Export Structure: A Microview of Japan's Changing Export Competitiveness Since Meiji," in Hugh Patrick (ed). Japanese Industrialization and Its Social Consequences, University of California Press, California, 1976.

Our somewhat pessimistic outlook, however, is not unqualified. Prewar Japan, after all, is hardly an outstanding example of development with balanced opportunities for small and large firms.²⁵ What we would like to point out is the possibility that the negative effects of Philippine import substitution policies on employment in medium and small scale firms have been over-emphasized. Conversely, there might be a tendency to be overly optimistic about the beneficial employment effects of changing some policies (e.g., removal of import restrictions) and to neglect policies related to institutional factors that promote employment in medium and small scale firms. Subcontracting in Japan during the prewar period, for example, can be viewed as an efficient way of allocating resources which allowed industry to take advantage of a relatively abundant labor supply by using labor-intensive methods in peripheral activities and at the same time use the most modern methods in the key production processes. It is, however, not quite accurate to suggest that subcontracting firms grew in numbers mainly because of factor prices which reflected the relative abundance of labor and relative scarcity of capital. It is probably more

²⁵ Miyohei Shinohara, op. cit.,

accurate to say that relative resource scarcities played a passive rather than active role in the growth of subcontracting firms.²⁶

Factory and Non-factory Employment

Since the contrasts between the size structures of factory employment in Japan and the Philippines are not as striking as initially expected, we must turn to an older way of classifying manufacturing employment. We will compare employment in factory and non-factory (household or unorganized) manufacturing activities in Japan and the Philippines. What seems clear from Philippine data is that although the rate of growth of factory employment, as is usually the case in countries experiencing modern economic growth, was much higher than that of labor force, total manufacturing employment grew at a slightly lower rate than total employment because non-factory employment, which accounted for around 70 percent of manufacturing employment, grew at only 1.6 percent (only .6 percentage point higher than the growth rate of agricultural labor and much lower than that of the service sector).²⁷

²⁶For a case history of ancillary firm development in Japan see IDCJ, op. cit., 71-80. In this sense the Philippine government's insistence that the Progressive Car Manufacturing Program (PCMP) be based on a subcontracting system is a step in the right direction and thus merits closer study.

²⁷ILO, op. cit., 142-143.

This is confirmed further by the stagnation in the number of self-employed and unpaid family workers in manufacturing (who are mostly from unorganized manufacturing, Table 7).

A comparison of the growth rates of factory, non-factory and total manufacturing employment in Japan and the Philippines is shown on Table 8. The first thing that must be noted is that manufacturing employment in Japan follows the long swings associated with investment spurts.²⁸ One could get misleading conclusions unless the long swings are taken into account. The cyclical pattern of factory and non-factory employment resembles that of employment in medium and small scale industries. In the down swings, non-factory employment expands as demand for labor in the factory sector contracts. In the upswings, the factory sector draws labor away from the unorganized sector. Thus, we must compare Philippine growth rates with growth rates for Japan during a complete swing (peak to peak or trough to trough). Due to data limitations, we have to choose between the period 1906 and 1931 and the period between 1917 and 1937.

Following from the discussion in the previous section, the

²⁸ Ohkawa and Rosovsky, op. cit.

Table 7

NUMBER OF NON-WAGE/NON-SALARY WORKERS
IN MANUFACTURING
PHILIPPINES: 1957-1973
(In Thousands)

Year	Manufacturing ¹	Factory ²
1957	616.7	9.9
1958	651.8	10.0
1959	589.7	9.6
1960	**	9.2
1961	626.6	**
1962	594.0	11.6
1963	700.0	12.3
1964	620.0	11.2
1965	569.0	10.6
1966	592.3	11.0
1967	637.6	**
1968	681.0	14.3
1969	614.5	16.0
1970	**	14.9
1971	665.3	15.0
1972	591.2	**
1973	587.1	15.9

¹ Self-employed and Unpaid Family Workers: Labor Force Surveys (May Series).

² Total Employment minus Paid Employment in establishments with 5 or more workers: Annual Survey of Manufactures.

**No survey.

Table 8

Growth Rates of Manufacturing Employment
in Japan and the Philippines

(In percent)¹

Period	Factory	Non-Factory	Total
A. Philippines			
1. 1960-1971	4.9	1.6	2.4
B. Japan			
1. 1906-1917	7.3	1.6	3.4
2. 1917-1931	1.0	2.2	1.6
3. 1931-1937	10.0	-2.0	3.4
4. 1906-1931 ²	4.1	1.9	2.4
5. 1917-1937 ³	3.7	.9	2.1
6. 1906-1937	5.2	1.15	2.7

Sources: Philippines: ILO, op. cit. (Source of basic data--ASM and Labor Force Surveys), 143.

