

ECONOMIC DEVELOPMENT AND THE LABOR MARKET IN A NEWLY INDUSTRIALIZING COUNTRY: THE EXPERIENCE OF SINGAPORE

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INTRODUCTION

THIS paper analyzes labor market changes in Singapore since it began industrializing twenty years ago. Section I examines general trends in population, labor force, and employment. The contribution of labor force expansion to economic growth is assessed in Section II. Section III details changes in labor force participation, particularly the market response of women to rapid economic growth. Occupational and industrial employment patterns are discussed in Section IV, while Section V deals with the impact of economic development on wage differentials. The influence of public policy on manpower and labor market developments is evaluated in Section VI. The concluding section speculates on likely labor market changes in the 1980s, and their implications for Singapore's aim to restructure its economy into one based on high-technology and skill-intensive activities.

I. POPULATION, LABOR FORCE, AND EMPLOYMENT

Two decades ago, the economic outlook for Singapore was grim. Economic growth was slow because the trade sector, the source of Singapore's prosperity, was stagnating. Unemployment was rising. To create jobs and diversify the economy, Singapore adopted an industrialization program [4] [19]. Initially, the program emphasized industries producing for a domestic market that included Malaysia, of which Singapore was a constituent state from 1963 to 1965. When Singapore separated from Malaysia in 1965, the emphasis shifted to labor-intensive, export-oriented industries producing for the world market.

Economic growth was moderate in the first half of the 1960s, partly because of internal problems of labor unrest and political uncertainties. After 1965, growth accelerated sharply, thanks to a booming world economy and the influx of labor-intensive firms attracted by Singapore's political stability and disciplined work force [1] [3]. The two-digit growth years ended abruptly in 1973 with the great leap in oil prices. The resulting world recession flattened Singapore's growth curve. In 1975, growth fell to 4 per cent, the lowest rate since 1960. Since 1975,

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TABLE I
GROSS DOMESTIC PRODUCT, POPULATION, LABOR FORCE, AND EMPLOYMENT, 1957-79

	1957	1966	1970	1974	1976	1979
1. Gross domestic product at 1968 factor cost (S\$ billion)	1.9	3.1	5.1	7.7	8.6	11.0
2. Population (1,000)	1,446	1,930	2,075	2,219	2,278	2,363
3. Labor force (1,000)	472	571	693	851	904	1,053
4. Employed persons (1,000)	449	519	651	818	864	1,018
5. Unemployed persons (1,000)	23	51	42	33	40	35
6. Unemployment rate (%)	4.9	9.0	6.0	3.9	4.4	3.3
7. Participation rate (%)	57.0	52.3	56.5	57.8	57.6	61.4
Male	87.7	80.0	82.3	78.4	78.5	80.7
Female	21.6	24.2	29.5	37.1	36.4	41.9
8. Average annual increase in real GDP (% p.a.)	5.6	13.3	10.8	5.7	8.6	
9. Average annual increase in population (% p.a.)	3.3	1.8	1.7	1.3	1.2	
10. Average annual increase in labor force (% p.a.)	2.1	5.0	5.3	3.1	5.2	
11. Average annual increase in employed persons (% p.a.)	1.6	5.8	5.9	2.8	5.6	
12. Employment-output coefficient (11÷8)	0.29	0.44	0.55	0.49	0.65	

Sources: [12] [11] [18] [13] [14] [16] [17].

Notes: 1. Labor force estimates include foreign workers.

2. Labor force defined as employed and unemployed persons aged 15 years and above.

3. Labor force, employed persons, and unemployment estimates for 1970 have been adjusted to exclude persons not actively searching for a job.

4. All figures have been rounded off.

5. The GDP figure for 1957 is my estimate. It is based on a backward extrapolation of the published 1960 figure.

the Singapore economy has expanded steadily. In 1979, it achieved a 9.3 per cent growth rate, its best performance since the 1974-75 recession.

Rapid growth has greatly changed the labor market in Singapore. As Table I shows, between 1957 and 1966, job expansion failed to keep pace with labor force growth caused by the large postwar increase in population and the inflow of workers from Peninsular Malaysia. (Before 1965, movement across Singapore and Peninsular Malaysia was unrestricted.) Consequently, unemployment rose. From 1966 to 1973, the labor force inflow continued to be large, but it was outstripped by the great increase in job opportunities generated by sustained economic expansion. As a result, the backlog of unemployment was wiped out and full employment was achieved in the early 1970s. During the recession of 1974-75, employment expansion lagged behind labor force growth. Unemployment rose, but it was dampened by the withdrawal of many women from the work force, and the return of retrenched foreign workers to Malaysia. Since 1976, employment opportunities have grown much faster than the increase in labor supply.

