The Philippine Review of Economics and Business
Volume XVI, Nos. 3 & 4, September & December, 1979

POSTWAR GROWTH OF THE SERVICE SECTOR IN ASIAN COUNTRIES: A MACRO, COMPARATIVE VIEW

By

Harry T. Oshima and Cheng Woon Yiu*

Introduction

At the International Conference on the Service Sector at the University of Puerto Rico in June 1978, it was found that developed countries (usually referred to as industrialized countries) were no longer characterized by the predominance of the industrial sector (defined to include mining, utilities, manufacturing, construction, transport and communication) but by the preeminence of the service sector (defined to include commerce, personal and public services and excluding transport and communication). The service sector employed a larger share of the labor force than the industrial sector. Indeed, in the case of the U.S., Canada, Sweden, Australia, and probably Switzerland, the service sector by the end of the 1970s employed more than one-half of the labor force, i.e., more than the primary and the secondary sectors combined. Except for the Communist countries, it was found that the association of the share of employment (or income) in the service sector with the per capita income level was strong, and so was the tendency of the leading sector to move from agriculture to industry, and from industry to services in the course of development.[1] Much of the discussion dealt with the consequences to society of this shift from commodity-producing economies to service-producing economies. The implications are far-reaching and go beyond economics, affecting every major social sector. Nevertheless, the Conference was not very successful in reaching any consensus.

---

*Visiting Professor of Economics, University of the Philippines, and Research Assistant, Rockefeller Foundation, respectively.

[1] Given their per capita incomes, Communist countries had lower shares of their labor force in the service sector than the non-communist countries. The delegates to the conference seemed to agree that the "starving" of services by the planners may not be favorable to the efficient operation of these economies — a consensus shared by economists coming from Communist countries.

In this paper, we shall make a quantitative and comparative description of the levels and changes in employment and income of the service sector in Asian countries. An attempt will be made to understand the forces underlying the trends, leaving out the consequences and implications as too complex for just economists to deal with. If it is true that economic systems are ultimately headed from commodity production to service production, it behooves economists to pay more attention to the service sector than they have done in the past.

We deal with the hypothesis basic to Kuznets' work in *Modern Economic Growth* that structural shifts are associated with the growth of per capita income because with the rise in per capita income and thus demand, the differentials in the income elasticities of demand for different consumption goods generally favor industrial products over agricultural products, and services over commodities. The shift in demand for industrial goods and services implies an increase in the size of the market, inducing increased productive capacity, economies of scale, specialization and externalities in the industries facing increasing demand. The linkages are thus twofold: from higher per capita income to the demand side via income elasticities and from greater demand to income per capita via higher productivity and efficiency. This explanation is intended to explain the shift from agriculture to industry. As to the shift to services, Kuznets mentions the need for concentrating modern industrial production in one place, i.e., urbanization, partly to make possible economies of scale and partly to benefit from external economies needed to cope with the growing complexities of the modern economy. In turn, urbanization by itself creates demand for certain services (police, sanitation, fire and flood prevention, public administration, etc.). Rising per capita income increases the demand for high income elastic services such as health, education, recreation, hence, offsetting the decline of services such as paid domestic services. Kuznets speculates that productivity growth in services may have been slow due to the increasing use of females and lower-skill employees and the existence of monopolistic elements in services during the earlier stages of growth[2] besides the difficulties in the application of existing knowledge to the mass production of services which are intangible and difficult to standardize.

---

[2] Kuznets (3) regards *major* innovations as exogeneous to the above mechanism, being a function of the supply of knowledge. In contrast, N. Kaldor's structural model, emphasizing external economies (broadly defined), treats all innovations as induced by changes in industrial structure. See his *Causes of the Slow Rate of Economic Growth of the U.K.,* London: Cambridge University Press, 1966 . In a paper on the history of technology, Kuznets discusses the determinants of major and minor innovations, showing the complex interplay between the supply of knowledge and the demand for new technologies.

The results of the present study bear out in general Kuznets' findings for developed countries. There are, nevertheless, some interesting differences and these have to be interpreted in the light of some special circumstances and conditions associated with monsoon Asian economies.

Employment Share of the Service Sector

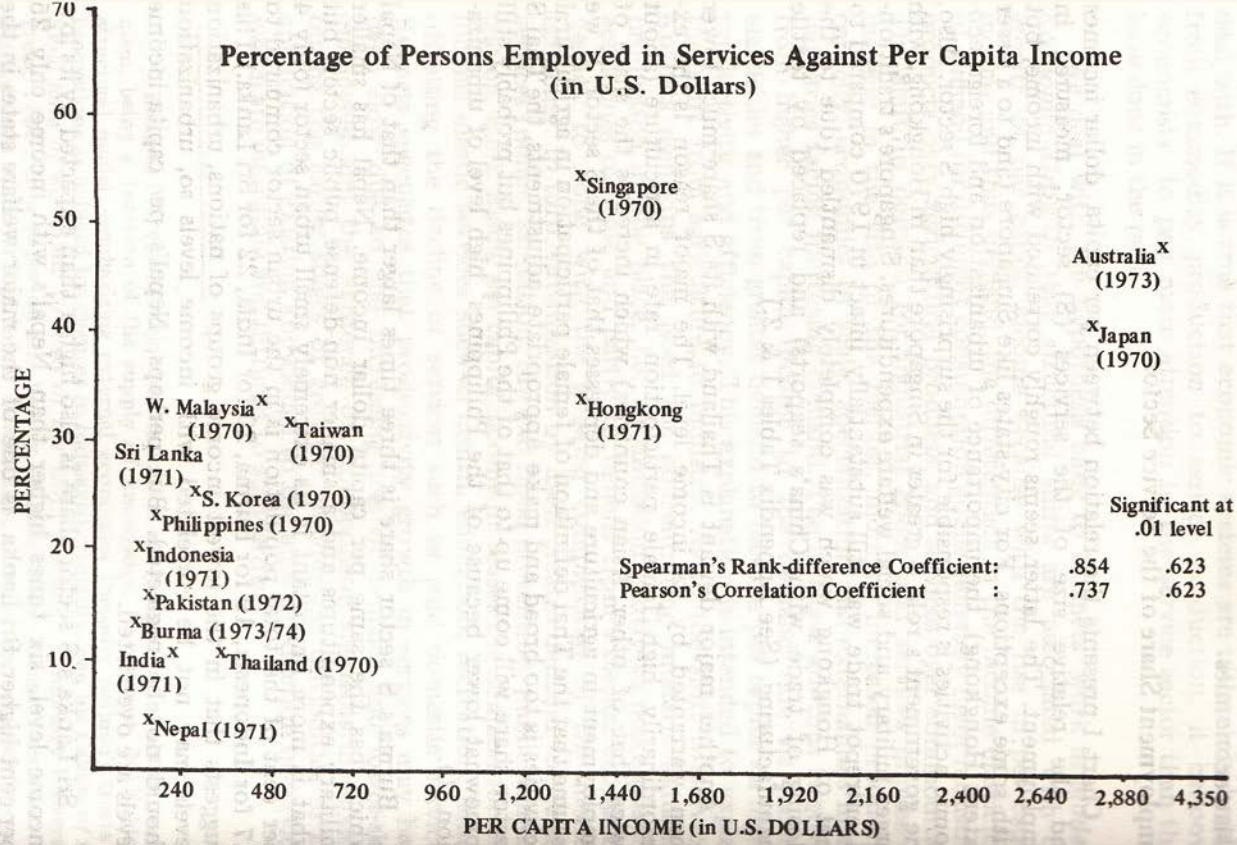
Chart I presents the relation between per capita dollar incomes and the relative size of the services (S) sector, measured in employment. The latter seems roughly correlated with income, but with some exceptions. For city-states like Singapore (and to a lesser extent Hongkong), the importance of urbanization and foreign economic activities is responsible for the surprisingly high S sector. Also, the government's role is greater in Singapore than in Hongkong, with larger military and social welfare expenditures. Singapore's traditional entrepot trade was still substantially intact in 1970 compared to that of Hongkong which was completely dismantled (due to the closing of trade with China's seaports) and replaced by textile manufacturing. (See Appendix Tables 1 & 2.)

