

WAGE INDEX FOR BLUE-COLLAR WORKERS IN SINGAPORE

By
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Introduction

The rapid economic development of Singapore in the late 1960's and early 1970's may be attributed to sustained industrialization made possible by, among other factors, low wage rates. Through various pay restraint measures the wages of workers were kept low in order to maintain the competitive position of Singapore in relation to other low wage countries like Hong Kong, Taiwan and South Korea. By 1972 the Government felt that it was time to permit the workers to have a greater share of the economic cake but still in an orderly manner through the National Wages Council (NWC). The NWC is a tripartite body consisting of a Chairman and three representatives each from Government, employers and workers, and was established in February 1972 to serve as an advisory body to the Government. Its functions are to assist in the formulation of general guidelines on wage policy, to recommend necessary adjustments in wage structure with a view to developing a coherent wage system consistent with long-term economic and social development, and to advise on desirable incentive systems for the promotion of operational efficiency and productivity in various enterprises. The NWC recommendations, when accepted by the Government, are guidelines and serve as a basis for negotiation between employers and employees or their unions.

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The first of a series of annual guidelines recommended by the NWC resulting in larger wage increases came into effect in 1972 for most workers in the public and private sectors. The annual deliberations within and without the NWC focussed widespread attention on many key statistical issues such as the consumer price index and the wage index. The former has been published monthly in considerable detail by the Department of Statistics¹ but the latter has never been systematically published and only some broad figures were released recently in the annual *Economic Survey of Singapore*². In this paper we will present the methodology of constructing three comprehensive series of wage indexes for blue-collar workers and a brief interpretation of the computed indexes.

Concepts

Unlike the consumer price index, the principle and significance of the wage index are more complex and less familiar among both specialists and laymen. By and large, there are two main varieties of wage indexes, one covering the index of wage rates and the index of normal hours of work and the other the index of average weekly earnings, the index of average weekly hours of work, and the index of average hourly earnings. The construction of these two types of indexes requires not only the application of different methodologies but also different sets of statistical information.³

The index of wage rates and the index of normal hours of work measure the changes from period to period in the level of basic weekly rates of wages or minimum entitlements and normal weekly hours of work where they are the outcome of centrally determined arrangements, usually national collective agreements or statutory wages regulation orders. The indexes normally do not

¹Department of Statistics, *Monthly Digest of Statistics*, (Singapore: Government Printer).

²Ministry of Finance, *Economic Survey of Singapore*, for the years 1974 to 1976, (Singapore: Government Printer).

³See, for example, Walter R. Crowe, *Index Numbers: Theory and Applications*, (London: McDonald & Evans).

take into account changes determined by local negotiation at established or shop floor level, nor do they reflect changes in earnings due to such factors as changes in bonus payments, overtime or short time. In the construction of the wage rate index we normally adopt a base-year weighting system using the total wage bill of the workers covered by each rate. In most countries the indexes of wage rates and normal hours of work are compiled each month by the relevant government agency and published without any undue delay. For instance, in the United Kingdom the indexes are compiled and published monthly by the Department of Employment in its monthly Gazette.⁴ In Singapore the construction of these indexes is not possible owing to the absence of the prerequisite statistical information.

The index of average earnings measures the changes from period to period in the level of average weekly earnings which is deemed to include wages and salaries, bonuses, overtime pay and other monetary payments. In other words, the index measures the gross or actual earnings of workers during the reference week as influenced by short-term changes in economic activity and actual hours of work. The index of average hours of work measures the movements from period to period in the level of hours actually worked by the employees as distinct from their normal hours of work. This necessarily means that changes in working hours due to overtime, short time, absenteeism, sickness, bad weather and holidays are taken into consideration by the index. In the United Kingdom the New Earnings Survey, introduced in 1971, is conducted monthly by the Department of Employment and the results are utilized to compute the indexes of average weekly earnings and average hourly earnings. The computed indexes are also published monthly in its Gazette. In the United States, all the three series of indexes are compiled by the Bureau of Labor Statistics and published monthly.⁵ In Singapore these indexes have not been published, but the prerequisite statistical data for

⁴United Kingdom, *Department of Employment Gazette*, (London: Her Majesty's Stationery Office).