TABLE II
THE CONTRIBUTION OF LABOR FORCE EXPANSION TO OUTPUT GROWTH,
SINGAPORE, 1961-79

	1961-66	'66-74	'74-75	'75-76	'76-77	'77-78	'78-79	'61-79
Average annual growth of GDP at 1968 factor cost (%)	5.9	12.3	4.0	7.2	7.8	8.6	9.3	9.1
Average annual growth in employed labor force (%)	1.4	5.2	1.1	3.7	4.2	6.1	6.6	3.9
% of growth due to increased labor input	24	42	28	51	54	71	71	43
% of growth due to non-labor factors and productivity improvements	76	58	72	49	46	29	29	57

Source: Same as Table I.

Note: Employed labor force for 1961 derived from interpolating 1957 and 1966 data.

Despite an enlarged inflow of foreign workers from 1976, the unemployment rate has fallen steadily to an all-time low of 3.3 per cent in 1979.

One notable feature of Singapore's development is its increasingly labor-intensive character. From 1957 to 1966, Singapore's labor absorption coefficient, i.e., the ratio of the employment growth rate to the output growth rate, was 0.29. This coefficient rises to 0.55 between 1970 and 1974 before dropping to 0.49 in the mid-1970s. Since 1976, it has averaged 0.65. Until the early 1970s, a rising coefficient was in line with Singapore's economic strategy to create employment opportunities. In the 1980s, however, a high coefficient is inappropriate as the domestic pool of new entrants to the labor market is diminishing, a result of the sharp fall in the rate of population growth since the early 1960s.

In the 1980s, the domestic labor force will expand by an average of 20,000 persons or 1.5 per cent a year. If employment continues to expand at the rate witnessed in the late 1970s, domestic labor shortages and the need for unskilled foreign labor will intensify. To avoid over-dependence on unskilled foreign labor, Singapore is presently restructuring its economy by providing fiscal incentives to high-technology, skill-intensive activities, expanding training programs and adopting a high-wage policy to encourage the substitution of capital for unskilled labor (see [17]). The labor market implications of economic restructuring will be discussed in Section VI.

II. LABOR PRODUCTIVITY AND ECONOMIC GROWTH

Since 1960, Singapore's economy has expanded at an average of 9 per cent a year, a record matched by few other developing countries. Growth has been the result of increased factor inputs and productivity gains. Table II shows the proportion of growth due to labor force expansion and the proportion due to capital accumulation and increased efficiency in the use of both labor and non-labor resources. It shows that 43 per cent of Singapore's remarkable output growth since 1960 is attributable to labor force expansion. The other 57 per cent is due to capital

deepening, scale economies, technical change, qualitative improvements in the labor force, and other factors.

Until the mid-1970s, productivity gains and growth in the stock of physical capital were the dominant factors in Singapore's output growth. From 1961 to 1966, increased labor input accounted for only a quarter of Singapore's 5.9 per cent annual growth during the period. From 1966 to 1974, the main sources of output growth were productivity gains and capital accumulation. Since 1975, however, the contribution of labor force expansion to economic growth has been increasing while that of capital and efficiency factors have been declining. In 1979, 71 per cent of the output growth can be traced to an increase in the employed labor force. Put differently, less than one-third of Singapore's 9.3 per cent growth in 1979 is due to non-labor factors and productivity improvements.

The poor productivity performance of Singapore in the late 1970s is puzzling as productivity gains are associated with the rate of output growth. In part, it probably was influenced by a policy that emphasized small wage increases and thus encouraged employment creation at the expense of capital investment and productivity-boosting measures to use labor efficiently [8]. A related explanation is that of labor hoarding. As the labor market tightened, especially after late 1977, many labor-intensive firms, affected by rising labor turnover, recruited more labor than they needed.