Japan: LTES, Vol. 1 (Forthcoming).

¹ Simple average of annual growth rates. "Factory" includes establishments with 5 or more workers.

² 1901-1937 is a trough to trough period in the long-swings observed in investment growth rates. (See Ohkawa and Rosovsky, op. cit., for periodization.)

³ 1917-1937 is a peak to peak period.

former is chosen since it is closer to the initial phase of Japan's modern economic growth.²⁹

As mentioned previously, differences in population growth rates had a very important influence on the behavior of the employment share of the manufacturing sector. This can be easily seen noting that although the growth rates of manufacturing employment in Japan (1906-1931) and the Philippines were both equal to 2.4 percent, the employment share of manufacturing increased in Japan and declined slightly in the Philippines.

The small difference between the growth rates of non-factory employment is noteworthy since a growth rate of 1.2 percent to 1.9 percent in employment in the unorganized sub-sector of manufacturing implies declining per capita consumption of the output of the unorganized (and traditional) sub-sector in the Philippines and an increasing per capita consumption

²⁹The negative growth rate for non-factory employment from 1931 to 1937 is not entirely due to cyclical factors. Since the share of factories in both output and employment is much higher in the 1930's than in the two previous decades, growth of factory employment had a much bigger effect on labor supply to the unorganized sector in the 1930's. The 1930's was also characterized by a sharp decline in Japan's terms of trade and by increasing militarization of manufacturing activities.

in Japan. This is so because the products from the unorganized sub-sector of manufacturing are largely non-traded and because Philippine population growth is much higher.

Thus, the Philippine manufacturing sector did not become a net absorber of labor because the rise of factories, while directly creating employment opportunities, also indirectly displaced workers in the unorganized sector since the outputs of non-factory and factory activities are to some extent substitutes for each other.

Why then was the displacement effect much weaker³⁰ in Japan than in the Philippines? We will not form any testable hypothesis, but we surmise that factors related to domestic demand are as important as differences in productivity. When Japan was forced to resume trade with the rest of the world, domestic demand for a wide range of indigenous goods was already strongly established.³¹ Demand for western-type goods

³⁰ Japan, of course, also had similar problems. Some government officials, for example, attributed balance of payments problems in the early Meiji era to the allegedly excessive expenditures on imported goods of prosperous farmers and landowners. Arthur Tiedemann, "Japan's Economic Foreign Policies, 1868-1893," in James Wilham Morley (ed.), Japan's Foreign Policy, 1868-1941: A Research Guide, New York and London: Columbia University Press, 1974.

³¹ Even in modern Japan, indigenous goods are still very much in evidence. See Henry Rosovsky and Kazushi Ohkawa, "The Indigenous Components in the Modern Japanese Economy," Economic Development and Cultural Change, Vol. 9, No. 3 (April 1961).

grew but not as rapidly as in a young country which is still, to use a familiar line, in the process of becoming a nation in an age of high speed mass communications.

It is, of course, hazardous to draw any policy implications without the use of a comprehensive model which can take second-order effects into consideration. In addition, policies directed towards influencing tastes and preferences may have strong ideological implications.

At this point, we can only ask questions for which we have no ready answers. We could, for example, ask whether or not non-factory employment in the Philippines would have grown faster had the Philippines followed a more liberal trade policy. On the one hand, we could say that as in the case of Japan, competition between the factory and the unorganized sub-sectors in the product market would have been less severe if trade liberalization induces a greater volume of manufactured exports. There might even be a greater level of handicraft exports.

Higher tariffs and import quotas on finished products on the other hand, may perform a very important function. They may slow down the alteration of domestic tastes and preferences. One common problem of contemporary LDCs is that tastes and preferences tend to be westernized faster than production methods.

Foreign-type goods, in other words, compete with traditional goods regardless of whether they are produced locally or abroad. Thus, although it is obvious that policies which penalize exports of manufactured goods should be changed, it is not equally obvious that trade policies should be radically liberalized. Tariff "rationalization" should not be equated with tariff reduction.