Another major deviant is Thailand with its S share much lower than warranted by its income level. The major reason is the extraordinarily high female participation rate in agriculture (about twice that of other Asian countries) which increases the share of employment in agriculture and depresses that of the S sector. If we assume that the Thai definition of female participation in agricultural activities is too broad and make appropriate adjustments, the Thai S sector share will come up to that of the Philippines but probably still somewhat lower because of the Philippines' high level of urbanization (1).

Burma's S sector share is three times larger than that of Nepal which has the same per capita dollar income. Nepal has smaller military expenditures and a smaller non-defense public sector, but what is more important is its extremely small urban sector (only 4 per cent of the total population is in the urban sector compared to 17 for Indonesia, 19 for Burma, 20 for India, 22 for Sri Lanka.) This suggests that in the lowest income groups of nations, urbanization levels may not be correlated with income levels so, urbanization should not be neglected. But perhaps, Nepal's per capita income levels are overstated.

Sri Lanka's S sector share is also higher than expected by its low income level, six times higher than Nepal's with income only 25 per cent higher. Sri Lanka is one of the major welfare states in the world, not excluding the developed countries. To dispense half the rice ration free to all families, manage free medical and hospital

Percentage of Persons Employed in Services Against Per Capita Income (in U.S. Dollars)



		Significant at .01 level
Spearman's Rank-difference Coefficient:	.854	.623
Pearson's Correlation Coefficient :	.737	.623

Sources: ILO Yearbook of Labour Statistics, 1975 and IBRD World Tables, 1976

facilities, allocate subsidies for housing, transportation, etc., a vast bureaucracy is needed. This is implied by the fact that Sri Lanka's share of government revenue as a percentage of the Gross National Product (GNP) is one of the highest in Asia (21 per cent in 1971) compared to Nepal's 5 per cent. (See Appendix Table 1.)

The brief discussion of cross-section data indicates that many variables influence the size of S in total employment: female participation rate, foreign trade, social welfare, defense expenditures, urbanization, industrialization, and income levels. This is to be expected in cross-section analysis and it is only when we turn to time series comparisons that several of these forces disappear and clearer relations to income changes (and those forces underlying the changes in income overtime) emerge.

Table 1 shows the changes in the employment share of the S sector and subsectors for the postwar decades. One group of countries shows an increasing share of S employment (Japan, Taiwan, South Korea, West Malaysia, Philippines, Thailand, Indonesia and Pakistan). These countries have high (5 or 6 per cent) or moderately high (2 to 4 per cent) GNP per capita growth rates. An exception is the case of the city-states of Singapore and Hongkong which have been growing very rapidly in the 1960s but whose S share has not been increasing, (even though the number employed in the S sector has increased from 297,000 in 1961 to 537,000 in 1971 for Hongkong and from 281,000 in 1957 to 353,000 in 1970 for Singapore). This is because of the rapid growth of labor-intensive industrialization and foreign trade, and the slow growth of urbanization which had reached nearly 90 to 100 per cent in both cases during the late 1960s (See Appendix Table 1). Singapore's sharp decrease is also due to the decline of the traditional entrepot trade with Indonesia and Malaysia and perhaps the separation of Singapore from Malaysia. The consequent shift of public services, and commercial and financial services to Kuala Lumpur, Penang, and other Malaysian cities may also explain the decline. Singapore in the 1950s was the main city of the Malayan Union and the entrepot for imports and exports of West Malaysia[3].

For India and Sri Lanka, the slow growth of per capita income was associated with the slow growth of industrialization and urbanization. The decline in the share of agricultural employment was negligible so industrialization absorbed most of the decline in agriculture.

---

[3] In Hongkong, the steep decline of community and personal services was offset by the rise of commerce and finance resulting in the stable share of employment in the S sector.

For countries with clearly rising growth rates of S and GNP per capita, the latter's impact on the former varied with the types of structural changes at different stages of growth. Thailand modernized and grew economically the latest, Japan the earliest (around the 1880s and 1890s). The difference may be explained by the impact of the following factors: (1) the commercialization of agriculture, (2) the industrialization of secondary industries, (3) urbanization, and (4) income disparities on the S sector by assuming that in a completely self-sufficient village economy (with each household self-sufficient), the need for the S sector may be very minimal: perhaps a village chief, a medical doctor, a priest, a teacher, and few others. (Perhaps prewar Nepal with 95 per cent in the A sector even in 1970 comes closer to this category than any other country in Table 1.) As agricultural productivity rises, exchange and trading emerge, requiring the specialized services of merchants and money-lenders. With this, agriculture becomes commercialized. Thailand's 1937 Census of Population shows that the S sector which was considerably larger than the secondary sector, was dominated by wholesale, retail, restaurants, and hotels which employed 75 per cent of the S sector labor force.[4]

A substantial rise in productivity and per capita income occurs with industrialization, even though it may be predominantly small-scale and labor-intensive. This generally occurs after the commercialization of agriculture has made some headway. Commercialization and industrialization are accompanied by urbanization, as the enlargement of enterprises, division of labor and specialization require some degree of agglomeration. Large concentrations of population also necessitate public services for sanitation, security, education, welfare and so on. In Thailand, after two decades of rapid commercialization, industrialization and urbanization, the number employed in public and personal services in 1970 exceeds those in the commercial services (See Table 1).[5]

All these structural changes entail rising disparities in the distribution of family incomes in both the urban and rural sectors since only a small group in the higher income brackets will benefit. These families begin to purchase the personal services with high income elasticities — medical and dental services, recreational, cultural, and educational services, domestic services and so on.

---

[4] The Philippine Census of 1903 also shows a large number of merchants, about 137,000 which is 4 per cent of the total labor force.

[5] The *1947 Census of Population* shows that the commercial employees were still three-fourths of the total S sector as in 1937.