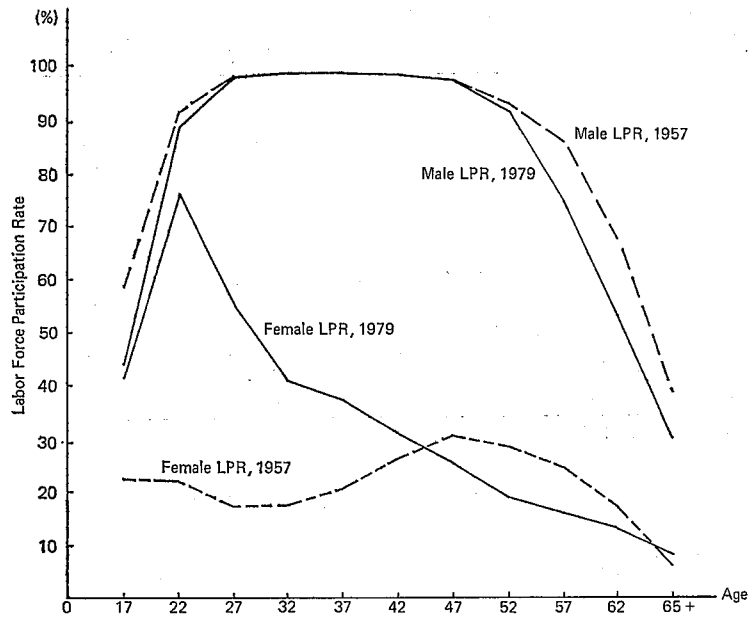
III. PATTERNS OF LABOR FORCE PARTICIPATION

In the long run, a country's labor supply depends on the size, age structure, and growth rate of its population. In the short term, however, labor force size is strongly influenced by changes in participation rates—that is, the fraction of working-age (usually 15 years and above) persons who are working or seeking work—and by the intensity and hours of work. Participation rates in turn are affected by economic and social conditions.

Two decades of rapid industrialization have raised the participation rate of persons aged 15 and above from 57 per cent in 1957 to 61 per cent in 1979. Since 1957, the participation rate for women has doubled to 42 per cent, but that for men has dropped from 88 per cent to 81 per cent. The decline in male participation rate is due largely to increased educational opportunities for young males aged 15–24 while the rapid rise in female participation rate is related to changing traditional attitudes toward work outside the home for women and to expanding job opportunities in the labor-intensive manufacturing and service sectors [5].

Figure 1 shows the age-specific participation rates for men and women in 1957 and 1979. The rates for men have not changed much in over twenty years, except for those in the age-groups 15–24 and over 50. Those for women, however, have changed dramatically. In 1957, the age-participation profile of women had two low peaks—one for young women mostly in service and sales occupations and another for women over 40 engaged in domestic services. Twenty-two years later, the two peaks were replaced by a much higher peak for young women aged 20–24.

Fig. 1. Age-specific Labor Force Participation Rate by Sex, 1957 and 1979



Source: Appendix Table I.

As Figure 1 shows, the 1979 participation rate of women rises steeply with age, reaching a peak for those aged 20–24, and falling rapidly thereafter.

The first wave of young women to join the work force were mostly Chinese. Since the early 1970s, the participation rates of Malay and Indian women aged 15–24 have risen markedly. As a result, the participation rates of young women from the three major ethnic groups in Singapore are converging. In 1979, the participation rate of young Indian women was 54 per cent, 5 and 6 percentage points below that of young Malay and Chinese females respectively. The convergence in racial participation rates suggests that cultural and religious factors influencing labor force participation are declining in importance. Labor market participation decisions are increasingly shaped by economic and educational factors [7].

Barring a prolonged recession in the future, the participation rate of young women will rise further, though not as sharply as in the 1970s. The participation rate of women aged 25 and above will also rise. Many young women now in the labor market will continue working. Some will withdraw from the labor market to get married and have children. But having acquired a taste for paid market work, many of them, especially the well-educated, will rejoin the job market after their children have grown up. In the future, the age-participation profile of women is likely to assume a bimodal shape similar to that found in many developed countries.

TABLE III
PERCENTAGE DISTRIBUTION OF EMPLOYED PERSONS BY INDUSTRY, 1957-79

Industry	1957	1970	1979
Agriculture	6.9	3.5	1.5
Quarrying	0.3	0.3	0.1
Manufacturing	14.3	22.0	28.8
Electricity, gas & water	0.8	1.2	1.0
Construction	5.2	6.6	5.3
Commerce	27.8	23.5	23.2
Transport, storage & communications	10.7	12.1	11.7
Finance, insurance, real estate & business services	4.3	3.5	7.1
Community, social & personal services	29.1	27.2	21.2
Activities not adequately defined	0.4	0.1	0.1
Total employed (%)	100.0	100.0	100.0
Total employed (1,000 persons)	471.9	650.9	1,018.3

Sources: [12] [14].