We can also speculate on the employment effects of the urban bias in Philippine development policy. In Japan, there probably was some bias against the rural sector as well since the land tax was the principal source of government revenue. But there were countervailing factors which tended to raise the income of rural families. The increase in sidework activities of peasants, the fact that most female workers in the textile industry were recruited from the rural areas, and that prosperous farmers and landowners invested in the rural sector suggest that Japanese economic development was less biased³² against the rural sector than the Philippine experience. Since

³²Shigeru Ishikawa, for example, thinks that net resource flow from agriculture in Meiji Japan, if there was any, was mainly due to the output-raising effects of basic investments and technological progress. Shigeru Ishikawa, Economic Development in Asian Perspective, Kinokuniya Bookstore, Tokyo, 1967, Chapter 4.

there was dualism in consumption behavior³³ between modern and traditional sectors, demand patterns were much more favorable for the unorganized manufacturing sector in Japan than in the Philippines.

The above discussion, however, is somewhat anomalous since in the preceding section we stated that the period before 1914 to 1917 is more relevant for our purposes than the period after. It is safe to say, on the other hand, that if we had data for peak to peak growth rates in manufacturing employment covering the period between the 1890's and 1917, our observation will remain or may even become more distinct. The quantity of silk produced using traditional methods was, for example, rising until the beginning of the 20th century.³⁴

Thus it seems that it may not be possible to significantly reduce the level of inequality by simply changing policies that affect the manufacturing sector since the rise of factories, perhaps unlike the rise of large scale firms, is a necessary consequence of the initial phase of modern economic growth.

³³ Allen Kelley and Jeffrey Williamson, op. cit.

³⁴ Katsuo Otsuka, "Technological Choice in the Japanese Silk Industry," (draft).

In the very long run, however, the labor absorption performance of the manufacturing sector may improve. The employment share of factories has risen gradually in the Philippines to about the level in Japan in the 1910's (Tables 9 and 10). Thus provided that the factory sector maintains the same growth rate in the future, its employment effects will become more significant. In Japan, this meant a decline in agriculture labor force after World War I. In the Philippines it may imply a reduction in the growth rate of the labor force in the service and/or the agricultural sector. Thus, it is important to ask whether or not employment in the organized manufacturing sector can keep on growing at over 6 percent per year under present policies (which are allegedly biased against exports) and world trade conditions.³⁵

Dualism in Manufacturing

One important feature of the Philippine's industrialization program in the 1950's and the 1960's was the government's policy of encouraging imports of capital goods via low tariffs and interest rates and cheap foreign exchange. This, according

³⁵ The First World War for example, was very timely for Japan in the sense that it prevented a downturn by stimulating exports.

Table 9
Employment in Manufacturing
Philippines

	Number employed (Thousands)			Percentage employed	
	Factory	Non-Factory	Total	Factory	Non-Factory
1956	206	756	962	21.4	78.6
1957	224	781	1,005	22.3	77.7
1958	228	699	927	24.6	75.4
1959	239	753	992	24.1	75.9
1960	249	787	1,036	24.0	76.0
1961	n.a.	n.a.	1,026	n.a.	n.a.
1962	278	774	1,052	26.4	73.5
1963	300	839	1,139	26.3	73.7
1964	316	929	1,245	25.4	74.6
1965	324	777	1,101	29.4	70.5
1966	327	902	1,229	26.6	73.4
1967	n.a.	n.a.	1,223	n.a.	n.a.
1968	394	840	1,234	31.9	68.1
1969	402	1,000	1,402	28.7	71.3
1970	404	1,086	1,472	27.4	72.6
1971	421	1,018	1,439	29.3	70.7

Sources: 1. Factory employment: Annual Survey of Manufactures (Establishments with 5 or more workers).

2. Total manufacturing employment: Labor Force (Household) Surveys (October series, except for 1964, 1968, 1969 which are from May series).

Notes: 1. Non-factory employment is computed as a residual.

2. No survey of manufactures in 1961 and 1967.

Table 10

Manufacturing Employment

Japan

(Thousands)

	<u>Total</u>	<u>Factory</u>	<u>Non-Factory</u> ¹	<u>% Factory</u>	<u>% Non-Factory</u>
1909	2,931	821	2,110	28.0	72.0
1914	3,000	1,009	1,991	33.6	66.4
1919	4,295	1,808	2,487	42.1	57.9
1920	4,577	1,758	2,819	38.4	61.6
1925	4,813	1,996	2,817	41.5	58.5
1930	4,754	1,875	2,879	39.4	60.6
1935	5,380	2,620	2,760	48.7	51.3

Sources: Factory: Ministry of International Trade and Industry, op. cit.

Total: LTES, Vol. I (Forthcoming).

