

FULL EMPLOYMENT GROWTH IN JAPAN AND TAIWAN

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The paper examines the phenomenon of full employment in Japan, the first country to reach such stage in postwar Asia, and of Taiwan which achieved it in the late 1960s. It looks into its manifestation, and how it was attained and sustained; and finally, how it affects macro growth rates, productivity, income distribution, demographic and other aspects. The trends examined apparently indicate that the top priority should be to develop agriculture in the early stages of modern economic growth in a monsoon economy. It is also predicted that unlike Japan and Taiwan, full employment in the coming decades will be much more difficult to attain and sustain due to the sluggish growth of the industrialized countries. Solutions are suggested which South and Southeast Asian countries can use to cope with labor surplus problems.

1. Introduction

Full employment may be defined as a situation in which unemployment and underemployment fall to levels where wages of unskilled workers rise as fast as those of skilled workers. This corresponds roughly to the unemployed portion of the labor force constituting only 3 per cent or less. Underemployment is often defined as working less than full time, usually less than 35 hours per week, but the relevant one for our purpose refers to those wanting more work among those working less than full-time. Many part-timers are housewives and students who don't want to work full-time. Underemployment is prevalent in the rural areas during the dry months, but is insignificant in the city-states.

With further growth, wages of unskilled workers begin to rise faster than those of skilled workers, and full employment transforms into labor shortage. Between full employment and labor shortage, some time elapses during which teenagers and elders, attracted by rising unskilled wages, join the labor force. Simultaneously, migration from the rural areas rise, and the participation and overtime rates begin to rise significantly. Further excess demand for labor will push up wages of unskilled workers faster than other wages, as the pool of available workers disappears. The rise in wages begins to push up prices, signifying the shift from full employment to labor shortage.

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This abstract description of full employment is not easily found in the actual data. In part this is because market distortions and frictions constrain the smooth and expeditious working out of the relevant forces, besides other forces operating in various parts of the economy. Even though unemployment is low, there may be a large pool of part-time employees, available for full-time jobs, as was the case in South Korea in the late 1960s. In the real economy full employment is reached not at a single point of time but in a period of months and years. Hence, we look into other signs of full employment such as unemployment rates, price rises, ratio of job-openings to job-seekers, and turnover rates.

We then analyze how full employment was attained and then sustained. This is followed by a discussion of the consequences and implications of full employment on macro growth rates, productivity, distribution of income, demographic and other aspects. In this paper, Japan's full employment is discussed first followed by that of Taiwan.

2. The Japanese Experience

Japan is the first country to achieve full employment in post-war Asia.¹ We start with agriculture which was the largest sector in terms of employment throughout the decades of the 1940s and 1950s, and then go on to the industrial and services sectors. The Supreme Command of the Allied Military Powers (SCAP) which occupied Japan up to 1952 after World War II undertook a drastic land reform in 1947, seeing that this was the only way in which Japan can be made into a peaceful society. SCAP felt that the sickness of the Japanese society which led to militarization was due to the misery of the peasantry whose meager incomes fell sharply from 1,600 yen in the mid-1920s to 900 yen in 1937 with tenant-landlord disputes rising from a few hundreds in the pre-World War I decades to 4,000 in the 1930s.

This land reform wiped out the power of the landlords not only in the ownership of farmland but also in the control of cooperatives, local and central governments, agricultural extension, and other institutions, all of which were democratized. Labor productivity rose by

¹In no period in the prewar decades did the Japanese economy approach full employment except during the war economy of the 1940s. It was saddled with extensive unemployment in the 1930s and underemployment previously.

5 per cent per year in the 1950s after the reform. Another source of social tensions and unrest was the insufficient employment, especially underemployment in the drier periods when the monsoon rains went away.²

In the 1950s, unemployment and underemployment rates averaged about 1 per cent and 15 per cent, respectively. Unemployment was low because the loss of Korea and Taiwan meant that food cannot be imported as in the prewar decades and so urban workers went back to the farms to help with food production in the late 1940s. Also due to the damage caused by Allied bombings of Japan's factories and other places, there was much reconstruction besides various kinds of menial work around the house and in the neighborhood. Self-employed workers constituted one-fourth of the total employed population and exceeded the regular laborers in 1955, but dwindled to only one-half of regular workers by 1960, and only one-third by 1965. There was also a substantial sale of goods to the U.S. forces whose procurement of Japanese goods helped South Korea to battle North Korea in the Korean civil war from 1950. And then the West began to buy large quantities of Japanese textiles, and the U.S. department stores and chains came out to Japan to buy large quantities of garments, toys, radios, etc. from the early 1950s, as noted below. Hence, Japan did not have a large pool of jobless to begin with in the early 1950s, except in the rural areas where the monsoon type of underemployment may have been substantial.

Finally, as shown in Table 1 the low level of unemployment in Japan compared to Taiwan and South Korea was due to conceptual differences. In the latter, those working less than 19 hours were counted as unemployed while in Japan they were considered to be employed. Unemployment and underemployment in South Korea are higher because of the long and severe winter, much more than in Japan where winters are kept mild by the Pacific winds, and Taiwan which is semi-tropical.

Unemployment rates fell from 1 per cent in the 1950s to 0.6 per cent in the first half of the 1960s, and underemployment from 12.0 per cent in the first half of the 1960s, to 10.0 per cent in the second half of the 1960s, and then to 9.0 per cent in the first half of the 1970s. And by 1980, only 2 or 3 per cent of the labor force wanted more work. (See Table 1 below.)

²Details of the foregoing paragraphs are found in Oshima (1987); see p. 15 for the increase in agricultural employment from 1945 to 1950. Further details are found in *Agricultural Development in Modern Japan*, (ed. T. Ogura), 1966.

Table 1 -- Unemployment (A) and Underemployment (B) Regions and Areas
(as per cent of the labor force)

Years	JAPAN		S. KOREA		TAIWAN		HONG KONG		SINGAPORE	
	(A)	(B)	(A)	(B)	(A)	(B)	(A)	(A)	(A)	(A)
1955	1.2	16.6								4.9
1956	1.0	15.8								
1957	0.8	14.7								13.2
1958	1.0	13.9								
1959	1.0	13.5								
1960	0.8	13.2					1.7			
1961	0.7	12.4								
1962	0.6	11.5	8.4							
1963	0.6	11.5	8.1		4.3					
1964	0.5	10.9	7.7							
1965	0.5	11.0	7.3		3.3		3.1			9.0
1966	0.6	10.8	7.1	25.5	3.0		2.4	3.6		8.1
1967	0.6	10.5	6.1	22.7	2.3		2.0			6.7
1968	0.8	9.2	5.0	21.1	1.7		1.2			6.7
1969	0.7	8.9	4.7	16.6	1.9		2.2			6.0
1970	0.8	8.7	4.4	18.4	1.7		1.5			4.8
1971	0.8	8.7	4.4	17.6	1.7		1.1	4.8		4.7
1972	0.9	8.3	4.5	17.8	1.5		1.1			4.5
1973	0.8	8.7	3.9	15.8	1.3		0.8			3.9
1974	0.9	8.8	4.0	12.5	1.5		0.8			

1975	1.2	4.1	12.1	2.4	1.1	9.1	4.6
1976	1.3	3.9	11.4	1.8	0.6	5.6	4.5
1977	1.3	3.8	13.0	1.7	0.4	4.5	3.9
1978	1.4	3.2	10.6	1.7		3.0	3.6
1979	1.3	3.8	10.9	1.3		2.9	3.4
1980	1.3	5.2	9.7	1.2		3.8	3.5
1981	1.4	4.5	9.3	1.4		4.0	2.9
1982	1.5	4.4	8.0	2.1		3.6	2.6
1983	1.7	4.1	8.7	2.7		4.5	3.3
1984	1.7	3.8	8.3	2.4		3.9	2.7
1985	1.6	4.0	7.1	2.9		3.0	4.2
1986		3.8	10.4	2.7		2.8	6.5

Definition of Terms:

The labor force is defined to include employed and unemployed persons.

- Japan: (1) *Employed persons*: those who are 15 years and over who did any work (prior to the early '80s, at least for 1/2 or 1 hour) for pay or profit or who had jobs but did not work during the survey week. Unpaid family workers are included.
- (2) *Unemployed persons*: those who had no job and did not do any work but were able and willing to work and made efforts to find a job.
- (3) *Underemployed persons*: employed persons working less than 35 hours.

Taiwan: (1) *Employed:* same as in Japan except that the minimum age is 12 years old prior to 1968 and that unpaid family workers must work 15 hours or more (18 prior to 1978) to be included.

(2) *Unemployed:* those who had no job but were available for work and seeking for a job. Also included are those who are waiting to be recalled or to start a new job. Unpaid family workers who worked less than 15 hours are included.

(3) *Underemployed:* employed persons working less than 36 hours (42 hours prior to 1969) as paid workers or who worked more than 15 hours (18 hours prior to 1978) but less than 36 hours as unpaid family workers but both intend to work longer hours.

South Korea: (1) *Employed:* those who are 15 years old and over (14 years prior to around 1984) who worked at least an hour for pay or profit or worked 18 hours or more (15 hours from 1977-79 and no cut-off prior to 1977) as unpaid family workers during the reference week. Also included are those who had a job or business but were temporarily absent from work. There is no explicit statement about the classification of those who worked less than 18 hours but they are presumably excluded from the labor force.

(2) *Unemployed:* same as in Japan. In addition, persons not looking for work on account of bad weather, temporary illness and having made arrangement to start a new job within a month subsequent to the reference week are included.

(3) *Underemployed:* employed persons working less than 36 hours.

Singapore: (1) *Employed:* those who are 15 years and over (10 years and over prior to 1981) and who, during the reference week, worked for pay or profit or for family gains as well as those who did not work but had a job to return to. The Ministry of Labor's labor force surveys where most data were taken from do not define a minimum number of hours worked for unpaid family workers or any other category to be considered as employed. In contrast, those conducted by the Department of Statistics consider unpaid family workers who worked at least 15 hours as employed (and in 1977 was also applied to employees, employers and own-account workers). Those who worked less than 15 hours without pay in a family business were classified as economically inactive.

(2) *Unemployed:* those who did not work and did not have a job to return to but were actively looking for a job. Persons not working but taking steps to start their own business are included.

Hong Kong: (1) *Employed:* according to the General Household Surveys (GHS), those who are 15 years and over who performed some work for pay or profit during the 7 days before enumeration or who had a job or an enterprise but were not at work, including those who were on leave or on industrial dispute. Unpaid workers having worked for at least 15 hours are included. According to the labor force surveys conducted by the Census and Statistics Department, those who were at work, i.e. persons who undertook 15 hours or more for pay or profit (hours criterion did not apply to employers, out-workers, self-employed, farmers and fishermen) as well as unpaid workers. Also included are those with a regular job but not at work, or working less than 15 hours, i.e. persons who, having already worked in their present job, were temporarily absent because of industrial dispute, vacation or other leave of absence, absence without leave, or temporary disorganization of work due to such reason as bad weather or mechanical breakdown.