TABLE 1

Growth of the Employment Share of the S Sector and Subsectors as % of Total Employment in Asian Countries

Country	(Year)	S Total	Wholesale and Retail Trade, Restaurant and Hotels	Financing Ins. Real Estate and Business Services	Community, Social and Personal Services	Growth Rate of Per Capita GDP 1950-60	1960-70
Japan	(1950)	25.0		11.8	13.1	7.3	10.2
	(1960)	32.4		17.5	14.9		
	(1970)	40.0	20.2	4.1	15.6		
	(1974)	43.7	21.0	3.1	19.0		
Taiwan	(1956)	23.3		7.5	15.8	4.8	6.3
	(1965)	27.9		11.1	14.3		
	(1970)	29.5		14.6	14.6		
	(1976)	28.6	13.3	1.9	13.4		
S. Korea	(1966)	24.8		10.5	14.3	2.6	6.5
	(1970)	25.6	12.6	1.0	12.0		
	(1974)	26.7	15.2	1.3	10.2		
W. Malaysia	(1947)	18.6	8.5		10.1	0.8*	2.9*
	(1957)	24.4	9.3		15.2		

TABLE 1 (Continued)

Country	(Year)	S Total	Wholesale Retail Trade, Restaurant and Hotels	Financing Ins. Real Estate and Business Services	Community, Social and Personal Services	Growth Rate of Per Capita GDP 1950-60	1960-70
W. Malaysia	(1970)	30.4	11.3		19.2		
Philippines	(1948)	16.8	5.0	2.5 +	9.2	3.2	2.4
	(1960)	19.8	9.0		11.0		
	(1970)	24.0	7.4		16.6		
	(1974)	25.6	11.2		14.4		
Thailand	(1937)	8.4	5.2		3.1	2.6	4.8
	(1947)	11.0	8.0		3.1		
	(1960)	10.6	5.8		4.8		
	(1970)	12.5	5.3		7.2		
	(1973)	16.2	8.2		8.1		
India	(1951)	16.4	5.8		10.6	2.3	2.0
	(1961)	13.0	4.1		8.9		
	(1971)	13.4	4.9	0.7	7.8		

Notes:

+ Liberal Profession

* For the whole Malaysia

TABLE 1 (Continued)

Country	(Year)	S Total	Wholesale and Retail Trade, Restaurant and Hotels	Financing Ins. Real Estate and Business Services	Community, Social and Personal Services	Growth Rate of Per Capita GDP 1950-60	1960-70
Sri Lanka	(1953)	26.0	8.8		17.2	1.3	2.5
	(1963)	26.0	9.6		16.4		
	(1971)	25.9	10.4	0.8	14.7		
Pakistan++	(1951)	11.5	5.3		6.1	...	4.0
	(1961)	13.1	5.0		8.2		
	(1968)	14.3	7.9		6.4		
Hongkong	(1961)	33.8	11.2		22.6	3.6	6.6
	(1971)	33.9	16.3	2.6	15.0		
Singapore	(1947)	56.5	24.0	3.0+	30.3	...	6.6
	(1957)	59.8	25.9		33.9		
	(1970)	54.3	23.5	3.6	27.2		
	(1974)	50.4	21.0	5.7	23.7		
Indonesia	(1961)	16.5	6.8		9.7	1.6	1.9
	(1971)	21.7	11.0	0.3	10.5		

Notes: + Liberal Profession
++ Including Bangladesh

TABLE 1 (Continued)

Country	(Year)	S Total	Wholesale and Retail Trade, Restaurant and Hotels	Financing Ins. Real Estate and Business Services	Community, Social and Personal Services		Growth Rate of Per Capita GDP 1950-60	1960-70
Burma	(1973/74)	14.0	9.4		4.6		4.5	0.7
Nepal	(1971)	4.2	1.3		0.1	2.8	0.9	0.7
Australia	(1947)	35.6		16.4		19.2	1.5	3.2
	(1971)	49.1	21.9		7.2	19.9		
New Zealand	(1951)	36.1		16.6		19.6	0.8	2.1
	(1971)	43.4	18.0		5.9	19.6		

Sources:

1) Employment data from *ILO Yearbook of Labor Statistics, 1975* and
2) Growth Rates of Per Capita GDP from *IBRD World Tables, 1976*.

Most of these changes take place during the earlier stages of growth where the agricultural and rural sectors are fairly large and the absolute number of those engaged in agriculture may still be rising even without the corresponding increase in income shares. Hence, they are applicable not only for Thailand and Indonesia, but also the Philippines and West Malaysia. One characteristic is that the commerce and finance subsector tends to grow more slowly than the public and personal subsector (with the exception of Indonesia). This may be due to the replacement of the traditional commerce and finance units with modern units and the increase of public employment and personal services as urbanization speeds up.

Table I shows a reversal in the relative trends in the shares of the two subsectors, in Japan, Taiwan, South Korea (and Australia and New Zealand) as the economy moves into the middle and later stages of growth. The commerce and finance group grows more rapidly than the public and personal group. The absolute decline of agricultural employment indicates that industrialization has accelerated with a corresponding demand for new types of stores and retailers (gasoline stations, automobile and appliance dealers, department stores and supermarkets, new financial institutions (such as savings banks and trusts, personal credit and development institutions, security dealers, foreign exchange banks and brokers, various kinds of insurance firms, real estate companies), business services (such as accounting and legal services, data processing, engineering, architectural and other types of technical services, advertising, management and consulting, detective and protective services, etc.). The increase in tourism made possible by modern travel facilities promotes the growth of restaurants and hotels which are included in this subsector. Moreover, with income inequalities no longer widening, the middle and lower brackets are able to utilize commercial and financial facilities such as banking.

In contrast, there may be a slowing down in the growth of public services once provision for the basic community services is made, (Appendix Table 2). Also, these were the countries with very high GNP per capita growth rates in the 1960s — rates which exceeded the growth of the labor force, resulting in the attainment of full employment. In this situation, the wages of unskilled workers in the S sector rose rapidly as the labor market tightened, especially for those in the lowest wage groups such as in domestic services. In Japan, Taiwan and South Korea, maids, cooks, and gardeners became difficult to hire (not only because of labor shortages but also because of higher levels of per worker incomes), leading to the increasing use of household appliances (washing machines, refrigerators, cleaners, stoves and so on). Durables on the other hand, such as televisions, radios, stereos, etc. tended to substitute for amusement, recreational and cultural services. The data for New Zealand and Australia

TABLE 2

Share of Rural and Urban Employment in the S (Service) Sector* and Subsectors

Country		National	Urban	Rural
Japan	(1975)	44.7	49.1	31.9
Commerce		24.6	27.9	15.0
Service		16.4	17.4	13.5
Public		3.7	3.8	3.4
Japan	(1970)	39.8	44.9	27.4
Commerce		21.9	25.5	13.0
Service		14.6	15.9	11.5
Public		3.3	3.5	2.9
Japan	(1955)	30.0	40.3	17.9
Commerce		15.4	21.3	8.4
Service		11.2	14.6	7.2
Public		3.4	4.4	2.2
South Korea	(1966)	24.9	51.9	13.3
Commerce		10.5	22.3	5.5
Service		11.4	24.0	6.0
Public		3.0	5.6	1.8
Taiwan	(1970)	35.9	53.7	30.7
Commerce		11.7	19.6	9.4
Service, Public		24.2	34.1	21.3
Philippines	(1975)	27.3	59.1	13.1
Commerce		11.4	22.4	6.5
Service, Public		15.9	36.7	6.6
Philippines	(1970)	23.8	49.3	11.9
Commerce		7.4	14.5	4.1
Service, Public		16.4	34.8	7.8

Table 2 (continued)

Country		National	Urban	Rural
Indonesia	(1971)	20.6	56.2	14.4
Commerce		10.6	24.9	8.1
Service		10.0	31.3	6.3
Public				
Sri Lanka	(1971)	23.7	50.8	16.7
Commerce		10.2	22.6	7.0
Service		9.3	18.8	6.8
Public		4.2	9.4	2.9
W. Malaysia	(1970)	26.1	50.2	16.6
Commerce		9.6	18.6	6.0
Service		11.5	22.7	7.1
Public		5.0	8.9	3.5

Note:* As percentage of rural and urban total employment respectively, definition of urban and rural areas varies from country to country.