¹Total less Factory (with 5 or more workers).

to many critics, resulted to excessive capital-intensiveness in the (modern) manufacturing sector.

The policy makers in Meiji Japan also encouraged the importation of capital goods and technology. But because the Japanese government at that time did not have tariff autonomy to protect the manufacturing sector and was in a rather tight financial position, imports of capital goods by the manufacturing sector were not as extensive as in the Philippines.

In spite of these difficulties, the capital-labor ratio in the manufacturing sector continued to rise from the very start³⁶ at rates that were probably not very different from those in the Philippine manufacturing sector. Thus, it seems that the capital intensity in the Philippine manufacturing sector would have risen as well even if the government had chosen less protective measures.³⁷

It can of course be argued that the initial level of the capital-labor ratio in manufacturing was much higher in Post-war Philippines than in Meiji Japan. But because the level of

³⁶ Ohkawa and Rosovsky, op. cit.

³⁷ For both countries, data on capital stock are probably the least reliable in comparison to other types of data.

technology in the early 20th century was very different from the present level, we would not be in a position to evaluate the comparative absolute levels of the capital-labor ratios even if we had reliable data. We will therefore use a different approach by comparing the timing and the extent of dualism in manufacturing in the two economies.

It is widely accepted that the dualistic structure in manufacturing measured in terms of inter-factory-size differences in labor productivities, did not become important in Japan until after the 1920's. There were differentials in wages and labor productivities as early as 1909, but they were relatively small and observed only in industries where small firms paid below-average wages.³⁸

In contrast, dualism in the Philippine manufacturing sector appeared at a very early stage of development. It seems that productivity differentials in the Philippines were even wider than the differentials in Japan during the 1930's--a period when the differentials in Japan supposedly widened (Table 11).

³⁸Yasukichi Yasuba, "The Evolution of Dualistic Wage Structure" in Hugh Patrick (ed.) op. cit.

Table 11

INDEX OF GROSS OUTPUT PER WORKER BY FACTORY SIZE

Index=100 for 50-99 operatives

A. Japan									
Factory Size (No. of Operatives)		5 - 9	10-14	15-29	30-49	50-99	100-199	200-499	500-999
1929	68.7	72.5	78.6	87.0	100.0	103.2	122.8	95.0	
1932	68.3	76.4	80.5	91.6	100.0	102.3	111.7	110.9	
1935	62.8	72.5	81.7	93.2	100.0	117.0	132.6	136.7	
1937	61.1	65.2	77.5	89.2	100.0	112.4	129.4	130.3	
B. Philippines ¹									
1970		$\frac{5-19}{32.7}$		$\frac{20-49}{67.2}$		$\frac{50-99}{100.0}$	$\frac{100-199}{145.0}$	$\frac{200-499}{159.0}$	

¹Value added.

Since the differentials in labor productivities are largely explained by capital intensities (e.g., total factor productivities are not very different by size class), one could indeed argue that by shifting incentives away from large firms and creating a more favorable environment for medium and small scale firms, employment can be increased without sacrificing efficiency.³⁹

Our main point, however, is that the main explanation for the poor employment performance of the Philippine manufacturing sector cannot be found in the factory sector. Using small firms as proxies for the cottage sector, it can be seen that cottage-factory differentials in labor productivity are even wider (Table 12). Thus, it is easy to see why the "elasticity"⁴⁰ of employment with respect to output is greater in the factory sub-sector than in the manufacturing sector as a whole in both Japan and the Philippines (Table 13).

³⁹ ILO, op. cit. In industries where small firms are not capable of borrowing foreign technology or are dependent on large firms for technological inputs, the above argument does not apply.

⁴⁰ Strictly speaking, the ratio between the rates of change in employment and output cannot be called elasticity.

Table 12

Gross Output per Worker
in Small Establishments
Relative to Large Establishments
Japan and the Philippines

(Year)	Japan		(Year)	Philippines	
	(1)	(2)		(3)	
1929	70.8	73.1	1956	48.5	
1930	71.2	71.8	1957	43.5	
1931	75.8	77.7	1958	43.9	
1932	71.2	71.2	1959	39.1	
1933	59.8	60.7	1960	43.8	
1934	58.2	58.3	1962	28.1	
1935	54.7	57.0	1963	29.2	
1936	54.0	54.2	1964	35.2	
1937	54.2	56.6	1965	34.6	
1938	58.0	61.1	1966	34.1	
			1968	32.4	
			1969	26.4	
			1970	25.7	
			1971	25.6	

Sources: Japan: Census of Manufactures

Philippines: Annual Survey of Manufactures

- (1) Output per worker in establishments with 5 to 14 workers divided by output per worker in establishments with 15 or more workers (in current prices) X 100.
- (2) Output per worker in establishments with 5 to 29 workers divided by output per worker in establishments with 30 or more workers (in current prices) X 100.
- (3) Output per worker in establishments with 5 to 19 workers divided by output per worker in establishments with 15 or more workers (in current prices) X 100.