(2) *Unemployed:* according to the GHS, those who were available for employment whose contract of employment has been terminated or temporarily suspended and who were without a job and were seeking work for pay or profit. Also included are those who had made arrangements to start a new job at a date subsequent to the period of reference, those who were on temporary or indefinite lay-off without pay as well as "discouraged workers" who did not look for work on the belief that work was not available or because of temporary sickness. According to the labor force surveys, those who worked less than 15 hours (hours criterion not applied to employers, etc. as in above) and were available for work and actively seeking work, or waiting to take up a job or just commencing work, available for work but not seeking work on the belief that no work or no suitable work was available or because of temporary sickness. Also included are those indefinitely or temporarily laid off from work without pay.

Note: The above definitions on employment and unemployment from the labor force statistics of various countries were compiled by Elizabeth de Borja, a graduate student in Economics at the University of the Philippines.

Sources:

Japan: *Japan Statistical Yearbook*, Statistics Bureau Management and Coordination Agency, Tokyo, Japan, various issues. Data based on the labor force surveys conducted monthly by the bureau.

Taiwan: *Yearbook of Labor Statistics*, Directorate-General of Budget, Accounting and Statistics, Executive Yuan, Republic of China, 1978 and 1987. Data for 1963-1977 based on Taiwan's labor force survey conducted quarterly by the Department of Social Affairs (from July 1963-June 1966) and by the Research Institute (from July 1966-December 1977) both of the Taiwan Provincial Government. Data from 1978 onwards from the labor force surveys conducted monthly by the DGBAS.

South Korea: *Annual Report on the Economically Active Population Survey*, National Bureau of Statistics, Economic Planning Board, Republic of Korea, 1979, 1982 and 1986. Data based on above surveys conducted quarterly (changed to monthly from July 1982).

Singapore: *Key Indicators of Developing Member Countries of ADB*, Economics Office, Asian Development Bank, Manila, Philippines April 1983, 1987 (also in *Yearbook of Statistics*, Department of Statistics, Singapore, various issues).

Yearbook of Labor Statistics, International Labor Organization, Geneva, Switzerland, 1978.

K. F. Yin and D. H. Clark, "Labor Absorption and Economic Growth in Singapore," *Philippine Economic Journal*, Vol. XV, Nos. 1 & 2, 1976. Data for 1970 and 1980 based on the 1970 and 1980 Census of Population; prior to 1973 were estimated using benchmark data obtained in the 1972/1973 *Household Sample Survey*, for 1973 based on the labor force survey conducted by the Department of Statistics; from 1974 onwards based on the annual labor force survey conducted by the Ministry of Labor.

Hong Kong: *Key Indicators of Developing Member Countries of ADB*, Economic Office, Asian Development Bank, Manila, Philippines, July 1987.

L. C. Chau, "Industrial Growth and Employment in Hong Kong," *Philippine Economic Journal*, Vol. XV, Nos. 1 & 2, 1976. Data for 1975-1980 based on the labor force surveys conducted bi-annually by the Census and Statistics Department while data for 1982 onwards based on the *General Household Survey Labor Force Characteristics*, conducted by the same department in quarterly rounds with monthly subrounds designed to produce quarterly estimates for publications and monthly estimates for internal use.

(Underemployment figures are not collected in the city-states since they are largely the function of agricultural slack period, as discussed in the text.)

Full employment was accompanied by the acceleration of real wages which rose on the average by 5.9 per cent per year in the 1960s compared to 4.5 per cent in the 1950s. The consumer price indices rose by 5 per cent per year between 1959 to 1966 compared to 2 per cent between 1952 to 1959. Employment exchange data indicated that before 1963 new applicants for jobs exceeded new job openings but from 1963 openings began to be greater than applications. The number employed in agriculture began to fall absolutely from 1950, and rural-to-urban migration began to accelerate. This was accompanied by the speeding up of farm mechanization, from simple equipment such as sprayers to powered cultivators and then to transplanters and reapers.³ The fall in the agricultural workforce began early in postwar Japan because the redundant workers in the latter 1940s had piled onto the farm to produce food. Employment in agriculture was declining slowly in the 1920s and 1930s, in part due to the food imports from Korea and Taiwan. Japan completed the agro-industrial transition by 1960 when the industrial labor force began to exceed the agricultural labor force.⁴

How was full employment attained and sustained? The first step was a comprehensive land reform which motivated the new landowning peasants (with the help of urban workers) to put in more labor on their farm to maximize yields and the amount left over after expenses, instead of splitting the residual with the landlord. Average mandays for rice (in terms of 5-year averages) increased from 95 days before land reform to 115 days after 1950, for barley/wheat from 130 days to 164 days, for vegetables from 108 to 113, for fruit from 93 to 99, industrial crops from 77 to 110, livestock from 93 to 107 mandays. For all crops, average mandays per crop rose from 93 mandays in 1945 to 1950 to 103 in 1950 to 1955 and to 104 days in 1955 to 1960.⁵ And according to the data of the Ministry of Agriculture

³See Oshima (1987), Ch. 5 for details on the pattern of rice and crop mechanization to replace labor when labor shortages occur. In this pattern power threshers and hullers are introduced at first, followed by power cultivators, sprayers, dusters, reapers and binders, transplanters, combines, and tractors which were used during the busiest time of transplanting and harvesting. See Chart 4 below.

⁴See diagram in Oshima (1987), p. 113.

⁵Data are from Shintani (1974). These mandays are lower than Taiwan because of the use of more equipment in Japan.

This land reform, started in 1947 and completed in 1950, was most comprehensive, transferring nearly 4 million hectares of land, limiting absentee landlords to 1 hectare of land. This became the precedent and Taiwan and South Korea followed in the early 1950s. For details, see *Agricultural Development Japan*, ed. by T. Ogura, Tokyo, 1966.

re and Forestry, in 1961 the smallest size farm used 26 mandays d as farm size went up labor input fell to 18 mandays for the gest.

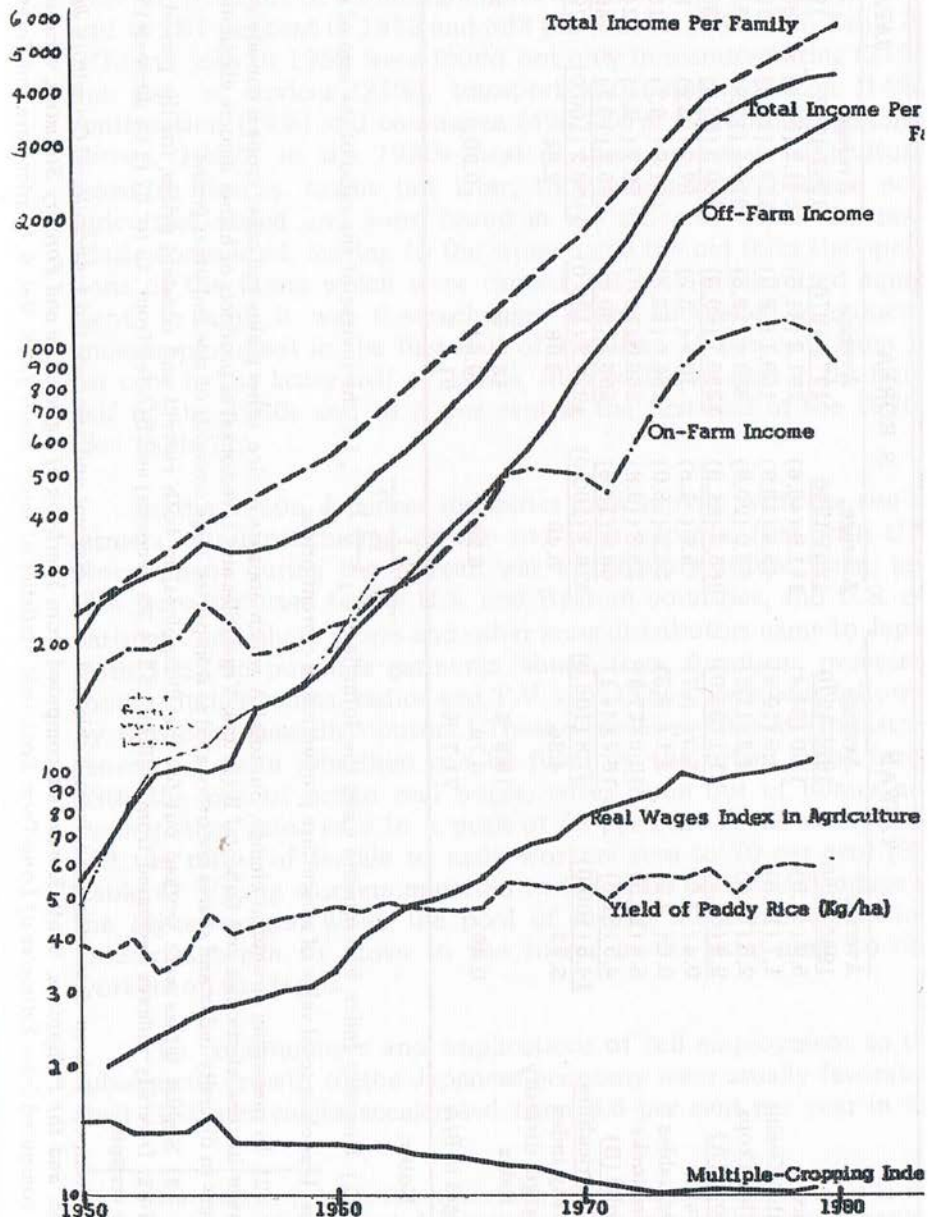
Contributing to rural labor absorption was multiple-cropping which reached an all-time peak ratio of 1.6 crops per year per hectare in the mid-1950s. (See Chart 1.) Crop diversification increased rapidly in the 1950s and even more after rice production reached self-sufficiency in the early 1960s. One simple measure of diversification is the ratio of the percentage share of the value of income-elastic crops (fruits, livestock products, vegetables) to the share of the value of lower income-elastic crops (rice, other grains, root crops and others). This ratio reached 90 per cent during 1957-1962 when full employment was reached, compared to Taiwan's 72 per cent by 1965-1970 and South Korea's 91 per cent by 1971/1976. (See Table for explanations.)

Most of the high income elastic production was more labor intensive than rice cultivation which in 1960 required 106 mandays. In comparison, average mandays for vegetables were 129, fruits 172, industrial crops 469, and livestock 130 (Shintani, 1974). It needs to be noted that the increased labor input represented by agricultural diversification in the 1950s is not inconsistent with data showing that the labor force engaged in agriculture began to fall steadily from 5.7 million in 1951 to 13.4 million in 1960 (Oshima, 1987, p. 13). The reason is that the diversified crops were produced in the drier months of the off-season, using the workers in the main rice crops. Despite the lower labor requirements in the main grain crops, between 1950 and 1960, yields rose from 316 to 398 kilograms per man ares (10 ares = one-tenth of a hectare).