Sources: Respective Population Census of each country except the 1975 data on the Philippines which were based on the NCSO *Labor Force Survey*, February 1975.

indicate the same trends in countries with higher per capita incomes, which increased the costs of various types of services.

Table 2 brings out clearly the importance of urbanization in the increase of employment in the S sector. The proportion of the urban labor force engaged in services is considerably larger than that of the rural labor force in services. Moreover, there is a tendency for the differential in the proportions between urban and rural areas to increase as one moves from higher-income Japan and Taiwan to lower-income Southeast Asia and Sri Lanka. It is not that urbanization is the main determinant of service employment but that it reflects industrialization in the big cities and the agricultural commercialization in the smaller cities. These two tendencies call for the concentration of population in urban areas, which in turn gives rise to services peculiarly related to agglomeration.

The Product or Income Share and Productivity of the Service Sector

There are various problems in the statistics of income and product originating in the services, and these are included in the Appendix. In view of these difficulties, some readers may question the validity of the use we make of them in this section. Simon Kuznets (3) had the same misgivings with the data of 13 industrialized countries for the past 100 years or so. He found that the service sector share of employment (SN) was rising but that the service sector share of income or product (SI) was constant or declining (3, Table 3.8, pp. 147-149), and he asked: "What are the factors behind the combination of rising shares in labor force and constant or declining shares in countrywide product . . . ? "

It is interesting to note that despite the inadequacies of the data, Table 3 shows the same tendencies in the countries of non-East Asia. The share of employment in the S sector is increasing but is accompanied with constant or even declining current product shares. In the case of East Asian countries, the product shares in current prices are rising. Kuznets speculates that the increase in employment shares may have been due to urbanization and the rise of income per capita both of which more than offset the decline in paid domestic services. However, the decline in the product share may have been due to the slower growth of productivity in the service sector than in the commodity sectors, though the latter is difficult to ascertain due to problems in the concept and measurement of service productivity.

The behavior in Japan is due to the use of current price estimates of product shares. As noted in the Appendix, the current price estimates from the national income accounts in Table 3 were used here because of the problems inherent in deflating services in national accounting, hoping that prices over the long-run in the three sectors will rise proportionately. But this is not the case with Japan where agriculture and service prices have increased much faster than industrial prices (7). Hence, if constant price estimates of product shares are taken, Japan's S sector shares are declining or constant, from 44.7 per cent in 1960 to 43.1 per cent in 1973. This is largely because of the rapid rise in the industrial sector (I) share of product from 40.6 to 51.6 per cent. The same is true for South Korea, where the constant product shares decline from 32.4 to 28.9 per cent from 1966 to 1976, and for Taiwan from 40.6 per cent in 1951-1953 to 35.6 per cent in 1971-73 (8). But these declines in constant income shares of the S sector are also due to the very rapid growth in productivity of the I in Japan, Taiwan and South Korea, because in dealing with product shares, the changes in product shares in other sectors must also be considered.

Table 3 shows that the current price product shares for Malaysia declined from 1957 to 1970 (but went up in 1976), for the Philippines from 1960 to 1976, Indonesia from 1961 to 1976, and India from 1951 to 1971, while these shares increased during the early decade and then remained constant for Thailand and Sri Lanka. In contrast with East Asian countries, the constant-price product shares did not reverse these trends, although for Malaysia, Philippines, Indonesia, and India the declines were far less pronounced, indicating that service prices in these countries rose less than commodity prices, which is not the case with East Asia.

The differences between East Asia and other Asian countries can be explained by the rapid growth of the East Asian countries which resulted in full employment and even labor shortages with important consequences for the service sector. In East Asia, full employment and then labor shortage first in agriculture and then in industry pushed up average incomes in the S sector. Table 4 shows that except for South Korea, income per worker in East Asia for the S sector was larger than the income per worker in industry, despite the fact that the growth in the I sector per capita incomes was very much faster than in other Asian countries (Table 5). (In South Korea, full employment was not reached until after the mid-1970s.)

For East Asian countries, there is some evidence from wage and price statistics to show that wages for low-paid S sector workers rose more rapidly than those in the other sectors, and more rapidly than productivity. Thus, one of the sources of inflation in the 1960s for East Asia came from labor shortages under conditions of rapid growth.

In Japan, unemployment rates during the late 1950s had fallen to a low 1 per cent. Consequently, maids and cooks were difficult to hire at prevailing rates of pay even as early as the early 1960s (as my personal experience confirmed). In the 1960s, wages of regular workers in establishments with 5 to 29 workers increased faster than those in establishments with 30 or more workers. Prices of consumer goods in small, labor-intensive establishments also rose faster than those produced in large, more capital-intensive firms. Services produced in small outlets (restaurants, repair services, personal services, etc.) had higher price increases than those in the cost of living index (2).

Table 5 also shows that the deflated output per worker in Japan's S sector rose by 5.1 per cent per year compared to 7.6 per cent in the I sector for 1954 to 1965 (years for which deflated income by industries are available). The slow growth of productivity in the S sector, despite the fact that in 1954 it was the depository of underemployed workers, can be explained by a number of factors. The persistence of small units of retailers, wholesalers, and personal

service shops is due to the long period of time needed for structural and institutional changes to take place in the S sector. The S sector produces output which closely involves the household sector with the service establishments. Smallness of homes, kitchens, storage space and preference for fresh foods require daily marketing. The latter exposes the customers to neighborhood retailers, shopowners, barbers, etc., with whom they develop personal relationships. Moreover, the retailers also become involved with small wholesalers, who in turn relate with small manufacturers and farm producers. In no time, a whole structure of long-term relationships is built up which cannot be easily dissolved in countries with social values like those in Japan (15). Added to this is the large number of persons employed in the S sector and the numerous small proprietors organized into strong associations of various kinds at different levels. In these groups, politics plays a role which oftentimes makes it difficult for the government to accelerate changes in the S sector.