IV. EMPLOYMENT PATTERNS

By transferring Singapore's economy, rapid growth has greatly changed industrial and occupational employment patterns. Reflecting Singapore's successful labor-intensive industrialization strategy, the manufacturing sector has emerged as the largest employer of workers, particularly unskilled females. The main industries contributing to the rapid growth of manufacturing jobs are textiles and garments, electrical and electronics, transport equipment, and fabricated metal products. In 1979, the manufacturing sector employed 29 per cent of all workers, twice its share in 1957 (Table III).

The largest employer two decades ago, the commerce sector ranked second in employment size in 1979. It accounted for 23 per cent of all jobs in 1979 compared with 28 per cent in 1957. The fall in the employment share of commerce largely reflects the diminishing importance of entrepot trade as a generator of job opportunities in the Singapore economy.

Since 1957, community, social, and personal services, like the commerce sector, have created jobs at a slower pace than the manufacturing and transportation sectors. Its employment share has consequently declined steadily from 29 per cent in 1957 to 21 per cent by 1979.

The employment shares of the transportation, storage, and communication, and financial and business services sectors have both increased since 1957. Rapid employment expansion in these two sectors reflects Singapore's industrialization and its development as a regional financial, communication, distribution, and technical service center.

The diversification of the Singapore economy since the late 1950s has greatly changed the demand for various types of workers. Reflecting the needs of an increasingly complex economy, the demand for high-level manpower—professionals, technicians, administrators, and managers—has expanded rapidly. In consequence, the share of professional, technical, administrative, and managerial

TABLE IV
 PERCENTAGE DISTRIBUTION OF EMPLOYED PERSONS BY MAJOR OCCUPATION, 1957-79

Major Occupations	1957	1970	1979
Professional, technical, administrative, and managerial workers	6.8	10.3	11.4
Clerical workers	11.6	12.9	15.8
Sales and service workers	33.3	29.9	26.4
Production workers, transport equip- ment operators, and laborers	38.5	39.2	38.6
Others*	9.8	7.7	7.8
Total	100.0	100.0	100.0

Source: Same as Table III.

* "Others" include agricultural workers, fishermen, and workers not classifiable by occupation.

workers in the work force has risen from 6.8 per cent in 1957 to 11.4 per cent in 1979 (Table IV). The employment share of clerical workers too has increased, thanks to the rapid growth of government services and nontraditional service sectors including finance, business services, and transport, storage, and communication. The share of sales and service workers has, however, declined partly because of relatively slow growth in the entrepot sector and partly because of the fall in the number of own-account and part-time unpaid family workers as a result of rapid development. (In 1979, own-account workers and unpaid family workers represented 13 per cent of work force, down from 23 per cent in 1957.)

Though the share of production, transport equipment, and related workers has remained constant since 1957, its composition in 1979 is different from that in 1957. In 1957, unskilled odd-job male laborers working in small establishments accounted for a sizable share of the occupational group, production, transport equipment, and related workers. In 1979, a significant proportion of production workers were women employed by large manufacturing firms.

Over the past two decades, shifts in the demand for labor caused by industrialization have been paralleled by qualitative changes in the supply of labor. With the expansion of educational opportunities and training facilities, the proportion of educated workers in the labor force has risen steadily. Today, over two-fifths of the work force have a secondary education compared with one-fifth two decades ago. The improving quality of the labor force has facilitated adaptation to changing demand conditions.

V. WAGES AND ECONOMIC DEVELOPMENT

A. *Wage Level*

Wage data for Singapore are imperfect and incomplete. A complete earnings series dating from the late 1950s is available only for production, transport, and manual workers. This series shows that average nominal weekly earnings of these workers rose by an average of 2 per cent a year in the 1960s. In real terms,

earnings grew by 1 per cent a year as inflation (measured by the consumer price index) averaged 1 per cent a year. Several factors contributed to the slow growth of earnings during a period of rising output, particularly after 1967. The first is excess-labor supply. Until the late 1960s, Singapore suffered from high unemployment and widespread underemployment. Economic expansion reduced unemployment but exerted little pressures on wages.

The second is a policy of wage restraint adopted by the government, and supported by unions, to attract foreign investors. The effect of this policy was particularly strong in the late 1960s when the pool of unemployed workers was shrinking fast.