⁵United States, *Monthly Labor Review*, (Washington: Bureau of Labor Statistics).

constructing these indexes have been collected and published by the Ministry of Labour.⁶

Data

Though the Ministry of Labour has for many years published data on the actual earnings and hours worked by employees collected in its Sample Survey of Earnings, Hours Worked and Conditions of Employment, we will only make use of the results of the survey conducted from 1970 onwards. The data collected prior to 1970 were tabulated according to the old industrial classification and hence not comparable with the more recent data. The list of establishments compiled from the annual Census of Employment in Establishments held in March of the previous year constitutes the sampling frame for the Earnings and Hours Survey conducted in the current year. A stratified sample design with disproportional allocation is used to select a total of some 3,500-5,000 establishments for the survey, which is executed under the provision of the Employment Act.⁷ The data are collected by means of the mail questionnaire from all categories of paid employees who are 18 years and over and working 4 days or more during the seven-day reference period from 25 to 31 July in both the public and private sectors. For the surveys held in August the reference period was similarly taken as the last seven days of the month.

The survey collected, among other things, data on the number of employees, their earnings and hours worked during the reference week. The information on earnings refers to wages and salaries, commissions, bonuses, overtime pay, housing allowances, transport allowances, entertainment expenses and all other monetary payments. The information on hours worked refers to the actual hours worked by the employees, including overtime hours, if any. From these data are derived the average weekly earnings,

⁶Ministry of Labour, *Annual Report of the Ministry of Labour*, for the year 1965-1976, (Singapore: Government Printer).

⁷Singapore, *Employment Act, Chapter 122 of Statutes of the Republic of Singapore, 1970*, Revised Edition, (Singapore: Government Printer).

the average weekly hours, and the average hourly earnings. The three sets of figures are published in the Annual Report of the Ministry of Labour but for only the broad occupation group of production, transport and related workers, i.e. the blue-collar workers. Similar figures pertaining to the group of executive, clerical, sales, services, and related workers and to the other group of professional, administrative, managerial and related workers are curiously enough not published at all.

Method of Computation

The published figures for the blue-collar workers are by sex and industry group of varying details ranging from one-digit to the five-digit level of the 1969 Industrial Classification. However, only the figures at the one-digit level for 1970 to 1976 are utilized to compute the Index of Average Weekly Earnings, the Index of Average Weekly Hours, and the Index of Average Hourly Earnings.

The figures for average weekly earnings, average weekly hours, and average hourly earnings for the nine Divisions and All Industries have been computed by weighing the averages in each separate industry on the basis of the estimated total number of employees in each industry. For instance, the average weekly earnings of a sub-division is obtained by taking the sum of the products of the average and the weighted number of employees of every group within that sub-division and dividing this by the sum of the weighted number of employees in that sub-division. Similarly, the average weekly earnings for the division is obtained by taking the sum of the products of the sub-division within that division and dividing this by the sum of the weighted number of employees in that division. Finally, the average weekly earnings for All Industries is obtained by taking the sum of the products of the division averages and the weighted number of employees of every division and dividing this by the weighted number of employees of All Industries. To obtain the index numbers for each of the three series for the nine divisions and for All Industries we express their respective weighted averages derived in this manner

Table 1
Index of average weekly earnings by broad industrial group and sex, 1970-1976