In Taiwan, unemployment fell to 1 per cent in 1970. With labor shortage, prices of consumer goods produced by the labor-intensive, low-skill using industries (fish and meat, poultry, fruits and vegetables) and the services (household operations, including domestic and repair services, barbers, and others) rose much more than those in other commodities. The pattern of price increases during the first half of the 1960s was different, with food and service prices increasing at a lower rate than those listed in the general consumer price index. Thus, the acceleration in the index from a yearly 2.2 per cent between 1960-1966 to 4.5 per cent between 1966-1971 was largely due to the increase in goods and services produced by unskilled labor in the A and S sectors whose wages rose with labor shortages[6]. This is similar to the Japanese experience during the early 1960s. As in Japan, the growth of output per worker in current prices was somewhat larger in the S over the I sectors (Table 5), but the reverse occurred in the growth of output per worker in constant prices. In the case of Japan, a major source of accelerating prices was the price increases in the S sector due to rising wages and lagging productivity.

The data for Hongkong, South Korea and Singapore are not available unlike those for Japan and Taiwan. But similar conclusions can be reported. Unemployment has been declining rapidly and complaints of labor shortages, particularly of finding maids and cooks, became widespread in 1972. The Chinese refugees who settled

[6] The consumer price indexes of Taipei City show that it was rising by 24 per cent between 1966-1972, but wages of house repair workers, recreation services, and domestic services, janitors, and gardeners rose from 70 to 190 per cent (6).

TABLE 3

Trends in the Percentage Share of the (Service) Sector in Employment, Product and Productivity (at current prices)

Country	Year	Share of S Sector in Employment (SN)	Share of S Sector in Income (SY)	(SY)/(SN)
Japan	(1954)	28.2	38.6	1.37
	(1960)	32.5	39.6	1.22
	(1970)	40.0	45.7	1.14
	(1977)	46.3	50.0	1.08
Growth rate per year (%)		2.2	1.2	- 1.0
S. Korea	(1966)	24.8	29.8	1.20
	(1970)	25.7	33.3	1.30
	(1977)	27.0	33.1	1.23
Growth rate per year (%)		0.8	1.0	0.2
Taiwan	(1956)	23.3	38.9	1.67
	(1965)	27.9	36.9	1.32
	(1970)	29.6	38.8	1.31
	(1977)	29.0	38.4	1.32
Growth rate per year (%)		1.0	- 0.1	- 1.1
Hongkong	(1961)	33.8	49.3	1.46
	(1971)	33.9	53.8	1.59
	(1976)	38.0	58.8	1.55
Growth rate per year (%)		0.8	1.2	0.4
Singapore	(1957)	59.8	78.9	1.32
	(1970)	54.3	53.8	0.99
	(1977)	52.8	48.9	0.93
Growth rate per year (%)		- 0.6	- 2.4	- 1.7
W. Malaysia	(1957)	24.4	38.5	1.58
	(1970)	30.4	38.3	1.26
	(1976)	31.1	43.6	1.40
Growth rate per year (%)		1.3	0.6	- 0.6

Table 3 (continued)

Country	Year	Share of S Sector in Employment (SN)	Share of S Sector in Income (SY)	(SY)/(SN)
Philippines	(1948)	16.8	34.6	2.06
	(1960)	19.8	39.9	2.02
	(1970)	24.1	36.7	1.52
	(1976)	28.8	35.4	1.23
Growth rate per year (%)		1.9	0.1	- 1.8
Indonesia	(1961)	16.5	31.5	1.91
	(1971)	21.7	31.1	1.43
	(1976)	26.7	29.0	1.09
Growth rate per year (%)		3.3	- 0.5	- 3.7
Thailand	(1960)	10.6	32.2	3.04
	(1970)	12.5	38.8	3.10
	(1973)	16.2	36.1	2.23
	(1976)	20.6	38.0	1.84
	(1978)		38.2	
Growth rate per year (%)		4.2	1.0	- 3.1
Sri Lanka	(1953)	26.1	26.0	1.00
	(1963)	26.0	34.1	1.31
	(1971)	25.9	34.6	1.34
	(1977)		28.9	
Growth rate per year (%)		- 0.1	1.6	1.6
India	(1951)	16.4	32.9	2.01
	(1961)	13.1	25.0	1.91
	(1971)	13.4	24.9	1.86
	(1975-76)		28.4	
Growth rate per year (%)		- 1.0	- 1.4	- 0.4
Pakistan	(1972)	18.1	32.3	1.78
Nepal	(1971)	4.2	11.9	2.83
	(1977)		14.3	

Table 3 (continued)

Country	Year	Share of S Sector in Employment (SN)	Share of S Sector in Income (SY)	(SY)/(SN)
Australia	(1947)	35.6		
	(1966)	42.4	34.9	0.82
	(1971)	49.1	38.0	0.77
	(1973)	49.8	37.7	0.76
	(1976)	52.7		
Growth rate per year (%)		2.3	1.1	- 1.1

Source: Oshima, H.T., "Notes on Differential Growth and Structural Changes in Postwar Asia and Issues for Research and Policy", *Philippine Economic Journal*, No. 34, Vol. XVI, No. 3, 1977 (Table 1, pp. 261-264.) The data have been revised and updated.

in Hongkong and the influx of workers from West Malaysia to Singapore helped ease the shortages, but during the early seventies, consumer price increases began to accelerate in all three countries. In South Korea, since the late 1960s, the pattern of price increases in the consumer price indexes began to resemble those for Japan and Taiwan.

Thus, in the East Asian countries (including Singapore) by the 1970s, much of the surplus labor had been wiped out with growth of the economy in the 1960s exceeding that of the labor force. This involved, in the case of Japan, Taiwan and South Korea, the elimination of structural unemployment due to the pronounced seasonality of the monsoons which made for many months of underemployment during the slack season. Agricultural labor force declined very rapidly in the fifties and sixties with the peak months of rice farming being carried out by machines in Japan. Similar tendencies were seen in Taiwan during the latter half of the 1960s and into the 1970s and in South Korea during the seventies. In Hongkong and Singapore, the agricultural sector was virtually wiped out.

This was not the case in the other Asian countries. Surplus labor in the form of open unemployment and underemployment (including menial, marginal, and low-productivity employment) was sub-

TABLE 4

Income Per Worker In Agriculture (A), Industry (I) and Services (S) at Current Prices and Local Currencies

Country	(Year)	In A Sector	In I Sector	In S Sector	S/I	S/A
Japan	(1970)	435,964	1,250,746	1,261,851	1.01	2.89
S. Korea	(1970)	140,373	333,240	290,002	0.87	2.07
Taiwan	(1970)	19,543	42,358	54,620	1.29	2.81
Hongkong	(1971)	7,119	8,198	18,511	2.26	2.60
Singapore	(1970)	7,623	5,761	10,474	1.82	1.37
Philippines	(1970)	1,968	3,855	4,441	1.15	2.26
Thailand	(1970)	2,916	29,812	20,388	0.68	6.99
W. Malaysia	(1970)	2,276	4,934	4,296	0.87	1.89
Indonesia	(1971)	66,327	187,621	147,629	0.79	2.23
Sri Lanka	(1971)	2,134	5,609	4,596	0.82	2.15
India	(1971)	1,325	3,691	3,658	0.99	2.76
Pakistan	(1972)	1,706	3,553	4,739	1.33	2.78
Nepal	(1971)	1,319	18,875	4,825	0.26	3.66
Australia	(1973)	6,388	7,537	4,528	0.60	0.71
U.S.A.	(1971)	8,566	12,972	13,950	1.08	1.63

Sources: *ILO Yearbook of Labor Statistics, 1975* and *IBRD World Tables, 1976.*

stantial during the fifties, sixties, and the seventies, although signs of labor shortages, began to show in parts of West Malaysia toward the end of the seventies.[7] The level of productivity in South and Southeast Asia is lower in the S sector relative to the I sector despite the slower growth of productivity in I particularly in East Asia. (See Tables 4 and 5).