A third factor contributing to the small increase in average earnings of production workers is the large influx of female workers into the labor-intensive electronics assembly, textiles, and clothing industries. This influx greatly enlarged the proportion of women in the labor force. As female wages were lower than those of men, the increase in average earnings of production workers as a whole was dampened.

In the 1970s, with the attainment of full employment, money earnings rose rapidly, averaging 10 per cent a year between 1972 and 1979 [17, p. 75]. Between 1972—the year the tripartite National Wages Council (NWC) was formed to recommend orderly wage changes—and 1974, money wages rose by 14 per cent a year largely in response to labor market and inflationary pressures. From 1975 to 1978, average earnings grew moderately because the NWC recommended modest wage increases to maintain Singapore's competitiveness in world markets. (Though only guidelines, NWC recommendations are implemented by most large employers.) In 1979, the high wage policy of the early 1970s was resumed, this time with the primary aim of encouraging firms to upgrade and use increasingly scarce labor efficiently.

Rapid development in the 1970s has benefitted production, transport, and manual (PTM) workers slightly more than other occupational groups. As Table V shows, PTM workers increased their weekly earnings by an average of 13 per cent a year between 1972 and 1979, nearly 2 per cent more than that enjoyed by professional, administrative, managerial, and related workers.

Excluding the minor sector—agriculture and fishing, mining and quarrying, and utilities which together employed less than 4 per cent of the work force in 1979—differences in the rate of increase in weekly earnings among major sectors are small. Commerce recorded an average annual increase of 13.8 per cent, only 2.7 per cent faster than finance and business services. The narrow band of wage increases by industry reflects the influence of the widespread adoption of across-the-board, flat-percentage NWC wage guidelines.

B. *Wage Differentials*

As already noted there are large gaps in Singapore's wage statistics, particularly for the 1960s. Hence, it is difficult to assess the impact of rapid industrialization since 1960 on various aspects of wage structure. The discussion of wage structure that follows deals mainly with developments in the 1970s.

TABLE V
AVERAGE WEEKLY EARNINGS (\$\$) BY INDUSTRY AND OCCUPATION, 1972 AND 1979

Occupational Group	Professional (a)			Clerical (b)			Production (c)			All Workers			
	Year	1972	1979	Average Annual Increase 1972-79 (%)	1972	1979	Average Annual Increase 1972-79 (%)	1972	1979	Average Annual Increase 1972-79 (%)	1972	1979	Average Annual Increase 1972-79 (%)
Industry													
All industries		190.97	341.86	11.3	64.18	116.57	11.7	50.54	96.60	13.0	75.62	142.77	12.7
Agriculture and fishing		204.60	306.68	7.1	66.65	93.39	5.7	37.09	85.75	18.7	55.42	118.03	16.1
Mining and quarrying		219.79	623.47	26.2	65.46	148.98	18.2	63.96	125.11	13.7	69.06	214.66	30.1
Manufacturing		271.90	424.47	8.0	71.80	127.04	11.0	48.58	91.59	12.6	63.21	118.78	12.6
Electricity, gas, and water		230.13	300.59	4.4	88.32	155.03	10.8	57.34	121.17	15.9	80.51	165.15	15.0
Construction		234.77	327.11	5.6	76.10	108.52	6.1	62.10	104.40	9.7	77.64	139.25	11.3
Commerce		239.16	416.21	10.6	55.70	101.82	11.8	45.86	99.42	16.7	68.49	134.69	13.8
Transport, storage, and communications		277.88	505.73	11.7	74.87	129.25	10.4	61.57	124.63	14.6	84.68	162.42	13.1
Financing, insurance, real estates, and business services		242.81	404.66	9.5	76.60	129.92	9.9	42.69	92.79	16.8	108.94	193.77	11.1
Community, social, and personal services		140.39	251.26	11.3	63.08	113.26	11.4	43.84	83.51	12.9	86.80	164.31	12.8

Source: [15].

Note: (a) refers to professional, administrative, managerial, and related workers; (b) refers to clerical, sales, service, and related workers; and (c) refers to production, transport, and other manual workers.

TABLE VI
SKILL DIFFERENTIALS, 1972-79

	1972	1979
1. Weekly earnings (S\$) of professional, administrative, managerial, and related workers (skilled workers)	190.97	341.86
2. Weekly earnings (S\$) of production, transport, and manual workers (unskilled workers)	50.54	96.60
3. Skill differential (1 ÷ 2)	3.78	3.54

Source: Table V.