<i>Division</i>	<i>July 1970</i>	<i>July 1971</i>	<i>July 1972</i>	<i>July 1973</i>	<i>July 1974</i>	<i>August 1975</i>	<i>August 1976</i>
Both Sexes							
1 Agriculture, Forestry and Fishing	100.0	103.4	95.5	112.2	131.7	158.2	164.9
2 Mining and Quarrying	100.0	104.9	104.4	114.2	127.1	141.2	147.0
3 Manufacturing	100.0	102.8	110.2	117.9	136.8	160.1	168.3
4 Electricity, Gas, Water and Sanitary Services	100.0	104.6	116.3	144.2	162.3	224.6	246.3
5 Construction	100.0	109.5	118.4	136.3	146.2	154.5	162.8
6 Commerce	100.0	100.0	101.6	123.3	143.9	164.1	167.5
7 Transport, Storage & Communication	100.0	110.6	114.3	128.1	149.7	165.4	175.4
8 Finance, Insurance, Real Estate and Business Services	100.0	124.9	136.8	163.3	196.2	225.1	246.9
9 Community, Social & Personal Services	100.0	98.6	101.5	114.1	129.9	138.9	150.5
All Industries	100.0	104.4	110.2	122.3	141.1	160.9	170.1
Male							
1 Agriculture, Forestry and Fishing	100.0	104.6	98.7	122.6	144.4	164.8	177.6
2 Mining and Quarrying	100.0	104.8	104.3	113.6	125.6	140.6	144.2
3 Manufacturing	100.0	105.2	111.7	121.9	141.9	164.3	172.7
4 Electricity, Gas, Water and Sanitary Services	100.0	105.1	119.2	147.5	165.4	226.6	248.7
5 Construction	100.0	110.8	118.4	136.4	148.8	155.8	163.3
6 Commerce	100.0	110.7	109.5	123.2	143.7	165.3	172.1
7 Transport, Storage & Communication	100.0	110.5	114.0	127.6	149.7	166.0	176.6
8 Finance, Insurance, Real Estate and Business Services	100.0	104.7	119.2	140.1	170.3	192.6	212.2
9 Community, Social & Personal Services	100.0	98.4	100.2	112.6	130.8	136.5	148.5
All Industries	100.0	106.2	112.9	126.5	146.1	164.7	175.0
Female							
1 Agriculture, Forestry and Fishing	100.0	100.2	89.2	84.6	101.8	122.0	128.3
2 Mining and Quarrying	100.0	103.8	97.8	101.7	119.0	129.7	134.5
3 Manufacturing	100.0	103.5	114.8	133.6	155.5	176.1	192.0
4 Electricity, Gas, Water and Sanitary Services	100.0	97.6	87.1	109.5	134.1	147.3	166.4
5 Construction	100.0	100.1	108.2	143.1	132.1	143.4	179.1
6 Commerce	100.0	103.2	104.3	136.6	154.3	176.2	182.2
7 Transport, Storage & Communication	100.0	108.3	122.5	140.5	166.0	196.5	205.5
8 Finance, Insurance, Real Estate and Business Services	100.0	102.7	98.9	116.8	128.1	159.2	159.4
9 Community, Social & Personal Services	100.0	102.4	116.6	131.4	142.6	171.8	175.6
All Industries	100.0	103.3	112.5	132.4	153.1	175.1	189.0

Table 2
Index of average weekly hours by broad industrial group and sex, 1970-1976