Table 13

Rates of Change in Manufacturing

Output¹ and Employment

(In percent)

A. Japan (1906-1931)

	Employment	Output	Ratio (1÷2)
Factory	4.1	8.5 ²	.48
Manufacturing	2.4	6.2	.39

B. Philippines (1960-1971)

Factory ³	6.2	8.9	.70
Manufacturing	2.4	6.4	.38

¹Gross output for factory, value added for manufacturing.²1909-1931³With 20 or more workers.

As long as demand for products of the cottage sector grows at a substantially lower rate than demand for factory output, the "shift" effects will be the major determinant of the responsiveness of manufacturing employment to changes in manufacturing output. This also explains why the over all

employment elasticities in the manufacturing sectors of Japan and the Philippines were almost equal inspite of the fact that employment elasticity in the factory sub-sector was much higher in the Philippines (Table 13, col. 3).

The labor-saving effect of an increase in the output share of factories in total manufacturing output was greater in the Philippines because the labor productivity differential between the cottage and factory sub-sectors was wider in the Philippines.

Thus, we are left to conclude that even if the Philippine factory sector shifts toward more labor-intensive techniques, demand for labor will not grow very rapidly unless manufacturing output grows at very high (say over 10 percent per year) rates. Since domestic demand for Philippine manufactured products is probably elastic, but not overly elastic, nothing short of an export boom in manufactures will be required. In Meiji Japan, for example, wages of unskilled

workers did not rise although manufacturing output was rising rapidly. Wages, of course rose after World War I, but then manufacturing output was growing at fantastic rates (e.g. factory output in 1918 was almost two times that of 1912).

It is of course impossible to predict whether or not the Philippines can expect the same export prospects. Certainly, it is desirable to implement policies that make internal conditions conducive to export of manufactures. But considering the uncertainties involved, we would not make such policies the central point of a program for equitable growth.

Output Mix and Employment

Undoubtedly, changes in the shares of individual industries in manufacturing affect labor absorption. As noted earlier, for example, labor-saving tendencies in the factories were apparently stronger in Prewar Japan than in the Philippines.

The actual extent of the labor saving in the Japanese factories, however, may be much less. Much of the change in the aggregate labor-output ratio may be due to changes in the sex-ratio (only 38.6 percent of factory operatives were male in 1909 compared with 47.1 percent in 1930) and output mix.

From a static point of view, on the other hand, Philippine factory employment would certainly be higher if her output mix were more similar to Japan's. Thus, we should qualify our previous (and rather pessimistic) conclusion since, theoretically at least, Philippine factory employment can grow much faster than factory output if much of the growth comes from labor intensive industry (e.g., garments). This, of course, will imply greater emphasis on manufactured exports. But because the world trade conditions in the prewar period were very different from the present conditions, it is very hard to make any comparisons.

Table 14

Industrial Shares in Factory
Gross Output and Labor Force

Industry	Labor Force		Gross Output	
	Japan 1909	Phil. 1962	Japan 1909	Phil. 1962
Food, Tobacco and Beverages	9.4	32.0	18.5	42.0
Textile and Products	62.8	21.1	50.7	11.3
Lumber and Wood Products	2.9	10.7	2.6	5.8
Chemicals	3.7	8.3	10.1	16.5
Stone, Clay and Products	4.9	3.4	3.3	3.2
Metals	2.4	6.7	4.2	6.9
Machinery	6.1	9.5	5.4	8.1
Printing and Book-binding	2.7	6.5	2.0	5.4
Miscellaneous	4.9	1.7	3.2	.8
T o t a l	100.0	100.0	100.0	100.0

WAGES

The trend in wages in the modern sub-sector of Philippine manufacturing is consistent with the sector's poor labor absorption performance. From 1956 to 1969, unskilled wages did not show any clear rising or falling trend. Wages were rising before 1956 and falling after 1969 (Table 15). But the former and latter periods were abnormal. Manufacturing output grew very rapidly before 1956 while inflation, for the first time, hit two-digit levels after 1969.