1. *Skill differentials*

Conventional theory suggests that skill differentials widen in the initial stages of development because of a shortage of skilled workers and a surplus of unskilled workers. As a country industrializes, skill differentials narrow, partly because of a growing supply of trained persons as educational facilities are expanded, and partly because of a reduction in the supply of unskilled workers as a consequence of slower population growth [10].

Table VI shows the difference between the weekly earnings of professional, administrative, managerial, and related workers and production, transport, and manual workers. For want of more refined wage data by skill level, this difference can be taken as a crude measure of skill differentials. Table VI thus indicates that the skill differential has narrowed since 1972, suggesting that Singapore may have passed through the initial stages of development.

2. *Inter-industry wage structure*

Across-the-board NWC wage guidelines have strongly influenced sectoral rates of wage increases since 1972. In consequence, the inter-industry wage structure has remained stable, despite greatly varying rates of output and employment growth in the key sectors of the economy [6]. In 1979, the coefficient of variation (a statistical measure of dispersion) of inter-industry earnings was 0.209, not much different from the figure of 0.203 in 1972.

3. *Sex and educational differentials*

Table VII shows the median monthly earnings of men and women by broad educational level for 1966 and 1979. The 1966 figures refer to full-time employees while those for 1979 refer to all workers. Hence, the figures for the two years are not strictly comparable. Even so, they suggest trends that are consistent with the rapid expansion of the school system, particularly at the secondary level, and the substantial increase in female work force participation since 1966.

Table VII suggests that the earnings gap between men and women has narrowed since 1966. The narrowing, however, is confined to persons with secondary education. For persons with other levels of education, the sex differential has remained stable or widened. Rapid development in Singapore, it appears, has not produced a clear pattern of sex-differential changes.

Table VII also suggests that the earnings gap between persons with secondary

TABLE VII
 MEDIAN MONTHLY EARNINGS (S\$) BY EDUCATION AND SEX, 1966 AND 1979

Education	1966			1979		
	Male	Female	Sex Differential (Male/Female)	Male	Female	Sex Differential (Male/Female)
No schooling	146	101	1.45	348	213	1.63
Primary	205	148	1.39	355	253	1.40
Secondary	466	311	1.50	421	329	1.28
Tertiary	841	587	1.43	1,690	1,015	1.67
All workers	220	155	1.42	386	290	1.33

Sources: [15] [8].

or tertiary education and those with no formal schooling has diminished as a result of rapid industrialization. Development has improved the job market for unskilled workers much more than that for educated persons, the supply of which has been expanding rapidly since 1966, thus moderating the rate of increase in their earnings.

VI. PUBLIC POLICY AND LABOR MARKET CHANGES

Though a free-enterprise economy, Singapore is not a classical laissez-faire state. Since 1960 when it adopted an industrialization strategy, the government has sought in various ways to influence resource allocation. For example, it provides incentives to promote desirable industries, regulates the banking system, controls building development, and influences domestic savings through contributions to the Central Provident Fund, a compulsory savings scheme for workers when they retire.

The government's hand has been particularly visible in the labor market. Beginning in the early 1960s, it introduced various legislative and administrative measures to curb rival unionism and promote industrial peace. These culminated in 1968 with the passing of new labor laws which, among other things, limited the negotiating powers of unions, placed ceilings on negotiable non-wage benefits, and spelt out the prerogatives of management [9]. By ensuring industrial peace, the 1968 labor laws helped to attract foreign investment in labor-intensive industries.

In the 1970s, the government influenced labor market developments in two major ways. First, it relaxed immigration rules to allow employers facing labor shortages to bring in foreign workers. The consequent large inflow of immigrant workers eased labor market pressures. Second, it formed in 1972 a tripartite National Wages Council (NWC) to recommend orderly wage changes. The NWC recommended high wage increases for 1972-74, partly to offset inflation and partly to encourage firms to use labor efficiently. Because of the recession in the mid-1970s, it abandoned its high-wage policy for one stressing modest wage increases. From 1976 to 1979, employment opportunities grew rapidly, thanks partly to steady economic growth and partly to modest wage increases which encouraged the expansion of labor-intensive firms. In 1979, in the face of wide-

spread labor shortages, the NWC reverted to its earlier policy of using high wages to curb the demand for unskilled workers.