<i>Division</i>	<i>July 1970</i>	<i>July 1971</i>	<i>July 1972</i>	<i>July 1973</i>	<i>July 1974</i>	<i>August 1975</i>	<i>August 1976</i>
Both Sexes							
1 Agriculture, Forestry and Fishing	100.0	105.4	105.2	102.0	97.4	101.2	106.8
2 Mining and Quarrying	100.0	102.0	106.7	108.4	101.0	108.1	105.8
3 Manufacturing	100.0	101.5	101.8	100.1	98.4	99.4	99.4
4 Electricity, Gas, Water and Sanitary Services	100.0	99.2	102.4	104.1	101.6	110.9	108.8
5 Construction	100.0	104.3	102.9	109.7	100.4	101.9	100.7
6 Commerce	100.0	99.7	94.9	99.4	100.3	100.9	99.5
7 Transport, Storage & Communication	100.0	101.6	90.7	95.5	99.8	103.2	99.7
8 Finance, Insurance, Real Estate and Business Services	100.0	99.7	89.9	101.8	102.8	98.9	101.1
9 Community, Social & Personal Services	100.0	96.6	98.3	96.5	97.7	92.3	97.6
All Industries	100.0	101.3	101.8	101.0	99.5	100.1	100.1
Male							
1 Agriculture, Forestry and Fishing	100.0	105.4	102.4	100.4	99.4	100.2	105.0
2 Mining and Quarrying	100.0	102.5	108.2	109.5	101.7	108.6	104.5
3 Manufacturing	100.0	103.3	103.7	103.3	102.0	102.3	101.3
4 Electricity, Gas, Water and Sanitary Services	100.0	99.3	102.9	104.5	102.1	110.1	109.1
5 Construction	100.0	104.7	103.3	109.2	100.9	102.6	100.9
6 Commerce	100.0	100.3	94.8	99.5	100.9	101.7	100.2
7 Transport, Storage & Communication	100.0	101.4	90.4	95.0	99.6	102.9	99.5
8 Finance, Insurance, Real Estate and Business Services	100.0	99.9	89.5	102.0	102.9	98.8	101.3
9 Community, Social & Personal Services	100.0	95.5	97.4	95.3	96.5	91.5	96.3
All Industries	100.0	102.0	102.7	102.2	101.2	101.6	101.6
Female							
1 Agriculture, Forestry and Fishing	100.0	106.4	111.7	106.5	101.4	103.8	110.7
2 Mining and Quarrying	100.0	99.0	95.8	100.1	95.0	104.6	124.9
3 Manufacturing	100.0	99.6	99.8	97.8	95.9	96.9	98.3
4 Electricity, Gas, Water and Sanitary Services	100.0	99.6	99.5	101.7	99.6	102.1	99.7
5 Construction	100.0	94.9	92.2	111.7	91.1	90.5	93.7
6 Commerce	100.0	105.5	104.5	108.3	107.0	105.2	105.8
7 Transport, Storage & Communication	100.0	103.3	102.2	114.5	101.6	110.2	109.0
8 Finance, Insurance, Real Estate and Business Services	100.0	97.5	90.7	100.0	101.4	98.7	98.8
9 Community, Social & Personal Services	100.0	105.7	105.6	105.6	105.8	99.8	107.7
All Industries	100.0	100.0	100.1	99.0	96.7	97.4	97.4

Table 3
Index of average hourly earnings by broad industrial group and sex, 1970-1976

Division	July 1970	July 1971	July 1972	July 1973	July 1974	August 1975	August 1976
Both Sexes							
1 Agriculture, Forestry and Fishing	100.0	97.8	90.2	109.8	132.6	156.5	155.4
2 Mining and Quarrying	100.0	102.3	97.7	104.6	125.4	130.0	138.5
3 Manufacturing	100.0	102.2	108.9	118.9	140.0	162.2	170.0
4 Electricity, Gas, Water and Sanitary Services	100.0	104.8	113.3	138.6	159.0	202.4	225.3
5 Construction	100.0	105.6	114.8	125.0	146.3	151.9	162.0
6 Commerce	100.0	100.0	101.0	124.2	143.4	162.6	168.7
7 Transport, Storage & Communication	100.0	108.8	112.4	134.5	147.8	161.1	176.1
8 Finance, Insurance, Real Estate and Business Services	100.0	105.0	127.5	135.0	160.0	191.3	205.0
9 Community, Social & Personal Services	100.0	101.9	102.9	118.4	133.0	150.5	154.4
All Industries	100.0	103.1	108.3	120.8	141.7	160.4	169.8
Male							
1 Agriculture, Forestry and Fishing	100.0	99.0	95.8	121.9	144.8	163.5	169.8
2 Mining and Quarrying	100.0	102.2	96.3	103.7	123.5	129.4	138.2
3 Manufacturing	100.0	102.6	107.8	118.1	139.7	161.2	170.7
4 Electricity, Gas, Water and Sanitary Services	100.0	106.0	115.7	141.0	161.4	203.6	227.7
5 Construction	100.0	106.4	114.5	125.5	148.2	152.7	161.8
6 Commerce	100.0	101.9	109.7	125.2	144.7	165.1	174.8
7 Transport, Storage & Communication	100.0	108.8	112.8	134.2	150.0	164.4	177.2
8 Finance, Insurance, Real Estate and Business Services	100.0	104.9	133.3	138.3	165.4	195.1	209.9
9 Community, Social & Personal Services	100.0	102.8	102.8	117.9	135.8	149.1	154.7
All Industries	100.0	103.6	110.0	123.6	144.5	161.8	172.7
Female							
1 Agriculture, Forestry and Fishing	100.0	100.0	85.2	85.2	107.4	124.7	123.5
2 Mining and Quarrying	100.0	104.4	102.2	101.1	125.6	124.4	107.8
3 Manufacturing	100.0	105.5	116.4	138.2	163.6	183.6	196.4
4 Electricity, Gas, Water and Sanitary Services	100.0	97.7	88.0	108.0	134.7	144.0	166.7
5 Construction	100.0	107.1	120.0	131.4	148.6	161.4	195.7
6 Commerce	100.0	98.3	96.7	126.7	148.3	168.3	173.3
7 Transport, Storage & Communication	100.0	105.8	108.7	123.2	134.8	179.7	189.9
8 Finance, Insurance, Real Estate and Business Services	100.0	108.8	104.4	120.6	129.4	166.2	166.2
9 Community, Social & Personal Services	100.0	97.5	110.1	125.3	132.9	172.2	163.3
All Industries	100.0	103.5	114.0	135.1	159.7	180.7	193.0