These changes were accompanied by various policies. Starting with land reform and the extension and democratization of cooperatives, credit (and subsidies) were readily made available to farmers, liberalized land improvement schemes including irrigation works were expanded, and agricultural education in the secondary schools as well as extension services were improved. Research centers and experiment stations were decentralized to meet the varied needs of local farms. These services were made available to all, not favoring the landlord class.⁶ These policies would not have been adopted if

⁶Data and discussion from Ogura (1966). The ratio of improved area to cultivated area was 55 per cent in 1940 and 90 per cent in 1960. See Hayami, 1975, p. 172.

Chart 1 — Japan: Trends in Farm Family Income, Wages, Yields, Cropping Index



Sources: *Japan Statistical Yearbook*, various issues. (All data in current prices unless specified.)

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	TAIWAN			S. KOREA			JAPAN		
	Average 1955-1960	Average 1965-1970	Average 1961-1966	Average 1971-1976	Average 1947-1952	Average 1957-1962			
1. Rice	5.9 (41.0)	13.0 (34.4)	151.9 (46.6)	791.2 (41.0)	641.2 (54.4)	852.2 (47.4)			
2. Other Grains	1.7 (11.8)	3.9 (10.3)	45.4 (13.9)	163.1 (8.5)	128.8 (11.0)	139.8 (7.8)			
3. Other Crops	2.3 (15.6)	4.2 (11.2)	68.0 (20.8)	382.4 (19.8)	210.5 (17.9)	311.7 (17.3)			
Subtotal (A)	9.9 (68.4)	21.1 (55.9)	265.3 (81.3)	1336.7 (69.3)	980.5 (83.4)	1303.7 (72.5)			
4. Fruits	0.4 (3.0)	3.3 (8.7)	5.9 (1.8)	70.7 (3.7)	37.2 (3.2)	90.7 (5.0)			
5. Vegetables	0.6 (4.2)	3.1 (8.3)	26.2 (8.0)	256.5 (13.3)	101.8 (8.7)	164.8 (9.2)			
6. Livestocks	3.5 (24.3)	10.3 (27.1)	28.8 (8.8)	266.0 (13.8)	56.7 (4.8)	240.3 (13.4)			
Subtotal (B)	4.5 (31.5)	16.7 (44.1)	60.9 (18.6)	593.2 (30.8)	195.7 (16.7)	495.8 (27.6)			
Total Agriculture	14.5 (100.0)	37.8 (100.0)	326.1 (100.0)	1929.7 (100.0)	1176.2 (100.0)	1799.5 (100.0)			
Diversity Index	3.73	4.36	3.40	3.96	2.84	3.45			
% change: diversity index		16.9 %		16.5 %		21.5 %			
B/A	0.46	0.79	0.23	0.44	0.20	0.38			
Changes in B/A		71.7 %		91.3 %		90.0 %			

Notes:

(1) Diversity Index is computed using the formula $i = \frac{1}{\sum \left(\frac{y_i}{Y}\right)^2}$; i.e. the inverse of the ratio of the sum of shares of each major branch in total value of agriculture production in current prices.

(2) In measuring structural change, Subtotal A which consists of rice, other grains and other crops is considered as products of lower income elasticities and Subtotal B (Fruits, Vegetables and Livestocks) as products of higher income elasticities. S. Korea's changes in diversity index and shares are overstated as it imported large amounts of rice and other grains.

(3) Similar tables were worked out for the Philippines, in both current and constant prices, for the period 1967-72 and 1977-82. Diversity indexes decreased from 3.69 to 3.53 (4.3% decrease) and B/A fell from .43 to .37 (14% decrease) in the current price version.

Sources: Taiwan data computed from Table T-2 of Y. Hayami and associate (ed.), *Agricultural Growth in Japan, Taiwan, Korea, and the Philippines*. South Korea data computed from *Yearbook of Agriculture and Forestry Statistics*, various years. Japan data computed from *Estimates of Long-Term Economic Statistics of Japan, Since 1868*, Vol. 9, (Agriculture and Forestry).

the land reform did not free peasants to press for them in the political arena.

Off-farm (or nonagricultural) incomes of farm families rose from 28 per cent of on-farm incomes in 1950 to 73 per cent in 1960 and to 167 per cent in 1970 and 393 per cent in 1981. (See Table 3. Off-farm jobs in 1959 were found not only in manufacturing (21%) but also in services (21%), transport and communication (14%), construction (11%) and commerce (4%) (*Farm Household Economy Survey, 1959*). In the 1950s most of these jobs were agriculture based in nearby towns but later, they increasingly became non agricultural-based and were found in the cities to which the male adults commuted, leaving to the women and the old folks the operations of the farms which were carried out with mechanized equipment. In sum, it was these changes which succeeded in reducing underemployment in the first half of 1960s to 13 per cent from 15 per cent in the latter half of 1950s, then to 10 per cent in the latter half of the 1960s and to 8 per cent in the first half of the 1970s (See Table 1).

In the 1950s, Japanese industries grew rapidly with the rise of farmers' rural purchasing power and with exports, first with U.S. procurement during the Korean war in the early 1950s. Then, textiles were exported to the U.S. and Western countries, and U.S. department and chain stores and other mass distributors came to Japan from 1952 to purchase garments, shoes, toys, furniture, processed foods, kitchen wares, radios and T.V. sets. (They were later followed by European mass distributors.) These were labor-intensive industries generating more jobs than can be filled by the urban labor force. With the rise of urban real wages, wives came out of homes and participation rates rose to a peak of 56 per cent in the mid-1950s and the ratios of female to male workers rose to 70 per cent (See Table 4). Young workers migrated to the cities to take advantage of the higher wages. When the pool of surplus labor was exhausted, industries began to move to the towns in the rural areas to hire workers on the farms.⁷

The consequences and implications of full employment to the subsequent growth of the Japanese economy were usually favorable. Real GNP per capita accelerated from 6.6 per cent per year in the

⁷See Oshima (1987), Ch. 4; see also the increase in employment in the service sectors which expanded as rapidly as the industrial sector, in various issues of *Japan Statistical Yearbook*.

Table 3 — Nonagricultural Incomes of Average Farm Families
in Asian Countries, Postwar

Country	Years	A Agri. In- come per Family	B Nonagri. Income per Family	B/A in %
<u>East Asia</u>				
China (in RBM)	1978	130	3.44	2.6
	1979	154	5.81	3.8
	1980	182	9.11	5.0
	1981	207	16.50	8.0
South Korea (in 1000 won)	1970	195	33	16.9
	1975	700	97	13.9
	1980	1700	550	32.4
	1985	3705	2031	54.8
Taiwan (in 100 NT\$)	1970	17	14	82.4
	1975	40	36	90.0
	1980	58	108	186.2
	1984	44	163	173.4
Japan (in 1000 yen)	1950	145	41	28.3
	1960	225	165	73.3
	1970	510	850	166.7
	1981	968	3805	393.0
	1984	1065	4296	403.4
<u>Southeast Asia</u>				
Philippines	1965	3046	357	11.7
	1971	3790	776	20.5
	1975	2522	488	19.3
Malaysia (million M\$)	1973	233	36	15.5
	1979	424	166	39.2
Thailand	1971	10000	6000	60.0
	1978/79	11049	6758	61.2
<u>South Asia</u>				
Bangladesh	1963/64	720	156	21.7
	1973/74	812	229	28.2
	1976/77	672	144	21.4
Sri Lanka (monthly income)	1963	149	55	36.9
	1978/79	470	184	39.2
Nepal	1977	3588	1981	35.6

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Table 4 — Japan: Female Labor Force, Participation Rate and Employment

Year	Female labor force (000s)	Female working age population ¹ (000s)	Female labor force participation rate (%)	Female employment (000s)	Male employment (000s)	Female male (%)
1947	13580	28140	48.3	13340	21090	63.3
1948	14370	28070	51.2	14290	21570	66.3
1949	14850	28480	52.2	14740	21840	67.5
1950	14230	28870	49.3	14080	21640	65.1
1951	14480	29650	48.9	14330	21890	65.5
1952	15040	30170	49.9	14860	22420	66.3
1953	15920	29490	54.0	15730	23390	67.3
1954	16290	30020	54.3	16050	23570	68.1
1955	17150	30590	56.1	16860	24010	70.3
1956	17410	31260	55.7	17130	24590	69.7
1957	17770	31950	55.7	17520	25320	69.2
1958	17830	32610	54.7	17600	25520	69.0
1959	17940	33350	53.8	17680	26020	68.0
1960	18380	33700	54.6	18120	26480	68.5
1961	18540	34120	54.4	18300	26870	68.1
1962	18610	34880	53.4	18390	27350	67.3
1963	18620	35810	52.0	18410	27720	66.5
1964	18780	36750	51.1	18590	28140	66.1
1965	19030	37580	50.7	18830	28650	65.8
1966	19490	38310	50.9	19260	29210	66.0
1967	19910	38920	51.2	19680	29570	66.6
1968	20030	39540	50.7	19800	30210	65.6
1969	20070	40070	50.1	19860	30550	65.0
1970	20240	40600	49.9	20030	30910	64.8

Sources: *Japan Statistical Yearbook*, various issues.

Note: ¹. Working age population defined as those who are 15 years old and over (14 years old and over prior to 1953).

1950s to 10.1 per cent in the 1960s. Real annual wages in agriculture and industry also accelerated, in the case of the latter from 4 per cent per year in the 1950s to 6.3 per cent in the 1960s. With labor surplus gone, entrepreneurs both on the farm and in the firms speeded up the use of machines in place of labor. The pace of capital-labor substitution speeded up as wage rates rose faster than interest rates from 1960 when full employment was approached and especially from the mid-1960s. (See Table 5.) As shown in Chart 2, by the mid of the 1970s nearly all operations in rice farming were mechanized for the first time in the long history of monsoon padi agriculture. This was particularly notable in the introduction of powered reapers and transplanters which mechanized the most labor-intensive work in padi farming. In manufacturing, horsepower per worker rose from 1.4 in 1950 to 6.8 by the end of the 1970s. (See Chart 3). Labor productivity which was growing at 4 per cent per year in the 1950s rose even higher to nearly 9 per cent in the 1960s. This was due not only to the rise in capital per worker but also to the increased utilization of production capacity and the improvement of manpower skills with the use of more sophisticated technologies and on-service training, and so on.⁸

The rise in the level of labor productivity resulted in increases in consumption and saving levels which in turn increased GDP levels. As consumers had greater purchasing power and entrepreneurs had access to more finances in expanding productive capacities.