Unlike the wage policy of the early 1970s, the present wage policy is part of a longer-term strategy to restructure the Singapore economy. Highly dependent on labor-intensive manufacturing exports and vulnerable to protectionist measures by industrial countries, Singapore recognizes it must move its economy upstream away from activities whose viability depends on an abundant supply of unskilled labor.

The new wage policy will influence the labor market in two important ways. First, by raising the price of labor, it will encourage the substitution of capital for labor which will increase the demand for skilled labor while inhibiting the growth of unskilled jobs. This substitution effect will be reinforced by such policies as tax credits for new investment in plant and equipment, and accelerated depreciation of capital [2]. Second, it will raise female work force participation rates by making paid market work more attractive compared with non-market activities. It will encourage more young women to continue working after marriage and more older women to enter or rejoin the labor market.

Singapore's policy towards foreign workers has not changed despite its concern about over-dependence on foreign labor. Quotas on foreign workers have not been set and employers are still free to recruit workers from overseas if they cannot find suitable local workers [7]. The continuation of present immigration policies, it has been argued, reduces the effectiveness of a high-wage policy as employers are able to avoid paying high-wage increases recommended by the NWC because of ready access to foreign labor. This argument assumes that foreign labor supply is highly elastic and that the cost of recruiting suitable foreign workers are minimal. Neither of these two assumptions are valid. Malaysia, the major source of acceptable foreign workers, is industrializing rapidly. Its pool of available unskilled labor willing to work temporarily in Singapore is fast diminishing. In consequence, the cost of recruiting new foreign workers has risen as employers have to search further afield and longer for workers.

VII. CONCLUDING REMARKS

Rapid industrialization since 1960 has profoundly changed the labor market in Singapore. Once characterized by serious unemployment, the labor market today is suffering from widespread labor shortages. To alleviate these shortages, the government has adopted a new wage policy to encourage employers to reduce their demand for unskilled workers and to substitute capital for labor. This policy, if successful, will eventually reduce the rate of employment growth. For the next few years, however, the labor market is likely to be tight because it will take time for the new wage policy to take effect.

In the 1980s, the inflow of new local workers will average 20,000 a year compared with an average of 30,000 a year in the 1970s. To create 20,000 new jobs, Singapore will need to grow by no more than 6 per cent a year, a rate lower than the official target of 8-10 per cent a year for the 1980s. The preservation of full

employment, it appears, will not be a major problem for Singapore in 1980s. Unlike the 1960s when the main problem was unemployment, the critical labor market issue of the 1980s will be widespread labor shortages in an increasingly affluent economy. In the 1960s, public policy was concerned largely with creating employment opportunities. Relatively little attention was paid to labor market efficiency. In the 1980s, the challenge to public policy will be to improve the allocative efficiency of the labor market and thus enhance labor productivity through economic restructuring and manpower training. (April 30, 1980)

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APPENDIX TABLE I

SINGAPORE: LABOR FORCE PARTICIPATION RATE (%) BY SEX, 1957, 1970, AND 1979

Age Group	1957			1970			1979		
	Total	Males	Females	Total	Males	Females	Total	Males	Females
All persons aged 15 years and above	57.0	87.7	21.6	56.5	82.3	29.5	61.4	80.7	41.9
15-19	42.0	59.4	23.4	49.5	55.7	43.0	43.6	44.0	43.1
20-24	58.6	92.3	22.9	73.5	92.9	53.6	84.2	91.4	76.6
25-29	60.1	98.0	16.5	64.5	98.0	30.8	76.7	97.8	55.3
30-34	62.6	98.6	17.3	60.6	98.3	22.7	69.4	98.6	40.8
35-39	64.5	98.5	20.8	60.2	98.4	19.3	67.7	98.9	37.7
40-44	66.8	98.0	26.3	60.8	98.1	17.8	64.7	98.3	31.7
45-49	67.9	97.0	30.1	60.0	96.2	17.5	61.1	96.2	25.6
50-54	65.4	93.5	28.8	55.0	88.1	17.5	57.6	92.0	19.2
55-59	57.9	85.1	24.7	46.2	73.9	16.2	47.2	75.7	16.2
60-64	41.8	66.9	17.1	35.0	55.6	13.4	34.0	55.6	12.5
65 & over	19.5	38.9	6.7	17.7	31.9	6.5	18.1	30.2	7.5