With labor surplus and high growth rates of the labor force (2.5 to 3.0 per cent) and a relatively slow, capital-intensive growth of the I sector, the excess labor in agriculture had to find jobs in the I and S sectors, especially in the marginal subsectors. With the highest population densities per arable land, particularly in the large river

[7] Malaysia's per capita income growth rate in the 1970s exceeded the growth of the labor force at that time (9).

valleys and basins of South and Southeast Asia where most of the rice crops are grown, the rapidly increasing labor force had to find jobs in the villages, towns, and cities of the S and I sectors, where the lack of arable land was not a constraint to their employment unlike in agriculture. But for the I sector, some amount of capital was needed for additional workers to be employed. Thus, except for the cottage industries, capital was a constraint to the hiring of more employees in the I sector. It was the traditional S sector which absorbed the excess labor force since lack of arable land and capital was not a barrier to employment. With the economy growing slowly, the demand for most of the labor intensive services lagged behind the increase in the supply of workers, and wages tended to fall (or rise more slowly than in other sectors). In some countries like Indonesia, there were attempts at job sharing (as in public services, personal services, and in the petty trades, stall-keeping, peddling, etc.).

Wage data are difficult to find for these marginal services. Family income distribution statistics exist for some of the countries in the region. For Sri Lanka (1973), West Malaysia (1967/1968) and the Philippines (1971), the Gini coefficient is higher in the S sector than either the A and I sectors. The frequency distribution curves indicate that in all three countries the high disparities in the S sector are due to its heterogeneous character. Unlike in agriculture which has a high and large mode at low levels of income and a very small proportion of families in the middle and high levels, the S sector curve has a mode similar to that of the I sector but with a larger proportion of families in the lower and high income levels. This is also the case with the I sectors where the small mode is slightly below the median income levels with a small proportion in the low and high income levels.

It is possible to speculate about the occupations of heads of families comprising these three income levels. Proportionately, the S sector tends to have the largest number of higher income families, and these are made up of proprietors employing several workers in the commercial, financial and personal enterprises, and of professionals in personal and business services and administrators in public services. The middle level families consist of civil service employees and technical and skilled staffs of commercial and personal service firms while the low income groups are composed of the marginal, menial occupations, largely those in petty trades, stall-keeping, peddling, hawking, domestic services, and so on.

Concluding Notes

In this preliminary attempt to examine broadly trends in the Asian service sector, we find that structural changes in the sector have been rapid and complex where the growth of per capita income

and urbanization have been rapid and that these changes have been slower for countries with slower growth. For countries in South Asia with little growth, the sector has stagnated.

But where the growth of per capita income has been exceedingly rapid, (more rapid than labor force growth) structural changes in the S sector have not been able to keep pace and tended to lag, producing problems of inflation and serious maladjustments. Where the growth of per capita income has been moderate to slow (equal to or slower than the growth of the labor force), the S sector appears to have been the depository of workers not needed in the agricultural sector (where arable land is required for production) and in the industrial sector (where capital is required). The "disguisedly" unemployed workers have no place else to go but to the S sector (and to cottage industries) where land and fixed capital required for production are minimal, so that the intensity of work per hour and per day can be reduced without incurring heavy capital and land charges. The income from this type of employment can fall very low because work in service industries tend to be "light," requiring lower work calories per hour than in the commodity producing sectors. Furnishing some kind of employment for the unemployed is a valuable contribution of the S sector in labor surplus economies, but this may delay and even deter actions by the community to create more productive employment.

These problems posed by the service sector are not easy to solve. For countries whose industrial sector begins to grow rapidly, planning to raise productivity in the S sector is indispensable if the kind of long-term inflationary trends occurring in Japan and South Korea is to be avoided. More serious is the case of countries where the growth of the labor force is faster than that of the A and I sectors. The S sector becomes the depository of workers not needed by the other sectors. The only solution is to increase the demand for labor in the A and I sectors. In the A sector, this may be done by more intensive cropping, especially through multiple-cropping and through the expansion of industries. Multiple-cropping will require the extension of irrigated lands and land improvements, both of which are likely to raise yields per hectare per season by improved water controls, as the experience of Japan and Taiwan demonstrates (10).

In the 1980s, a golden opportunity to increase industrial employment in other Asian countries is likely to emerge, as the fully employed East Asian countries (and Singapore) begin to shift their industrial structures from labor-intensive to capital-intensive industries. A substantial transfer of labor-intensive industries from East Asia to Southeast Asia as wages in East Asia continue to rise rapidly during the eighties can solve the problems of both open unemployment in the cities and underemployment in the rural areas.

But this can only take place if the Southeast Asian countries are prepared to solve difficult institutional problems involved in labor-intensive technological transfer. Finally, the service sector has an important export industry which is tourism. Here the extent of employment created will depend on the extent to which labor-intensive, rural-oriented tourism is promoted.

Appendix on the Nature of Employment and Income Statistics

The major problem in the employment data is the large proportion of females in monsoon agriculture which depresses the S share. The labor intensity of monsoon *padi* agriculture requires the participation of housewives (and older persons, and children) during the busy seasons of rice growing (during planting and harvesting) when labor tends to be in short supply. But their participation is minimal during other months of the year, and housewives probably spend more time on house work, leisure, and nonagricultural activities. This raises the second major problem with employment data in monsoon Asia — the extreme seasonality (roughly half a year of rainy and another half a year of dry weather) of the monsoon rains swells the ranks of the unemployed (including very low-income, marginal employment) during substantial parts of the year. Both of these problems could have been solved by working out annual, full-time equivalent employment units but data were not available for the estimation. A third problem is the frequent shifting of jobs during the year, not only from occupation to occupation, but from industry to industry. In developing countries, most workers are hired by the day, week or month, depending on the seasons so that employment tends to be irregular, unstable and intermittent. Production units are very small and operate as and when orders are received from buyers.[8]

What these deficiencies imply for the data on employment share in the S sector may be stated as follows: Underemployment is minimal in Japan, Korea, Taiwan, Hongkong, and Singapore so that based on this scope the employment share estimate for the S sector may be understated for South and Southeast Asian countries with surplus labor. That is, if the employment figures for agriculture were put on an annual full-time basis by adjusting for part-time work of males and females, the share of agriculture will be much less and that of services will be larger since total full-time equivalent employment

---

[8] Labor intensity of monsoon rice production is due to the need for transplantation, and harvesting with small knives and sickles (11).