It is not very clear as to which set of data constitutes Japanese unskilled wages. Whichever set of data is used, however, it seems that wages were more or less constant in Japan before World War I. Tussing, for example, has shown that the wage of female operatives in silk reeling industries in Yamanashi Prefecture were roughly constant between 1895 and 1911 although earnings were increasing due to longer working time.⁴¹ One would get the same conclusion by using wages of male agricultural workers as proxy for unskilled wages. Product wages

⁴¹ Arlon R. Tussing, "The Labor Force in Meiji Economic Growth: A Quantitative Study of Yamanashi Prefecture," in Kazushi Ohkawa, Bruce Johnston and Hiromitsu Kaneda, Agriculture and Economic Growth: Japan's Experience, Tokyo: University of Tokyo Press, 1969.

Table 15

Real Wage Index
Industrial Establishment in Manila and Suburbs

	Skilled	Unskilled
1950	119.7	90.6
1951	103.6	90.3
1952	112.6	103.2
1953	119.2	109.9
1954	121.6	110.3
1955	122.8	114.6
1956	120.0	113.4
1957	117.5	110.2
1958	117.7	107.2
1959	120.7	109.1
1960	115.7	104.8
1961	113.6	105.7
1962	108.7	102.9
1963	106.0	102.8
1964	102.1	99.1
1965	100.0	100.0
1966	99.6	101.8
1967	98.1	100.3
1968	103.6	109.1
1969	106.9	112.0
1970	99.3	108.5
1971	91.3	101.3
1972	86.8	97.4
1973	82.8	90.4
1974	67.2	72.5
1975	64.5	72.6

Source: Central Bank of the Philippines, Statistical Bulletin (Basic data from private firms).

showed rather wide fluctuations but did not show any secular trend (Table 16).

Thus, if there is anything in common between Postwar Philippines and Meiji Japan, it is the stagnancy of unskilled wages. This is not surprising. The Philippines has a more favorable man-land ratio but has a much higher labor force growth rate.

Agricultural wages in the Philippines, however, seem to be declining. Unlike the recent decline in the manufacturing sector which can be associated with hyper-inflation, the decline in wages in Philippine agriculture seems to date back to an earlier date. Thus, at first glance it seems that intersectoral differentials behaved rather differently in the two economies.

It should be noted, however, that agricultural wages in Japan follow a very cyclical pattern.⁴² When employment opportunities in the manufacturing sector were scarce, manufacturing wages did not fall, whereas agricultural wages fell. When demand for labor in manufacturing rose, on the

⁴² Ohkawa and Rosovsky, op. cit.

Table 16
 Wages¹ of
 Male Agricultural Workers in Japan
 (1894-1900=100)

	Annual Contract Workers	Daily Contract Workers
1894	91.3	97.8
1895	98.7	100.6
1896	99.5	101.6
1897	106.9	103.3
1898	101.1	101.9
1899	108.5	103.9
1900	93.8	90.9
1901	106.0	105.8
1902	105.2	108.2
1903	101.1	99.1
1904	102.8	96.1
1905	103.6	99.4
1906	101.1	92.6
1907	97.9	89.8
1908	108.5	94.3
1909	111.8	99.3
1910	121.6	100.8
1911	103.6	94.7
1912	101.1	90.2
1913	98.7	95.0

Source: LTES, Vol. 9.

¹Nominal wage divided by the implicit deflator for value added in agriculture.

other hand, the firms would rather increase recruitment expenditures to hire workers from the rural areas so that agricultural wages rose faster than manufacturing wages.

We could therefore say that the recent trends in the Philippines resemble the patterns in Japan during the down swings. In both economies, the relative scarcity of jobs in modern manufacturing sector which was due to down swings in business activity in Japan and to high labor force growth rates in the Philippines, did not bring about a decline in wages in modern manufacturing. The burden of wage adjustment was placed on the other sectors. Conversely, this may imply that as employment opportunities in manufacturing expand in the Philippines, the greatest beneficiaries will not be workers who already have jobs in manufacturing but those workers who are holding relatively low paying jobs elsewhere.⁴³

We are of course not discounting other reasons for the declining position of the workers in the Philippines' traditional

⁴³ In this sense there is no "surplus" labor in agriculture. See Koji Taira, Economic Development and the Labor Market in Japan, New York: Columbia University Press, 1970.

sectors. The relative neglect of agriculture⁴⁴ in the past together with the concentration of land ownership probably intensified the deterioration of the relative position of the agricultural worker.