The distribution of family incomes, which fell to a low of 0.30 to 0.35 Gini after the land reform, rose to 0.382 for all households and 0.340 for ordinary households (excluding one-person households) in 1962 with the upsurge of industrialization. Thereafter the Gini fell slightly to 0.377 for all households and 0.337 for ordinary households in 1965, before beginning to rise slightly again with more capital-intensive industrialization (Wada, 1975). One factor contributing to holding down the rise of inequality in the urban areas was the employment of wives and older workers in the lower-income groups; in the rural sectors it was the spread of off-farm jobs.

Personal savings rose from an average of 10 per cent of personal income in 1952 to 1955 to 14 per cent in 1956 to 1960, to 16 per cent in the 1970s, and to a peak of 20 per cent in 1971-1975. This was the result of rapid increases in the share of national incomes

⁸See Oshima (1987) for details.

JAPAN and TAIWAN

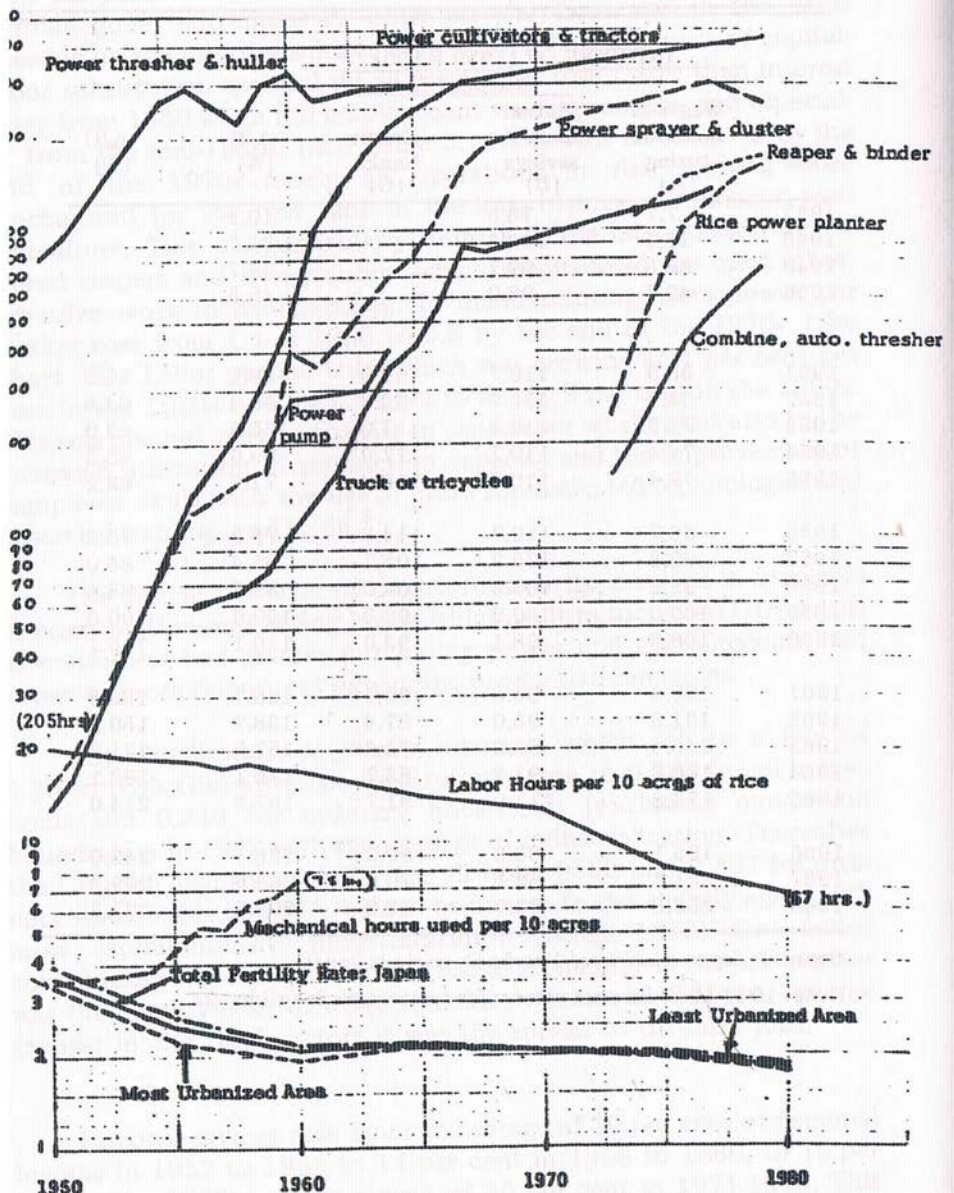
Table 5 — Japan: Wages and Interest Rates

Year	INDEXES OF (1959 = 100)				
	Wages in manufac- turing (A)	Discount Rate		A/B (%)	A/C (%)
Mutual loans & savings (B)		Credit banks (C)			
1947	7.7	76.0		10.1	
1948	21.4	103.3		20.7	
1949	36.6	99.7		36.7	
1950	43.7	96.0		45.5	
1951	55.5	110.7	99.9	50.1	55.6
1952	64.7	110.7	99.9	58.4	64.8
1953	72.5	110.7	117.0	65.5	62.0
1954	76.4	110.7	117.0	69.0	65.3
1955	79.4	110.7	116.4	71.7	68.2
1956	86.7	110.7	114.3	78.3	75.8
1957	89.8	105.2	105.7	85.4	85.0
1958	92.2	103.3	104.0	89.2	88.6
1959	100.0	100.0	100.0	100.0	100.0
1960	108.0	98.1	93.0	110.1	116.1
1961	120.4	95.8	90.0	125.7	133.8
1962	131.8	95.0	87.4	138.7	150.8
1963	145.4	92.3	84.6	157.5	171.9
1964	160.8	91.3	83.7	176.1	192.1
1965	174.8	111.0	81.7	157.5	214.0
1966	195.1	86.3	80.3	226.1	243.0
1967	221.5	83.1	79.3	266.5	279.3
1968	256.3	83.0	78.3	308.8	327.3

Sources: *Japan Statistical Yearbook*, various issues.

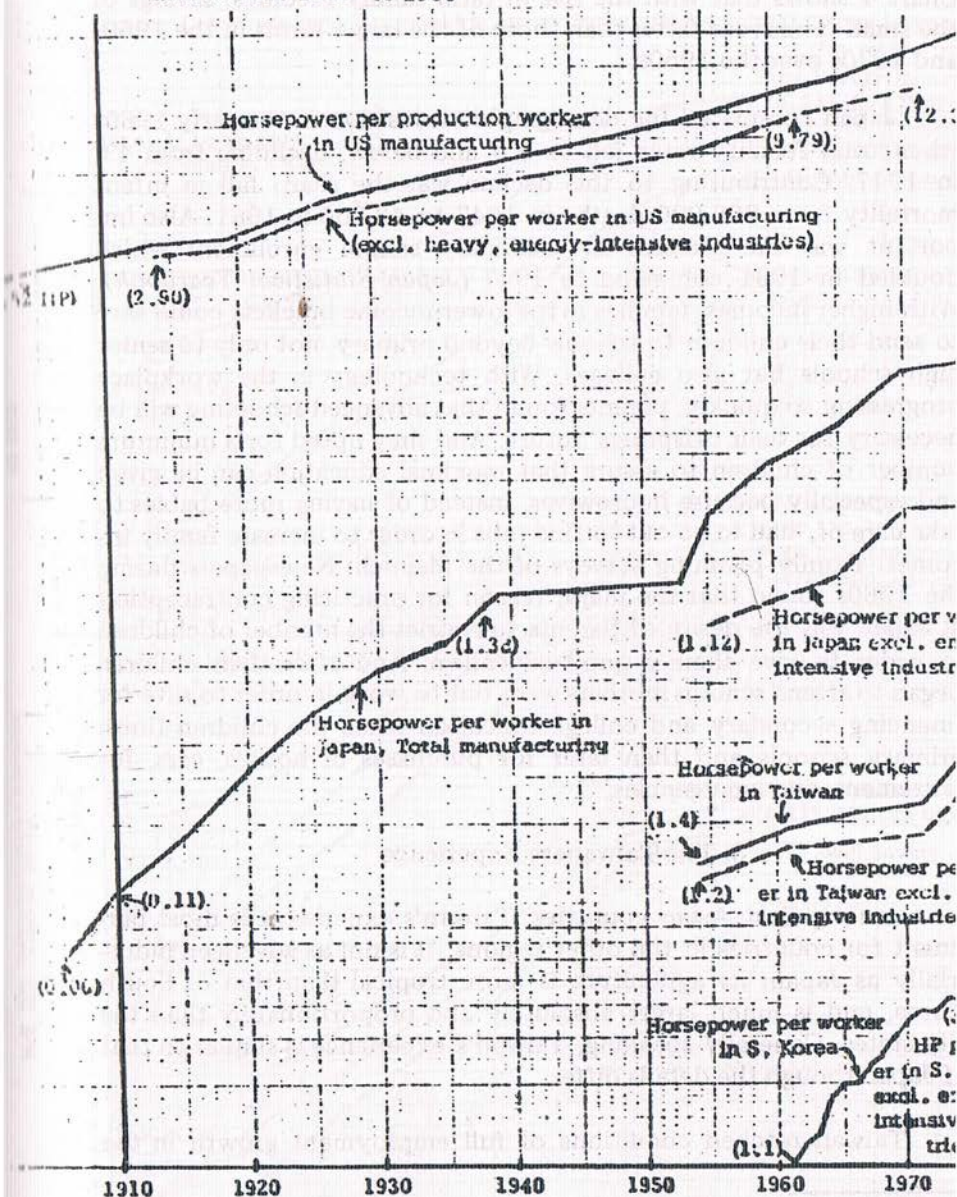
Note: 1947-1950 interest rates refer to averages for all banks.

Chart 2 — Agricultural Machines Owned by Farm Family in Japan



Sources: Various issues of Japan Statistical Yearbook and *One Hundred Years of Agricultural Statistics in Japan*; "Fertility Transitions in Japan and Korea: A Comparison" by Carl Mosk, Working Paper No. 124, December 1978.

Chart 3 — Changes in Horsepower Per Worker in U.S., Japan, Taiwan and Korea. 1900 to 1980



Sources: US data computed from *Historical Statistics of the US* and updated by 1980 *Annual Survey of Manufactures — Fuels and Electric Energy Consumed*. Japan data computed from *Long Term Estimate Statistics* and updated by *Japan Statistical Yearbook*. Taiwan data computed from various censuses of commerce and industries. Korean data computed from various issues of *Korean Statistical Yearbook*.

going to lower-income groups as well as higher-income families.⁹ Chart 4 shows that with the rise in farm family incomes, savings of the small farms rose faster than those of the larger farms in the 1960s and 1970s over the 1950s.