as a percentage of the weighted averages in base year, i.e. July 1970.

For each of the three series, separate index numbers have been computed for each of the nine Divisions and for All Industries combined, and also for males and females. All in all, there would be 30 index numbers by broad industry group and sex in each series. The computed indexes for the three series are presented in full in Tables 1-3.

Average Weekly Earnings

In order to obtain a better appreciation of the movements in the index of average weekly earnings one must relate these movements to the annual recommendations of the NWC. A summary of these recommendations is presented below: —

Period	Private Sector	Public Sector
July 1972 to June 1973	6% (without offsetting of annual increments)	—
July 1973 to June 1974	9% (with varying rates of offsetting depending on wage income)	9% (without offsetting)
July 1974 to June 1975	\$40 + 6% (without offsetting)	\$40 + 6% (without offsetting for wages less than \$1,000 per month)
July 1974 to June 1975	\$40 + 10% (for those without annual increment)	10% (without offsetting for wages exceeding \$1,000 per month)
July 1975 to June 1976	6% (with full offsetting of annual increment provided those on incremental scales received a	6% (with full offsetting of annual increment provided those on incremental scales received a minimum increase after

minimum increase after offsetting of 3%. For those at the maximum of their pay scales, the wage increase was 3%)	offsetting of 3%. For those at the maximum of their pay scales, the wage increase was 3%)
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With regard to the effect of the above recommendations on the index, two points need to be clarified and emphasized. Firstly, there is 100 percent implementation of the recommendations for employees in government service, almost 100 percent for employees in statutory bodies, and much less than 100 percent for employees in private establishments. Secondly, the recommendations refer to wage increases awarded during the period 1 July-30 June, and hence the full effect of the recommendations announced in a particular year will only be felt by the index in the following year.

Over the six-year period from July 1970 to August 1976 the average earnings of blue-collar workers in Singapore have undergone a marked upward trend, the index being regularly pushed up from the base period to 170.1 in August 1976. However, the increase in the index has not been uniform over the period. After the modest rise by 4-6 percent in the first two years, the index shot up by 10.9 percent in 1973 as the impact of the NWC recommendations began to take effect. In the third year of the NWC the increase was further accelerated to 15.4 percent, and then slackened somewhat to 14.0 percent in 1975. The pronounced rise in index in the context of the recession during these years raised some fears about Singapore pricing her products out of the export markets. The call for moderation in wage increases resulted in the NWC recommending a smaller quantum of increase for July 1975-June 1976, which explains the rise in the index of only 5.7 percent in 1976.