Skill differentials are less tractable. In Japan, average manufacturing wages had been rising even when unskilled wages were stagnant. This implies that wages of skilled workers were rising. This can perhaps be explained by the relative scarcity of skilled workers, increasing skills and changing occupational mix.

The trend in the Philippines seems quite different. Skilled laborers, according to Central Bank figures, have not fared better than the unskilled workers (Table 15 and 17). The type of workers included in the index are, however, not directly comparable with Japanese data. Since the performance of skilled wages is a very important determinant

⁴⁴ Hayami and Ruttan, op. cit. R. L. Tidalgo used household survey data to show a narrowing of cash earnings differentials between agricultural and non-agricultural workers and attributed it to the dispersal of high yielding varieties. Rosa Linda Tidalgo, "Wages and Wage Structure in the Philippines, 1957 to 1969." Ph.D. Dissertation, University of Wisconsin, 1975.

Table 17

Wage Differentials
(Industrial Establishments in Manila and Suburbs)

Common Laborer equals 100

	<u>Black-smith</u>	<u>Boiler-man</u>	<u>Cigar & cigar maker</u>	<u>Compositor</u>	<u>Foreman</u>	<u>Lathe-man</u>	<u>Lino-typists</u>	<u>T</u>
1951	122	140	100	196	195	167	253	1
1952	117	140	113	187	182	157	238	1
1953	124	144	105	183	183	156	235	1
1954	133	144	101	184	196	164	239	1
1955	123	150	99	172	194	158	228	1
1956	122	148	100	160	197	153	221	1
1957	123	147	100	161	202	142	216	1
1958	121	156	108	158	206	158	223	1
1959	119	159	125	156	209	157	221	1
1960	121	163	121	158	212	156	212	1
1961	122	159	127	159	215	143	206	1
1962	120	155	133	150	209	135	194	1
1963	118	162	112	138	205	131	183	1
1964	120	159	111	138	208	132	191	1
1965	115	150	116	128	207	125	185	1
1966	111	152	113	126	200	124	178	1
1967	112	153	107	121	194	129	176	1
1968	104	150	97	149	187	119	165	1
1969	104	146	87	117	188	116	166	1
1970	102	141	85	110	180	109	153	1
1971	101	134	87	108	178	110	150	1
1972	108	129	84	128	178	108	155	1
1973	115	131	84	124	184	116	156	1

Source: Central Bank, Statistical Bulletin.

of labor's share in output, we will refrain from drawing ⁴⁵ inferences.

Labor's Share in Manufacturing Output

Due to data limitations, we will compare factor shares in establishments with 5 or more workers only. Although this does not enable us to make direct comparisons, it minimizes the problem of imputing incomes for non-wage workers who constitute the majority in the unorganized sectors.

For the Philippines we will use data from the Annual Survey of Manufactures. As mentioned earlier, the degree of undercoverage is inversely related to establishment size. In the final paper, we will try to make the necessary adjustments.

For Japan we will use Mataji Umemura's estimates of labor's shares.⁴⁶ His estimates of net output for the period

⁴⁵ We will try to include better data in the final paper.

⁴⁶ Mataji Umemura, "Labor's Relative Share in the Japanese Manufacturing Industry Since 1900," The Annals of the Hitotsubashi Academy, April 1958.

before 1929 were based on the GRJE which relied heavily on the Nagoya series.⁴⁷ It should be noted that the Nagoya indexes overstate the growth of overall manufacturing production since it included only selected commodities with gross values exceeding ten million yen.⁴⁸ But because we will compare labor shares in the factory sector only, this is not a very serious limitation.

A more serious data constraint is the fact that value added was not estimated in the censuses before 1929 so that the GRJE estimates of net product had to be based on benchmark estimates of net product ratios for 1930. As a result, we cannot compare

- a. absolute values of labor shares in Japan with those in the Philippines;
- b. Year to year fluctuations in labor share.

⁴⁷ Kasuzhi Ohkawa and others, The Growth Rate of the Japanese Economy Since 1878, Tokyo: Kinokuniya Bookstore, 1957.

⁴⁸ Yuichi Shionoya, "Patterns of Industrial Development" in Lawrence Klein and Kazushi Ohkawa (eds.) Economic Growth: The Japanese Experience Since the Meiji Era, Homewood, Illinois: Richard and D. Irwin, Inc., 1968.

The series, however, is still useful for estimating overall net product ratios for the entire prewar period.⁴⁹ Thus, although we cannot use Umemura's figure for evaluating short term fluctuations, we can use it for comparing long term trends.