Japan completed the demographic transition in the early 1960s when total fertility rates fell to 2.0 and below, declining from 4.5 in 1947. Contributing to this decline was the sharp fall in infant mortality from 200,000 deaths in 1947 to 43,000 in 1961. Also important was the increase in secondary school enrollment which doubled in 1961 compared to 1947 (*Japan Statistical Yearbook*). With higher incomes, families in the lower-income brackets could save to send their children to schools beyond primary, not only to senior high schools but also colleges. With technology in the workplace progressing so quickly, parents found that advanced schooling will be necessary for their offsprings' future. And they opted for a minimum number of children to assure that maximal education can be given and especially because housewives, instead of having more babies to take care of, had to go out to find jobs in order to increase family incomes. Family planning surveys of the Mainichi Newspapers during the 1960s found that the major reason for practicing contraception in Japan was the desire of parents to restrict the number of children in order to give them a good education. And after their children began to attend schools mothers went out to work in order to save for financing secondary and college education when the children finish primary schools and then later for purchases of houses, cars, for retirement, and emergencies.¹⁰

3. The Taiwanese Experience

Among East Asian countries, Taiwan's experience is most pertinent for countries in the other regions. It is not as advanced industrially as Japan; its agriculture is more tropical than that of South Korea, and is much larger absolutely and proportionately than the city-states. Generally speaking, Taiwan's experience is similar to that of Japan though the details differ.

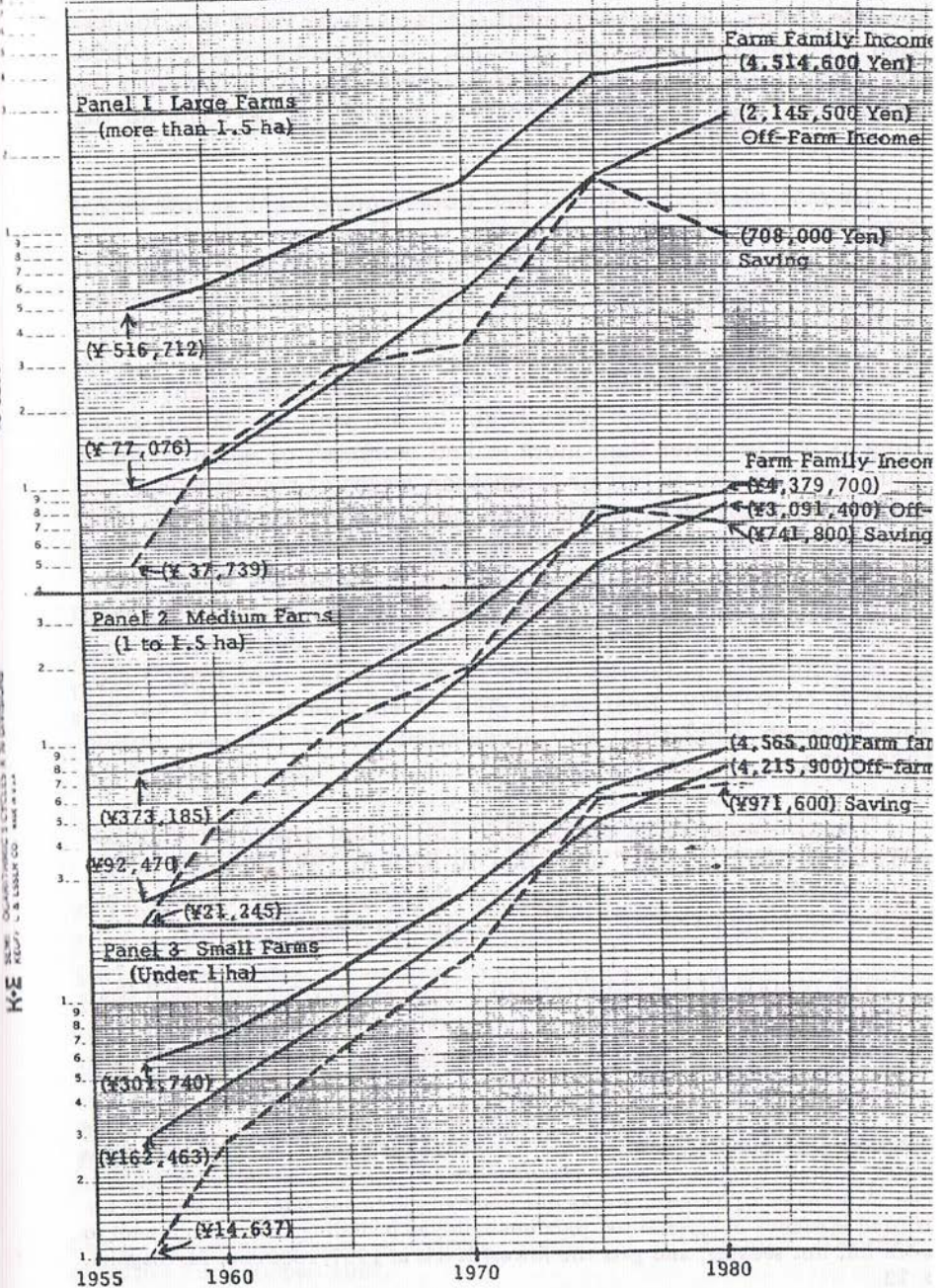
Taiwan reached conditions of full employment growth in the

⁹Computed from the official national accounts publication. Higher incomes going to lower-income groups reduce their dissavings thereby increasing net savings (equal to total savings minus dissavings).

¹⁰For details see Oshima (1983).

Chart 4 — Farm Family Incomes and Savings by Size of Cultivated Land in Japan

Source: Data from Farm Household Economy Survey (Noka Keizai: Chosa Hokoku)



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late 1960s when double-digit unemployment rates (as a share of the labor force) in the early 1950s steadily fell to around 6 or 7 per cent in the early 1960s and then to less than 2.0 (about 1.8 per cent) in the late 1960s. Underemployment (defined to be those working less than 35 hours per week) fell to about 1.0 per cent in the late 1960s. These low levels were sustained throughout the 1970s and into the early 1980s and then rose slightly to around 2.0 per cent on the average up to 1986.

A rate of unemployment and underemployment as low as 2.0 leaves very few people involuntarily workless since more than one-half are not working or not working full time because of lack of appropriate skills, seasonal slack, bad weather, natural disasters, studies, or housework.¹¹

The usual symptoms that accompany full employment conditions are felt when wage rates begin to rise with less skilled wages rising as fast or faster than more skilled workers', or when wages of casual workers rise as fast or faster than wages of regular workers in industry. Taiwan wage statistics do not have a breakdown by skill but proxies can be used by taking wages in industries using more unskilled workers and in the skill-intensive industries. Wages in the former industries (food, tobacco, and textiles) rose by 9 per cent compared to wages in printing, ceramics, metals, and transport that are skill-intensive industries which grew by 8 per cent from 1960/1962 to 1970/1972. Real wages grew at an annual rate of 4.3 per cent between 1952-1960 and accelerated to 4.7 per cent during 1960-1970.

The consumer price index (100=1981) rose 4 points from 22.9 in 1960 to 27.2 in 1967 and then to 53.9 in 1974 or a rise of 27 points (1987 *Statistical Yearbook of the Republic of China*). This was due not only to oil price hikes but also to wage increases.

The reports of the employment exchange services indicated that for the first time the number of job-openings or vacancies exceeded the number of job-seekers in 1968. This situation continued through-

¹¹See various issues of the *Labor Force Surveys* of Taiwan for the above data. See also Table 2 in Oshima and Lai (1976, p. 142). Paul Liu (1987) in his paper, *Labour Welfare, Income Distribution and Export-Led Industrialization: The Experience of Taiwan*, works out underemployment rates adjusted for unutilized mandays in agriculture, plus unemployed including those who intend to work but not seeking, and gets the lowest levels in 1967/1968. See his diagram, p. 12.

Table 6 — Taiwan: Female Labor Force, Participation Rate and Employment

Year	Female labor force ¹ (000s)	Female working age population ² (000s)	Female labor force participation rate (%)	Female employment (000s)	Male employment (000s)	<u>Female</u> Male
1963			34.8	1017	2560	39.8
1964	1084	3178	34.1	1009	2649	38.1
1965	1093	3301	33.2	1029	2735	37.7
1966	1123	3442	32.7	1065	2791	38.2
1967	1207	3580	33.8	1165	2885	40.4
1968	1278	3719	34.4	1252	2972	42.2
1969	1368	3867	35.4	1334	3056	43.7
1970	1426	4022	35.5	1396	3180	43.9
1971	1479	4181	35.4	1447	3291	44.0
1972	1659	4341	38.3	1577	3370	46.8
1973	1867	4496	41.6	1837	3490	52.7
1974	1872	4654	40.3	1835	3651	50.3
1975	1858	4818	38.6	1802	3719	48.5
1976	1872	4984	37.6	1831	3838	47.7
1977	2023	5151	39.3	1982	3988	49.7
1978	2088	5331	39.2	2049	4179	49.1
1979	2158	5503	39.3	2125	4299	49.5
1980	2223	5664	39.3	2191	4357	50.3

Source: *Statistical Yearbook of the Republic of China, 1986.*

Note: ¹Data are averages taken from monthly labor force surveys ("labor force" approach rather than the "gainful worker" approach).

²Working age population defined as those who are 15 years old and over.

out the rest of the 1970s and into the 1980s. Labor turnover rates rose, as jobs became more plentiful relative to supply. Labor force participation rates of females, 15 years and above, began to rise from 1967, reaching a peak in 1974 (from 33.4% to 41.5%), indicating that in response to rising wage rates, women came out of their homes to enter the labor market. (See Table 6.) In contrast, male participation rates declined to 77.1 per cent in 1973 from 83.7 per cent in 1964, as prosperity enabled more young males to stay in schools longer.¹²

¹²Data from *Yearbook of Labour Statistics, 1978 and 1987*, Republic of China, Directorate-General of Budget, Accounting and Statistics (DGBAS), Executive Yuan, Taipei: 1987.

And as urban wages rose, migration from the rural areas accelerated from 1 per cent between 1955-1965 to 2 per cent between 1965-1974 and for the first time employment in agriculture declined absolutely in 1967, and has continued to do so since then. Thus the transition from a predominantly agricultural economy to an industrial one began in Taiwan for the first time with the secular shrinking of the agricultural sector.¹³

At the end of World War II, Taiwan like other countries was faced with problems of unemployment, devastation, trade dislocation, and so on. In addition a deluge of refugees from mainland China came in, eventually making up one-fifth of the population. Unemployment was widespread, about 10 per cent. How was full employment attained?