The immediate future will probably see a continuation of the moderate rise in the earnings index. At least this will be true for the index in 1977 and 1978. For July 1976-June 1977, the NWC recommended a 7 percent increase with full offsetting of annual

increments but on the basis of total wage bill in the public and private sectors. For July 1977-June 1978, the NWC has just recommended an increase of 6 percent with full offsetting against annual increments and all forms of remunerations except central provident fund contribution, overtime and fringe benefits.

A closer inspection of Table 1 brings out the considerable variations in the magnitude of rise in earnings received by the blue-collar workers in the nine different industry groups. Those employed in the finance, insurance, real estate and business services enjoyed the largest increase in earnings, the index touching 246.9 by the end of the period in August 1976. In contrast, the smallest gain was obtained by the blue-collar workers in the mining and quarrying industries. Interesting variations also exist between the male blue-collar workers and the female blue-collar workers, as can be observed by a comparison of the figures in Table 1. The index for All Industries shows that over the six-year period the female blue-collar workers benefited by a 89 percent rise in their earnings as compared with the 75 percent for their male counterparts. In the early 1970s the increasing proportion of women who entered the labour force were able to secure jobs in new industries offering relatively higher wages.

Table 4

Index of Average Weekly Earnings

Period	Index	Absolute Increase	Percentage Increase
July 1970	100.0	—	—
July 1971	104.4	4.4	4.4
July 1972	110.3	5.9	5.7
July 1973	122.3	12.0	10.9
July 1974	141.1	18.8	15.4
August 1975	160.9	19.8	14.0
August 1976	170.1	9.3	5.7

Average Weekly Hours

As mentioned earlier, the index of average weekly earnings measures the total earnings of workers during the reference week as determined by, among other factors, the number of hours they actually worked during the week. It is therefore important to ascertain whether the rise in earnings was in any way contributed by an increase in the hours worked, and in this connection we will examine the index of average weekly hours summarized in Table 5. Over the same six-year period, the hours of work put in by the blue-collar workers did not appear to have changed very much, the index moving up from the base period to 101.8 in July 1972, and then downwards to 99.5 in July 1975. Thereafter, it stabilized at 100.1 until August 1976. The 1972 peak reflected the considerable overtime worked by the blue-collar workers during the high level of economic activity prior to the oil crisis. The decline registered in 1973 and worsened further in 1974 is an indication of the cancellation of most overtime and even reduction in normal hours in some industries during these recessionary years.

Table 5
Index of Average Weekly Hours

Period	Index	Absolute Increase	Percentage Increase
July 1970	100.0	—	—
July 1971	101.3	1.3	1.3
July 1972	101.8	0.5	4.9
July 1973	101.0	-0.8	-7.9
July 1974	99.5	-1.5	-14.9
August 1975	100.1	0.6	6.0
August 1976	100.1	0.0	0.0

The somewhat stable position is not surprising because in most industries the blue-collar workers are required to work a fixed

number of hours per week. Variable hours of work exist to a limited extent in establishments where the blue-collar workers are not unionized and in certain other places where the nature of the work necessitates irregular hours. Consequently, only small differences in the trend in average weekly hours are recorded by the blue-collar workers among the nine different industry groups, as to be seen in Table 2. The index has been relatively stable in manufacturing; commerce, and finance, insurance, real estate and business services. In the construction industry where the blue-collar workers often worked overtime during the building boom of the early 1970s, the index registered the greatest rise but even so by only 10 percent by July 1973. By and large, the blue-collar workers in Singapore have continued to work hard in terms of working hours in spite of the rapid rise in their average earnings.

Average Hourly Earnings

Though the index of average weekly hours can assist us to ascertain whether the rise in earnings is due to increased hours of work, a more convenient and precise measure which isolates this factor is the index of average hourly earnings shown in Table 3. A summary of the overall position is presented in Table 6. Over the six-year period the hourly earnings of blue-collar workers have risen by some 81 percent as compared with 70 percent in total earnings, evidence of the latter increase being engendered by a host of factors other than longer working hours. As expected the upward swing in hourly earnings was also not pronounced until July 1973.