For Japan, the labor shares in the factory sector showed a slightly declining trend until 1914, a rapid increase between 1914 and 1926 and an equally rapid decline from 1926 to 1938 (Table 18).

The trend for the Philippines on the other hand, is one of almost consistent decline (Table 19) at both the aggregated and disaggregated (by size class and by industry) levels.⁵⁰ The decline was very pronounced and probably as rapid as the decline in Japan after 1926 when unskilled wages declined drastically.

⁴⁹ Kazushi Ohkawa and others, op. cit., pp. 87-90.

⁵⁰ Leonardo Sta. Romana III, "A Study of Property and Entrepreneurial Income in the Philippines, 1956-1971" (Unpublished M. A. Thesis, University of the Philippines), 1975.

Table 18

Labor's Relative Share in Net Output
(Factory Sector)
Japan
(9-year Moving Averages)

1904	31.5	1915	30.6	1927	46.4
1905	33.9	1916	31.6	1928	44.8
1906	33.9	1917	34.0	1929	43.6
1907	33.0	1918	36.1	1930	42.8
1908	32.9	1919	37.7	1931	42.8
1909	32.6	1920	39.8	1932	41.6
1910	32.9	1921	41.9	1933	41.0
1911	32.6	1922	43.5	1934	39.8
1912	32.0	1923	45.0	1935	37.6
1913	31.0	1924	46.0	1936	35.8
1914	30.3	1925	46.6	1937	35.2
		1926	46.8	1938	34.6

Source: Mataji Umemura, op. cit.

Table 19

Labor's Share in Value Added¹

(Factory Sector)

Philippines

1956	32.2
1957	30.9
1958	27.9
1959	27.5
1960	26.7
1962	24.9
1963	22.7
1964	24.0
1965	26.6
1966	27.0
1968	24.0
1969	23.5
1970	26.7
1971	21.7

Sources: NCSO, Annual Survey of Manufactures¹Includes depreciation

The main task before us, therefore, is to try to explain why labor's share declined much more rapidly in the Philippines in 1956-1971 than in Japan in 1914. At the moment, we can offer only probable but still unverified explanations (which are not necessarily mutually exclusive):

- a. Was the share of skilled labor rising in Japan, but was constant or falling in the Philippines so that although the share of unskilled labor was falling in both economies, the share of labor as a whole fell more rapidly in the Philippines?
- b. Were the movements in the relative price of manufactured goods more favorable for the Philippine manufacturing sector? (or did the users of manufactured products benefit more from increased productivity in the manufacturing sector in Japan?).
- c. Did a greater part of productivity increases in Japan come from technological progress, improved skills and technological adaptation? (or did capital accumulation account for a greater portion of productivity increases in the Philippine manufacturing?).

Revised version of the paper

and other papers

Some Preliminary Conclusions

Development economists often ask whether or not it is more difficult for late-comer countries to develop. In the same vein, we can ask whether or not growth in late-comer countries tends to be less equitable.

As far as the Philippine manufacturing sector is concerned, it seems that factors making for increased income inequality are, as a whole, stronger than factors that contribute to a narrowing of income disparities. In addition, it seems that the growth of the manufacturing sector in the Philippines has been a greater source of inequality than the growth of the manufacturing sector in Prewar Japan.

Dualism in manufacturing, for example, did not become a prominent feature of the Japanese economy at the initial phase of her economic growth. The inter-factory-size differentials in labor productivity in the Philippines, on the other hand, appeared at a very early stage and are wider than the differentials in Prewar Japan.

Thus, it could indeed be argued that in some respects, the so called conflict between growth and equity may be more

imaginary than real and that a redirection of incentives towards small and medium size industries may contribute to both efficiency and equity.

Even after existing policy biases against small and medium scale firms are corrected, however, growth in the manufacturing sector may remain a net source of inequality. One of the few direct lessons that can be learned from a comparison of the experiences of Japan and the Philippines, is that borrowing technology from more advanced countries inevitably creates a dualistic structure.

Furthermore, the more important reason why the labor absorption performance of the Philippine manufacturing sector has been relatively poorer than that of manufacturing in Japan, is the weakness of the indigenous components of Philippine manufacturing. Both demand and productivity conditions in the Philippines have been less conducive to growth of employment in the unorganized sub-sector of manufacturing. Employment in the factory sub-sector must therefore grow much more rapidly. Thus, nothing short of a sustained boom in the export of manufactures would be required to make the manufacturing sector a contributing factor to the reduction of income inequalities. Otherwise, we must search elsewhere for policies that will promote greater equity.

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