will be reduced considerably in South and Southeast Asia than East Asia; in part also because of the predominance of agriculture where the underemployed housewives and males are found (and low productivity jobs).[9]

As to multi-industrial attachments, job-shifting is more frequent in the rural areas so agricultural workers reported may be doing some amount of service work — in storekeeping, in trade, and personal services. This may be offset by the fact that those reported to be active in industrial and service establishments in the rural areas may be helping with agricultural work during the peak seasons of agriculture when labor may be in short supply. But this is only a conjecture as we do not have nationwide data on multi-occupations and this phenomenon varies with the type of agriculture, tenure, location, etc. Nevertheless, the discussion indicates that labor force and employment statistics are extremely blunt tools and care must be taken not to attribute much significance to small differences in cross-country comparisons, particularly because we do not know how many countries in the region defined females to be in the labor force or out of it. The high female participation rates of East Asia compared to the low rates for South Asia may be due to the religious bias of Moslem and Hindu faiths which do not look upon female employment as favorably as in Confucian and Buddhist countries. (Compare the Japanese rates of 51 per cent to that of India with 19 per cent and Pakistan with 15 per cent). Yet, one-half (Moslem Malaysia and Nepal) have rates as high as 43 and 59 per cent. And what can one make out of Thailand's 73 per cent, one of the highest rates in the world, as high as in parts of Africa, where tribalism and matriarchy prevail.[10] Thus, the share of employment in the S sector is partly the result of attitudes toward female participation in economic activities, especially in agriculture which predominates in LDCs.

---

[9] In very densely settled parts of Asia, e.g. Java, the income earned from the tiny farms is too small for subsistence and the workers must seek marginal work which pays very little, partly because the work intensity per hour of employment is low (via work sharing) and because of the pressure of labor surplus on available work. This type of work is included as part of underemployment since the person is not fully and intensively occupied each *hour* of work.

[10] The variation in work participation rates among Asian nations may be the result of interactions between religious beliefs, social customs, labor intensity of agriculture, degree of urbanization, levels and growth of per capita income, besides demographic characteristics and deficient statistical concepts. Suvanee Chitranukroh (1) found that the traditional custom of passing on land to the younger daughters makes for matrilocal marriages, in which the females own the farms of the family and have the incentive to do more farm work than in other countries of Asia.

APPENDIX TABLE 1

Miscellaneous Cross-Section Statistics

Country	(Year)	Total Population (in Millions)	Labor Force Participation Rate, 15 years and above	Female Labor Force Participation Rate	Population in Urban Areas as Percentage of Total Population	No. of Tourist Per Capita	Government Revenue as % of GNP	Defense Expenditures as % of GNP	Exports as % of GNP
Japan	(1970)	104.3	67	51	72	0.8	12.31[j]	0.8[k]	11
S. Korea	(1970)	31.4	56	38	41	0.5	18.3	3.9	15
Taiwan	(1970)	14.5	57[a]	35[b]	63[c]	3.3[g]	22.3	8.8	31
Hongkong	(1971)	4.0	64	43	89[d]	22.4	17.5	0.6	85[h]
Singapore	(1970)	2.1	56	29	100	25.1	24.1	6.1	78[i]
W. Malaysia	(1970)	8.8	57	36	29	0.9	22.8	7.5	46
Philippines	(1970)	36.8	55	34	32	0.4	8.8	1.6	19
Indonesia	(1971)	119.2	57	36	17	0.2	11.1	3.3	14
Thailand	(1970)	35.9	80	73	13	1.8	14.3	3.1	17
Burma	(1973)	29.6			19[e]		17.1	6.3	6
Sri Lanka	(1971)	12.7	56	30	22	0.3	20.7	1.4	17
India	(1971)	547.9	53	19	20	0.1	15.6	12.7	4
Pakistan	(1972)	66.7			29[f]	0.1	13.8	7.2	8
Nepal	(1971)	11.3	61	34	4	0.4	5.1	0.6	

Sources: Figures are generally from World Tables, 1976; Yearbook of Labour Statistics, 1975; Demographic Yearbook, 1973; and UN Statistical Yearbook, 1972.

a,b/ Labor force participation rates are the averages for 1970 taken from the Quarterly Report on the Labor Force Survey in Taiwan, Republic of China.

c,d,e/ are for 1973 taken from the Key Indicators of Developing Countries of ADB; definition of urban varies for countries.

f/ for 1976 taken from the Key Indicators of Developing Countries of ADB.

g/ from Taiwan Statistical Data Book, 1975.

h,i/ taken from the Key Indicators of Developing Countries of ADB.

j,k/ data taken from UN Statistical Yearbook, 1974.

APPENDIX A TABLE 2

Miscellaneous Time Series Statistics

Country	Average Annual Compound Growth Rates of									
	Total Population[7] Period	%	Urban Population as % of Total Pop[8] Period	%	% Tourist Per Capita[9] Period	%	Government Revenue as % of GDP[10] Period	%	Exports as % of GNP[11] Period	%
Japan	1950-60	1.3	1950-60	5.4	1951-60	29.3[3]	1952-60	-0.9	1950-61	3.2
	1960-70	1.0	1960-70	1.3	1960-70	23.4	1960-70	0.5	1961-70	1.4
S. Korea	1950-60	2.8	1949-60	3.3			1953-60	6.2	1950-61	1.3
	1960-70	2.3	1960-70	3.9			1960-70	0.2	1961-70	14.0
Taiwan	1950-60	3.3	1950-55	0.8	1950-60	40.0[3]	1952-60	2.1	1950-61	1.7
	1960-70	3.2	1955-73	0.7	1960-70	18.1	1960-70	-0.6	1961-70	10.9
Hongkong	1950-60	4.9			1949-60	-5.5[4]	1960-65	1.3	1950-61	-5.9
	1960-70	2.6	1961-73	1.7	1960-71	37.1	1965-72	5.4	1961-69	2.0
Singapore	1950-60	4.8	1947-60	-1.1			1960-65	1.9		
	1960-70	2.4	1960-70	4.8			1965-70	0.7	1961-69	-6.2
W. Malaysia	1950-60	2.9	1947-57	4.9[5]			1958-65	2.4		
	1960-70	3.0	1957-70	-3.0			1965-72	2.6	1961-70	-1.7
Philippines	1950-60	3.1	1948-56	4.9			1952-60	0.3	1950-61	-1.4
	1960-70	3.0	1956-70	-0.8	1960-71	13.2	1960-70	0.4	1961-70	3.0
Indonesia	1950-60	2.1					1960-65	-21.0		
	1960-70	1.9	1961-71	1.6	1960-71	15.8	1965-72	18.6	1961-70	2.6

APPENDIX A TABLE 2 (Continued)