Agricultural development was strategic, with land reform in the early 1950s leading the way to greater labor absorption. The number engaged in agriculture rose from 1.5 to 1.9 million from 1952-1968 with virtually no increase in farmland area (Y.K. Mao, 1982). This represents not only higher labor inputs per hectare but more crops cultivated per hectare (multiple-cropping). Land reform motivated the owner-cultivator to produce more since more of what remains after expenses and taxes are paid become entirely his. It was worthwhile for him and his family to work hard and put in more hours of work on his farm and more labor was used for cultivation, fertilizing, watering, spraying of insecticides, and so on. Moreover, land reform by removing the control of cooperatives, extension services, local governments, and other rural institutions from landlords made them more responsive to the needs of the smaller farmers, who pressured for more credit, more irrigation, and other inputs.¹⁴

All these enabled the farmers to cultivate more than one or two crops per year on the farm, and the multiple-cropping index rose

¹³Earlier studies date the absolute decline in agricultural employment in 1970 but later figures indicate that it started earlier. See the collected papers of Dr. Teng-Hui Lee, *Agriculture and Economic Development in Taiwan*, (1983); in particular his paper at the Sino-American Conference on Manpower, p. 547: 1972. On the economic transition, see diagrams in Oshima (1987, Ch. 5), *Economic Growth in Monsoon Asia: A Comparative Survey*.

¹⁴In the latter 1960s, the share of irrigated to total arable land was second highest in Asia, next to that of Japan, but by 1982 it was equal to Japan's (see Table 3).

from 172 in the early 1950s to an all-time peak of 190 in the mid 1960s, the highest recorded in the history of Asia and perhaps in the world. Multiple-cropping enabled peasant families to put in more days of work in the drier months, this being especially true for the smaller farms whose families tended to be larger and therefore have more surplus labor in the drier months.

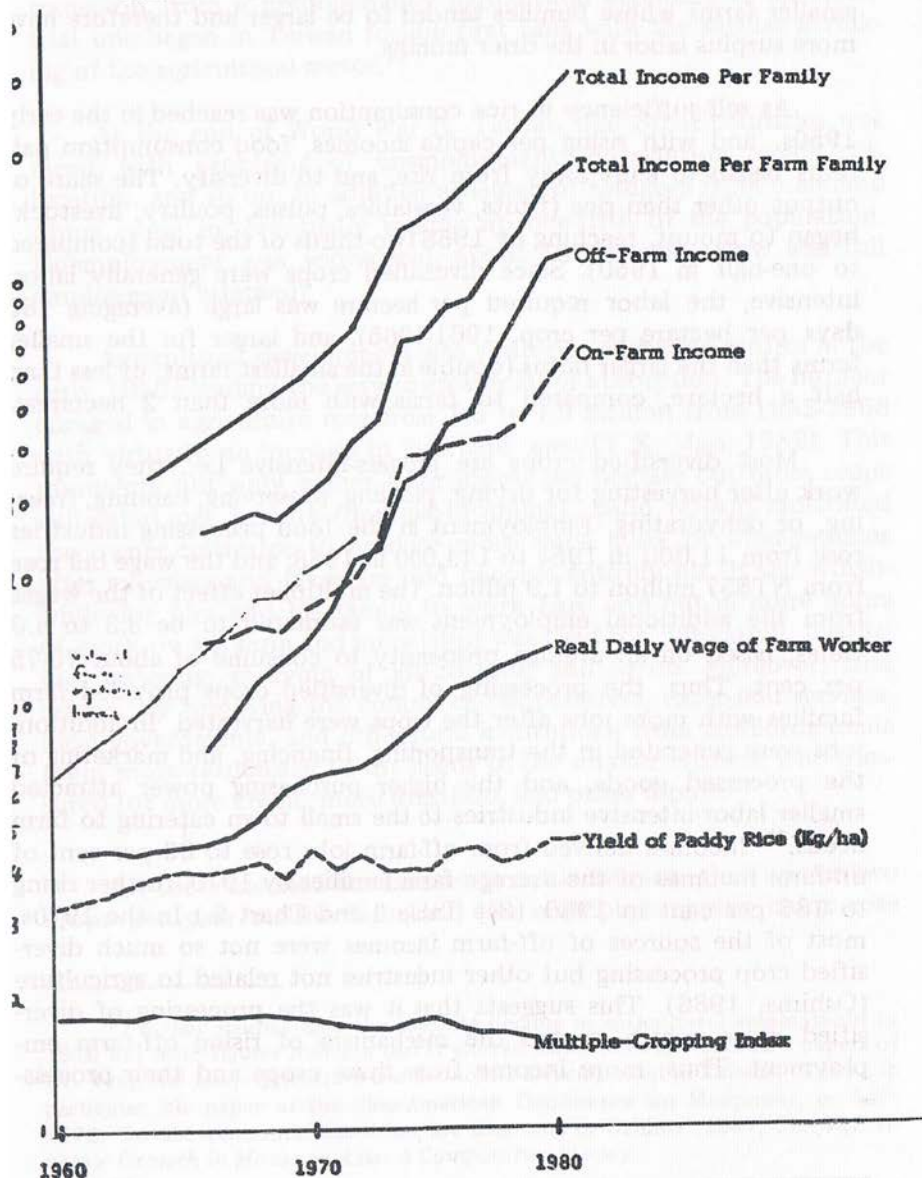
As self-sufficiency in rice consumption was reached in the early 1950s, and with rising per capita incomes, food consumption patterns began to shift away from rice, and to diversify. The share of output other than rice (fruits, vegetables, pulses, poultry, livestock) began to mount, reaching by 1968 two-thirds of the total (compared to one-half in 1950). Since diversified crops were generally labor intensive, the labor required per hectare was large (averaging 18 days per hectare per crop, 1961-1965), and larger for the smaller farms than the larger farms (double in the smallest farms, of less than half a hectare, compared to farms with more than 2 hectares

Most diversified crops are process-intensive i.e., they require work after harvesting for drying, pickling, preserving, canning, freezing, or dehydrating. Employment in the food processing industries rose from 11,000 in 1954 to 144,000 in 1968, and the wage bill rose from NT\$57 million to 1.9 billion. The multiplier effect of the wage from the additional employment was estimated to be 3.3 to 4 times, based on an average propensity to consume of about 70-75 per cent. Thus, the processing of diversified crops provided farm families with more jobs after the crops were harvested. In addition, jobs were generated in the transporting, financing, and marketing of the processed goods, and the higher purchasing power attracted smaller labor-intensive industries to the small town catering to farm needs.¹⁵ Incomes derived from off-farm jobs rose to 83 per cent of on-farm incomes of the average farm families by 1970, further rising to 186 per cent in 1980. (See Table 3 and Chart 5.) In the 1970s most of the sources of off-farm incomes were not so much diversified crop processing but other industries not related to agriculture (Oshima, 1986). This suggests that it was the processing of diversified crops which started the mechanism of rising off-farm employment. Thus, more income from these crops and their processing

¹⁵See details of the above paragraphs in the *Philippine Economic Journal* Special Issue on Multiple Cropping in Asian Development.

Chart 5 — Taiwan: Trends in Farm Family Income, Wages, Yields, Cropping Index

Sources: Various issues of *Statistical Yearbook of ROC* and from *Basic Agricultural Statistics*, Council for Agricultural Planning and Development, March 1983.



Notes: (All data in current prices unless specified.) Total Income per Farm Family and On-farm income before 1970 were adjusted by extrapolating with current agriculture product per farm family.

ing increased farm family incomes which in turn raised buying power for urban industrial products, opening up more job opportunities for farm families.

The efficiency with which crops were grown enabled Taiwan to export a larger share whose proceeds financed one-half of imports throughout the 1950s and up to the mid-1960s. These proceeds were used to purchase machines for the mechanization of industries. Without the large markets abroad, the diversification of agriculture could not have proceeded so rapidly.

In the 1950s, import-substitute industrialization was promoted but towards the end of the decade, the domestic market became saturated. Because heavy industrialization will not contribute to the solution of foreign trade deficits and unemployment, the government chose to promote labor-intensive industrialization for exportation. This strategy called for substantial devaluation of the currency, extensive financial and fiscal reforms, and efforts to promote competition and other market forces. From 1965, there was acceleration in the exports of textiles, garments, footwear, plastics, and simple electric machinery, in part assisted by the rapid rise in real wages in Japan and Hong Kong which were experiencing labor shortages and loss of competitiveness in labor-intensive exports. The share of industrial exports rose sharply from 55 per cent in 1965 to 85 per cent by 1970.¹⁶

Labor was also absorbed by the construction of an extensive network of roads, railways, harbors, airports, and telecommunication which enabled the marketing of the output of commercialized agriculture and of the labor-intensive, decentralized industrialization which had to be regionalized. U.S. aid was large, averaging US\$10 million in the 1950s and the first half of the 1960s, but sharply declining thereafter. Large as it was, it mainly compensated for the enormous military effort required to fend off possible attacks from mainland China. The size of the army was reported to be 600,000 in

¹⁶Data in the above paragraphs from *Philippine Economic Journal*, *op.cit.* Nos. 1 & 2, 1975. Also, exporters received rebates for duty they paid on certain imports, export zones were established, and above all, measures to promote education and training were set up, especially vocational schools and institutions from the mid-1960s and later, on-the-job training. For data on capital/labor intensity of Taiwan's industries, see *Industry and Commerce Census*, taken every 5 years from 1961 on.

he early 1950s, and the upkeep and equipment for such an army was too large for a small country such as Taiwan, and could be maintained only by large foreign aid.