Significant variations among industry groups are exhibited by the detailed figures shown in Table 3. By far the greatest rise in hourly earnings was enjoyed by the blue-collar workers in electricity, gas, water and sanitary services where a gain of 125 percent was achieved during the six years. The second largest gain, 105 percent, was received by those in finance, insurance, real estate and business services, followed very closely by workers in the transport, storage and communications industry. In the rapidly

Table 6
Index of Average Hourly Earnings

<i>Period</i>	<i>Index</i>	<i>Absolute Increase</i>	<i>Percentage Increase</i>
July 1970	100.0	—	—
July 1971	103.1	3.1	3.1
July 1972	108.3	5.2	5.0
July 1973	120.8	12.5	11.5
July 1974	141.7	20.9	17.3
August 1975	160.4	18.7	13.2
August 1976	180.7	20.3	12.7

expanding manufacturing sector a modest rise of 19 percent was benefited by the blue-collar workers. The smallest gain in hourly earnings was obtained by those in mining and quarrying (39 percent), in community, social and personal services (54 percent), and in agriculture, forestry and fishing (55 percent). Blue-collar workers in construction received 62 percent, those in commerce 60 percent, and those in manufacturing 70 percent.

Some very interesting features between the male blue-collar workers and the female blue-collar workers are also revealed by a comparison of the figures in Table 3. According to the index for All Industries a gain of 93 percent in the hourly earnings of the female blue-collar workers was attained during the six years as against the 73 percent for their male counterparts. This is a reflection of the availability of better paid jobs for women during the early 1970s when acute labour shortages were experienced by many sectors of the fast growing economy. Women were able to secure new jobs with good pay in the new industries and to take over higher-paid jobs traditionally reserved for men.⁸ Not surprisingly, gains in the hourly earnings of female blue-collar workers during the years amounted to 96 percent in manufac-

⁸Cheng Siok Hwa, "Singapore Women: Legal Status, Educational Attainment, and Employment Pattern", *Asian Survey*, 17:4, 1977.

turing as well as in construction, 90 percent in transport, storage and communications, and 63 percent in community, social and personal services – in all cases greater than their male counterparts. In the other four industry groups the hourly earnings of the female blue-collar workers registered not only a lower increase but also a slower rate of increase as compared with those of the male blue-collar workers.

Conclusion

The blue-collar workers in Singapore have experienced a rise of 70.1 percent in their index of average weekly earnings between July 1970 and August 1976, and in absolute terms this means an increase in their average earnings from S\$45.85 to S\$78.00 per week during this period. These workers have undoubtedly enjoyed some gains in their real income since the consumer price index has risen by only 51.5 percent from July 1970 to August 1976 as against the 70.1 percent rise in the earnings index during the same period.

In view of the Government policy to encourage youths to take up blue-collar jobs, it would be interesting to ascertain whether the rise in earnings of the blue-collar workers has been faster than that of the white-collar workers. Broad figures published in the annual *Economic Survey of Singapore* reveal that between July 1973 and August 1976 the earnings of blue-collar workers have increased at a faster rate.⁹ The index for blue-collar workers increased by 38.4 percent during this period as compared to the corresponding rise of 35.9 percent for white-collar workers.¹⁰ The somewhat small differential rate of increase suggests that more should be done for the blue-collar workers in terms of raising their level of earnings.

⁹In the three annual issues of the *Economic Survey of Singapore* so far published, the index of average weekly earnings is for three broad occupational groups and for All Occupations combined but not for any breakdown by industrial groups. The four index numbers, with July 1972 = 100, are available for July 1973, July 1974, October 1974, August 1975, November 1975 and August 1976.

¹⁰Ministry of Finance, *op. cit.*

It remains to be emphasized that this paper deals with the construction of wage index for blue-collar workers only. No doubt a more comprehensive account of the movements in earnings could be presented if similar detailed index numbers were constructed for the clerical, sales, services and related workers, for the professional, administrative, managerial and related workers, and more importantly for the All Occupations combined to give the national position. But the prerequisite data for the computation of these additional index numbers have not been made available, and it is hoped that such data would be published in due course so that a complete set of wage indexes can be constructed to study the trends and patterns of the earnings of all workers in Singapore.