Country	Average Annual Compound Growth Rates of									
	Total Population [7]		Urban Population as % of Total Pop [8]		% Tourist Per Capita [9]		Government Revenue as % of GDP [10]		Exports as % of GNP [11]	
	Period	%	Period	%	Period	%	Period	%	Period	%
Thailand	1950-60	3.0	1947-60	1.4	1949-60	20.1 [4]	1960-65	1.6	1950-61	-1.8
	1960-70	3.0	1960-70	1.1	1960-70	50.2	1965-72	-0.6	1961-70	-0.04
Burma	1950-60	1.8					1952-60	1.7	1950-61	-0.2
	1960-70	2.1					1960-70	-1.3	1961-70	-12.0
Sri Lanka	1950-60	2.6	1945-56	1.3			1958-65	2.3	1950-61	-2.8
	1960-70	2.4	1956-71	1.6	1951-71	-13.9 [3]	1965-72	-.0.8	1961-70	-5.2
India	1950-60	1.8	1951-61	3.5	1951-60	2.5 [3]	1951-60	2.4 [2]	1950-61	-3.4
	1960-70	2.3	1961-70	1.0	1960-71	15.8	1960-70	2.2	1961-70	-1.8
Pakistan	1950-60		1951-61	2.7			1960-65	1.8		
	1960-70	3.2	1961-68	10.2			1965-72	0.8	1961-70	-0.5
Nepal	1950-60	1.5	1952/54-61	0.0			1960-65	2.1		
	1960-70	1.8	1961-71	3.6			1965-72	7.2		

Notes for Appendix Table 2:

1. As per cent of GNP
2. 1951 as per cent of GNP
3. 1951 tourists as per cent of 1950 population
4. 1949 tourists as per cent of 1950 population
5. 1947 data for Federation of Malaysia
6. computed on the basis of a three-year average where the year indicated is the middle year, except for 1950 because data for 1949 and 1951 are not given.
7. data obtained from World Bank Tables
8. data obtained from UN Demographic Yearbooks
9. data obtained from UN Statistical Yearbooks
10. data obtained primarily from UN Statistical Yearbook for Asia and the Far East (1971 and 1969) [revenue figures] and UN Yearbook of National Accounts Statistics [revenue and GDP figures]. A supplementary source was the World Bank Tables.
11. data obtained from World Bank Tables except for 1969 Hongkong, 1961 and 1969 Singapore which were taken from the UN Statistical Yearbook for Asia and the Far East.

Growth Rates were computed using the formula

$$A = B (1 + r)^t$$

Where :

A : the value of terminal year of time period
B : the value of initial year of time period
t : time period = A − B
r : growth rate

The Product Share and Productivity of the S Sector

The data are from the *World Tables* of IBRD, and from official country reports. Current price figures of the service sector product are fairly reliable for the public service since they are taken from government budgets and accounts, with central government product estimates usually better than local government figures. But the figures for commerce and personal services in Asia are among the weakest in product originating tables of the national accounts. Since services are not tangible commodities, the difficulties of counting them are great besides the problem of extensive qualitative differences. Business and personal services are largely produced in very small units of production in Asia and attempts to collect reliable data from these units are much greater than for the industrial and agricultural sectors. Consequently, few countries in Asia conduct regular sample surveys on the business and personal service sectors, as they do in the A and I sectors. Thus, the usual method is to depend on labor force surveys and censuses for employment data and multiply by scattered, average wages (obtained through wage and other surveys). The problem here is in the conversion of daily, weekly, or monthly wages into annual wages since the information on the number of hours, days, or months worked during the year is meager. As noted in the previous section, underemployment and job-switching may be widespread in the small commercial and personal service units in all of the Asian countries with the possible exception of Japan. Finally, income in kind (lodging and meals) may not be insignificant although the basis for estimating them is rarely available.

Just as inadequate are the estimates of profits and proprietor's income in these small units of production. For most of the countries, the household and enterprise surveys are the bases of the estimate but the figures from these sources are thought to be greatly underestimated and most countries attempt some arbitrary "blowing up."

Additional problems were encountered when dealing with the constant-price estimates overtime. Since data do not exist for double-deflation methods, various price indexes are used for each of the sector. Since price indexes for the S sector are difficult to construct, the S sector may be deflated residually, after deducting from social GNP deflated on the expenditure side the deflated A and I sectors. This means that the errors of GNP expenditure deflation and single deflation of the A and I sectors cumulate in the S sector deflation. Or in most instances, the price indexes used to deflate various personal and public service items in personal consumption expenditures are used for the product-originating side. The difficulties of constructing indexes to deflate government product are well

known and usually the methods assume no increases in productivity. Some national accounts agencies like those in Japan and Taiwan make no effort to deflate the product-originating side. These brief comments are sufficient to conclude that the figures are too rough to take seriously small differences in cross-section and time series comparisons, and even large differences must be interpreted only provisionally.

As a whole, one's impression is that the figures for East Asia are far better than those of Southeast Asia and those of the latter better than those of South Asia. Some of the reasons for this conclusion are that generally: (1) East Asia has more censuses, surveys, administrative, and scattered data sources, with larger and more experienced staffs in the national accounting offices, (2) the size of the small units relative to the total S sector is larger in South Asia than in Southeast Asia, and the latter larger than in East Asia, (3) and finally, tax administration in East Asia and Singapore is better than other parts of Asia (we assume here that proprietors' income and sales reporting in the surveys are similar to what they report to tax agencies)[11].

[11] In a recent study of Taiwan's postwar economic growth and structural change (to be published soon), Simon Kuznets has found a number of problems in the S sector's income estimates and had to work out various makeshift adjustments. A detailed review and assessment of postwar GNP data of Asian countries by academic economists are clearly needed but this is too large a task for a brief study such as this.

REFERENCES

(1) Chitranukrok, Suvanee, *The Female Labor Force Participation Rate in Thailand*, M.A. Thesis, School of Economics, University of the Philippines, Quezon City, 1975.

(2) *Japan Statistical Yearbook*, Bureau of Statistics, Prime Minister's Office, 1970, pp. 396-404 and 372-373.

(3) Kuznets, Simon, *Modern Economic Growth*, New Haven: Yale University Press, 1966.

(4) _____, *Causes of the Slow Rate of Economic Growth of the United Kingdom*, London: Cambridge University Press, 1966.

(5) _____, *Population, Capital, Growth*, New York: W.W. Norton, 1973.

(6) *Monthly Commodity-Price Statistics*, Taipei City, June 1973.

(7) Oshima, Harry T. "Institutional Changes and Accelerated Postwar Growth in Japan," *Economic Development and Cultural Change.*

(8) _____, "Notes on Differential Growth and Structural Changes in Postwar Asia," *Philippine Economic Journal*, Volume XVI, No. 3, 1977, p. 270.

(9) *Philippine Economic Journal*, Volume XV, Nos. 1 & 2, 1976 (a special volume on Labor Absorption in East and Southeast Asia).

(10) *Philippine Economic Journal*, Nos. 1 & 2, 1975 (a special issue on Multiple Cropping In Asian Development.)

(11) "Seasonality and Underemployment in Monsoon Asia," *Philippine Economic Journal*, First Semester, 1971.

(12) *Quarterly Report of the Labor Force in Taiwan.*

(13) *Statistical Abstract of the Republic of China.*

(14) *Statistical Yearbook of Thailand, 1944 and 1945*, Bangkok.

(15) Yoshino, M., *Japanese Marketing System*, MIT Press, 1971.