Full employment was sustained after the late 1960s with only slight fluctuations in the share of the jobless. This was largely due to the growth of GNP per capita from 6.3 per cent per year in the 1960s to 6.7 per cent in the 1970s. Also it was due to the growth of the domestic and export markets for agricultural output whose demand tended to fluctuate much less than in the pattern of growth such as South Korea's, which is based on industrial exports and with a more unequal distribution of family incomes than Taiwan. Labor-intensive industrialization insured that employment growth kept up with GNP growth, with the result that jobs increased at a rate of 4.7 per cent in the 1970s as compared with 4.2 per cent in the 1970s, both rates exceeding the growth of the labor force.¹⁷

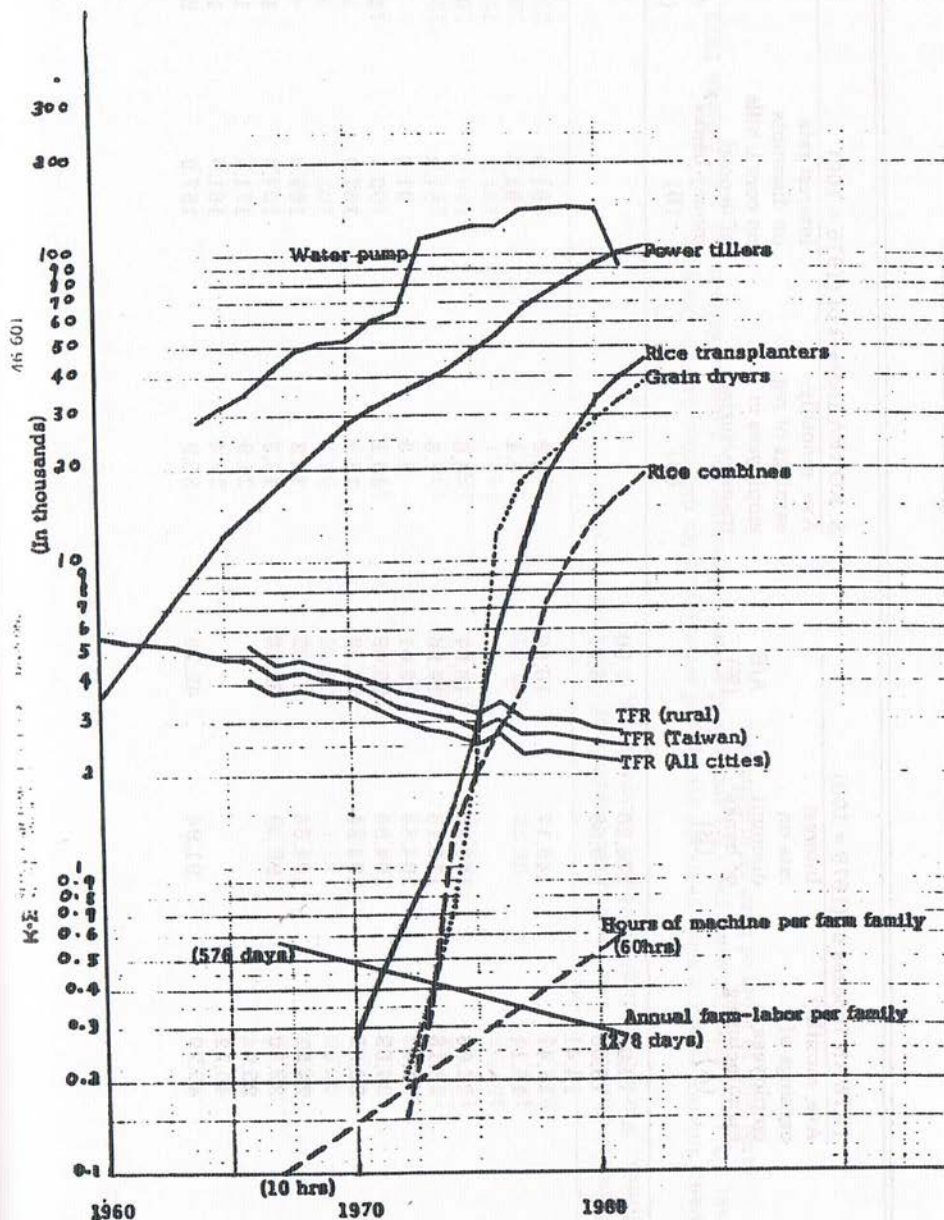
The consequences and implications of full employment were extensive and highly favorable to the rapid growth and improved distribution of income. Per capita GNP accelerated after full employment. The Gini in Taiwan fell from 0.36 in the years before 1970 to 0.32 in 1970 and fell further to an unprecedented low of 0.30 in 1980.¹⁸

Before full employment, the main source of growth was the utilization of labor surplus but afterwards, the sources were several. The rise in wages of unskilled workers raised the product per worker (from 5.3% in 1960 to 1969 to 6.2% in 1969-1980) because wage increases speeded up the substitution of technology for workers, especially machines and other equipment for labor, along the lines of the neo-classical model, where the substitution elasticities rise. (See Charts 3 and 6 as well as Table 7.) With labor getting scarce, entrepreneurs also had to economize its use by rationalizing the working place, through better plant-floor layout, reorganization, and so on. Manpower skills improved as rising wages motivated the labor

¹⁷Data from Oshima (1987). Shirley Kuo and John Fei (1985) estimate that direct and indirect labor used by total exports as a share of labor used by total final demand was 12% in 1961 and 33% in 1971, compared to 88% and 67% for the share of domestic demand.

¹⁸See Kuo (1983, pp. 96-97). A Gini of 0.30 is not found in the records of any capitalist country, and is lower than that of Communist China, although a comparison of a small area such as Taiwan with that of a giant is dubious as the diversities and heterogeneities are much greater in the large country.

Chart 6 — Taiwan: Agriculture Machines Owned by Farm Family



Sources: Mechanization data from Tien-song Peng. *The Development of Agricultural Mechanization and its Strategies in Taiwan*; fertility data from *Taiwan Fukien Demographic Fact Book*; farm and mechanical labor per family from *Report of Farm Record-Keeping Families in Taiwan*, 1967 and 1981 issues.

Table 7 -- Taiwan and South Korea: Wages and Interest Rates

Years	TAIWAN Indexes of (1975 = 100)		S. KOREA Indexes of (1975 = 100)		A/B (%)
	Ave. monthly earnings of employees in manufacturing (A)	Interest rate on discount of banks ¹ (B)	Ave. monthly earnings of reg. employees in manufacturing (A)	interest rate on discounts on com'l. bills of deposit money banks ² (B)	
1956	13.05	174.20			
1957	13.58	159.68			
1958	14.41				
1959	15.47	145.17	6.2	91.3	6.8
1960	18.11		6.1	91.3	6.7
1961	22.03	130.65	6.8		
1962	23.18	116.13	7.3	91.3	8.0
1963	24.12	104.84	8.3	91.3	9.1
1964	24.62	104.84	10.1	92.1	11.0
1965	26.65	104.84	12.0	157.9	7.6
1966	28.32	104.84	14.2	157.9	9.0
1967	32.10	98.39	17.3	157.9	11.0
1968	35.94		21.9	171.1	12.8
1969	40.12		29.4	161.9	18.2
1970	45.29	91.94	36.9	157.9	23.4

1971	49.96	87.10	57.36	43.3	144.8	29.9
1972	58.03	80.65	71.96	49.3	109.9	44.9
1973	63.90	87.10	73.37	58.2	102.0	57.1
1974	85.40	114.52	74.58	78.8	102.0	77.3
1975	100.00	100.00	100.00	100.0	100.0	100.0
1976	117.92	92.00	128.18	134.7	111.9	120.4
1977	141.76	80.70	175.67	180.3	108.6	166.1
1978	157.92			242.1	121.8	198.8
1979	191.19	96.80	197.51	311.5	121.8	255.8
1980	234.41			382.2	141.5	270.1

Sources: Taiwan: *Statistical Yearbook of the Republic of China*, various years.

Korea: *Korea Statistical Yearbook*, various years.

Notes:

Taiwan: ¹Interest rates for some years are averages of several rates for different dates in the year.

Korea: ²Interest rates for some years are averages of several prime rates for different dates in the year. Prior to 1971, discount rates refer to those of banking institutions.

orce to work harder for promotion in an expanding firm, and to earn more skills to get better pay. Higher wages and more family members employed meant more food, better nutrition and better health services.

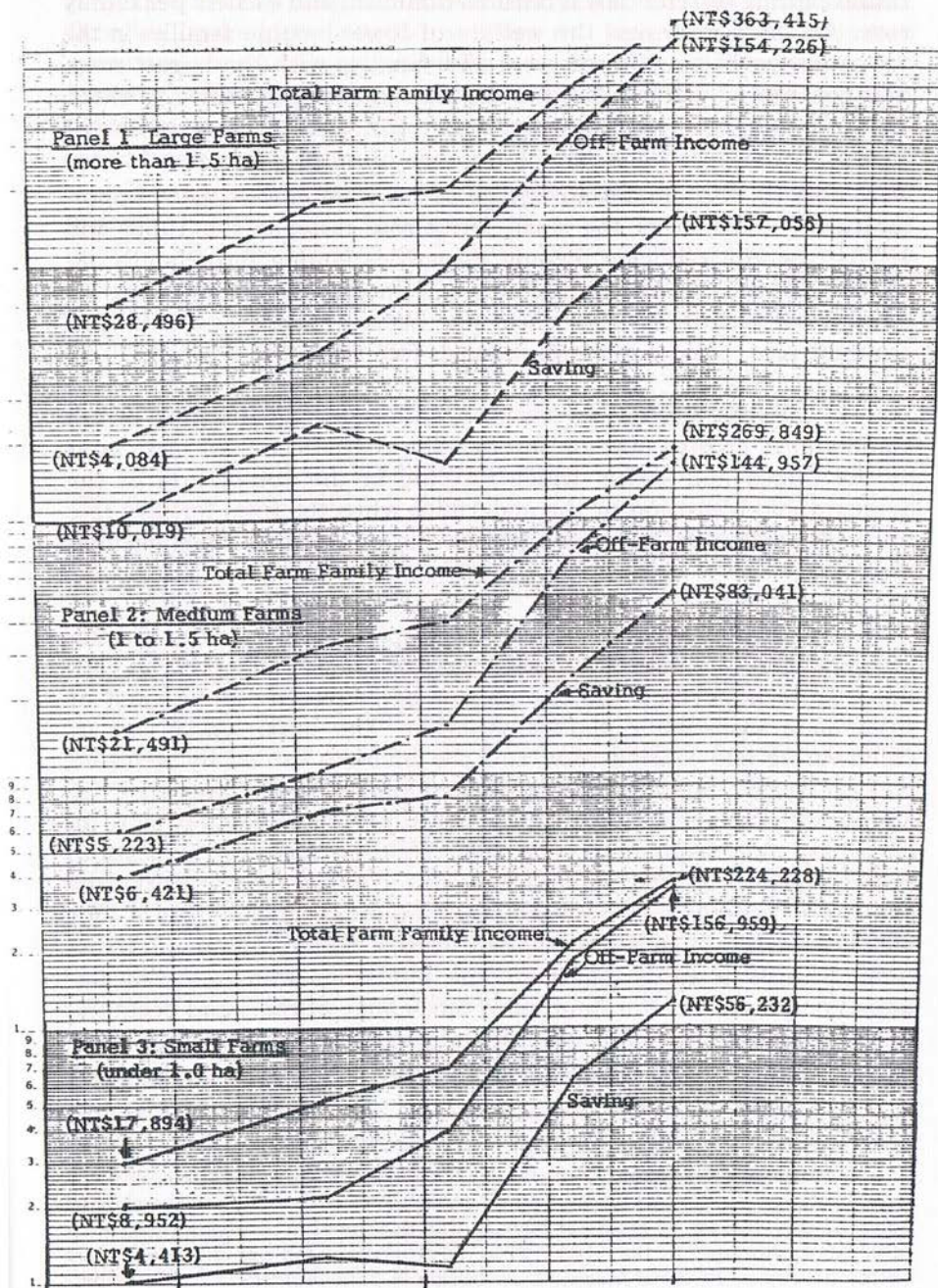
Personal savings rose from an average of 15 per cent of personal income in 1965 to 1969 to 20 per cent in 1970 to 1974 while gross national savings rose from an average of 23 per cent of GDP to 30 per cent. With higher wages, proprietors' income and property incomes per family and larger number of earners per family, more can be saved for the future. The government and companies found their revenues rising faster than expenditures as higher incomes shifted tax payers to higher tax brackets and corporate profits rose with higher prices and rising productivity.¹⁹ (See Table 3.) In the agricultural sector with family incomes rising, savings increased more rapidly among the smaller than the larger farms in the 1970s over the 1960s. (See Chart 7.)

Full employment growth meant not only higher rates of personal savings but also of private consumption which increased from an average of NT\$24 billion in the 1950s to 71 billion in the 1960s in nominal terms, while real consumption rose from an average of NT\$47 billion to 71 billion. In terms of growth rates (AC/C), consumption grew at 6.8 per cent in the 1950s and 7.4 per cent in the 1960s while the total saving rate rose from 10.5 per cent to 12.1 per cent (*Philippine Economic Journal*, Nos. 1 & 2, 1976). The expansion of the domestic market in the 1960s made it easier for industries to acquire experience and scale-economies appropriate to meet international competition and to expand exports, unlike countries such as Korea where insufficient domestic demand induced the government to grant huge subsidies and bank credits to nurture a few at the expense of others to become giant firms, and force workers to accept low wages and long hours of work. This gave rise to the dissatisfaction among Korean peasants, small businessmen and workers, eventually leading to the chronic student unrest and the outburst of strikes from time to time.

The disparities in the distribution of family incomes fell, as noted above, because full employment meant not only greater employment of unskilled workers but also the rapid rise of their wages,

¹⁹ See Kuo (1983), on the large contribution of agriculture to government revenues through land taxes, compulsory sales, rice-fertilizer barter, and land sales paid in kind.

Chart 7 - Farm Family Income and Savings by Size of Cultivated Land in Taiwan



Source: Report of Farm Record-Keeping Families in Taiwan, various issues.

as fast or even faster than wages of skilled and salary workers; as a result earning differentials tended to diminish, and earners per family rose. All these improved the welfare of lower-income families in the urban sector because these were the families with the largest number of potential workers and the largest number of unskilled workers. In the rural sector, besides the land reform, small farms with the lowest incomes had the largest number of surplus labor and hence were able to take greater advantage of off-farm employment opportunities.²⁰ Incomes in the small farms rose faster in the 1960s and 1970s, thereby reducing income disparities among farm family incomes. The income differential between the agricultural and the non-agricultural sector shrank when per hectare yields and multiple-cropping rose, besides off-farm incomes (see Table 3).

In the long run one of the most important contributions of full employment growth may be through the sharp decline of birth rates in the 1960s and 1970s which resulted in the completion of the demographic transition in the mid-1980s when the total fertility rate fell to 2.0. Kuznets has noted this as one of the most rapid declines recorded.

With higher incomes from full employment growth, the improvement in nutrition and health services reduced mortality in children. More important was the impact of increased employment of wives in a tight labor market situation. The opportunity cost of childbearing and rearing rose, and the incomes earned by wives increased family incomes and savings. Families found that their incomes were sufficient to raise expenditures for education, and increasingly they aspired to send their children for more education, even to college, as the rapid advance of technology in the workplace convinced parents that without more education in the future jobs would be difficult to get, especially because technological and structural changes towards higher-income industries were reducing unskilled employment. For families of blue-collar workers and peasants, this meant that the number of children must be kept small in order to give each as much education as possible. Also since employment

²⁰See Oshima (1986). Farm family incomes rose to equal urban workers' family income by the late 1960s and into the 1970s, although with the slowing down of the increase of yield per hectare, and decline of multiple-cropping with rural labor shortages in the latter 1970s, farm incomes fell behind. See *Report on the Survey of Personal Income Distribution in Taiwan Area*, DGBAS, Taipei: 1984.

was to be found in the cities and not in the rural areas, a fully employed economy implied accelerated migration and urbanization. Bringing up children in urban settings was inconvenient with limited space and expanded opportunities for parents to participate in urban leisure activities (movies, cultural activities, T.V. and other mass media, more socializing, travelling, and so on).

The negative effects or disadvantages of full employment growth are few. One is the rise in prices due to increased consumer demand. But in the case of Taiwan, productivity outstripped wage increases so that prices rose moderately, rising at 2 or 3 per cent per year from 1968 to 1973 but accelerating thereafter partly because of the oil-price increases since 1974.

4. Lessons from the Japanese and Taiwanese Experience

Any attempt to draw lessons from Taiwan's and Japan's full employment experience is difficult. So many interrelated factors and processes are intricately involved; but if we are to profit from their experience, some effort must be made even at the expense of oversimplification.

What seems to stand out from the broad picture is that top priority should be given to the development of agriculture in the early stages of modern economic growth in a monsoon economy. If tenancy is extensive as it was in Japan and Taiwan, a comprehensive land reform must be speedily undertaken. Without being freed from the control of landlords, the peasantry will not be able to pressure for the necessary inputs (irrigation and water, credits to purchase fertilizer and other inputs) to increase rice yields during the wet season and cropping during the dry season for diversified crops. And with the rise in income and purchasing power for nonfarm goods, off-farm work like processing diversified products in agri-industries and manufacturing other goods will expand.

The rationale for multiple-cropping and off-farm employment in monsoon Asia lies in the small-sized farms which Asians have inherited over the millennia of the monsoon rains which come during one-half of the year and disappear during the other half. The farms are not only too small for adequate income but only one crop is possible. If the economy is to grow to levels that will make possible incomes high enough for a decent life, not only must there be higher yields but more than one crop must be grown in the tiny farms, and work off-farm must be found. Otherwise, a fully employed rural sec-

tor is not possible in monsoon Asia and without full employment it is difficult for the nonagricultural sector to grow in a sustained fashion for long.²¹

With the rural sector becoming fully employed, annual incomes and productivity of farm families rise rapidly with higher yields, more crops, and jobs off-farm, and thus purchasing power for urban products expands. And with agricultural development pursued further, full-employment growth is assured over the years until labor shortages appear and the wage-interest ratio will rise sufficiently to compel farms and firms to speed up the substitution of machinery for labor. Labor productivity will rise further, and the higher levels of aggregate demand and savings will enable the economy to sustain its growth on a high level with rapid technological progress. This circle, together with increasing exports as scale economies rise, put the East Asian economies on an orbit of full employment growth path, yielding higher growth of GDP and employment.

It is interesting to note that even in a Communist country such as China in the 1980s major contributions to the high growth were made by the expansion of off-farm employment for workers from farm families. As Table 3 shows, the percentage of off-farm to on-farm incomes in China was very low (3 or 4%) during the 1970s and early 1980s in commune agriculture. The break-up of the communes under Deng in the 1980s freed the peasants to take up industrial work during the slack months, and the percentage rose to 20 per cent and then to 30 per cent of rapidly rising on-farm incomes. And plans now call for raising it to 40 per cent and 60 percent in the coming decade. Note the rapid increase (see Table 3) in Japan, Taiwan and South Korea during the period of their highest overall growth. In contrast, the slow-growing economies of South Asia and the Philippines experienced low growth of off-farm incomes. And despite overall rapid growth in South Korea, it was much more unstable than that of Japan, Taiwan, and Thailand since the insufficient development of the rural economy forced it to depend too much on exports, to subsidize big enterprises and suppress wages. As Paul Kuznets notes below, there were sharp ups and downs in the Korean economy throughout the 1970s and 1980s.

Unlike in Japan and Taiwan, full employment in the coming decades will be much more difficult to attain and sustain due to the

²¹For the details of this approach, see Oshima (1987), Chs. 1 and 2.

sluggish growth of the industrialized countries. It was fortunate for East Asia that the decades of the 1950s and 1960s saw the Western economies growing robustly. With current expectations that in the coming decade the West will grow at rates of only about one-half those of the 1960s, the countries of South and Southeast Asia will not be able to rely much on exports to help with their labor surplus problems which are getting to be of alarming magnitude.

This means that solutions must be found internally — in rural public works to improve agricultural production, especially for diversified cropping in the dry season, and in enhancing the efficiencies of small and medium enterprises, in part to supply off-farm jobs, and for export.²² But some of the countries (Philippines, Indonesia, Malaysia, and Thailand) have already borrowed heavily in the 1970s and are strapped with large external debts to constrain spending.

One solution may be sought in regional cooperation within Asia. Countries like Japan and Taiwan have the largest accumulation of foreign reserves and internal savings — over and above their needs. They can be of great help by funding rural public works in South and Southeast Asia which may redound to their future expansion. It would be fortuitous now for lower-income Asian countries to develop into growing markets for East Asian exports at a time when Western markets are stagnant or shrinking.

Countries like Japan, Taiwan, and South Korea should also lower their tariffs and open their markets to the diversified agricultural products of Southeast Asia which will substantially cut down rural underemployment in that region. In the long run, this too will be a boon to East Asia which should reduce the agricultural sector and move expeditiously into a more urban industrialized society. The small-scale peasant farming imposed by the monsoons is an anachronism in an advanced industrialized economy and must be wiped out soon if it is not to be a stumbling block to the Pacific century.²³

In return, Southeast Asia should liberalize its foreign investment laws and open its doors to investments from East Asia. With wages rising rapidly in East Asia under conditions of full-employment growth, labor-intensive industries will be flowing out to other

²²See *Philippine Review of Economics and Business*, September & December, 1987, on public works and diversified agriculture.

²³For details on this, see Oshima (1987, Ch. 12).

Asian countries. But if other Asian countries adopt strategies such as the Philippines did, of prolonged support and protection of a whole lot of hopelessly inefficient industries at the expense of an exploited peasantry, or strategies such as Sri Lanka's, in which public funds were squandered in protecting inefficient public enterprises, and put into large welfare payments to higher income families, East Asian investors will turn to other regions of the world. Only with good regional cooperation could the Asia-Pacific countries achieve the Pacific century by the end of this century. Without cooperation, the prolongation of unemployment may bring about chronic and disturbing tensions and unrest reminiscent of the decade of the 1930s in the West and Japan.

Recently under pressures from the U.S., the yen has risen to high levels and the currencies of the NIC's are rising. Also with wages rising in all these countries the enterprises from Japan and the NIC's are beginning to relocate in the ASEAN Four; and the expectations are that even more firms may be migrating westward to Thailand, Malaysia, Indonesia, and the Philippines. This is a chance in a lifetime to increase employment to approach full employment. Countries like the Philippines should improve the foreign investment climate if it is to be attractive for the better foreign firms paying higher wages; otherwise it will lose out to the ASEAN countries and receive only the "crumbs".

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