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CENTER DISCUSSION PAPER NO. 12

ESTIMATION OF DAILY WAGES IN MANUFACTURING INDUSTRIES IN PRE-WAR JAPAN: A NOTE

R. Minami

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ESTIMATION OF DAILY WAGES IN MANUFACTURING INDUSTRIES IN PRE-WAR JAPAN: A NOTE

I. Introduction

Up to the present no sufficient data for industrial wages have been available for pre-war Japan. The writer has intended to present a new continuous series for industrial wages covering 1899 to 1939 with a breakdown of nine groups. This note details the estimating procedures for obtaining these series in terms of daily wages[1] of production workers in manufacturing industries. The estimation will be made both for manufacturing industries as a whole and for nine industry groups: Textiles, Metal and Metal Products, Machinery, Ceramics, Chemicals, Wood and Wood Products, Printing and Binding, Food, and Miscellaneous. Furthermore the average wages for male and female workers, as well as the wage for male and female workers will be estimated.

The period of this estimation covers forty years, from 1899 to 1939. No single continuous data are available for this period. Taking into consideration the availability of raw materials, therefore, the period will be divided into two major sub-periods, 1899-1918 and 1922-1939, and the short intermediate period, 1919-1921. For the first sub-period, 1899-1918, the figures in the Statistics of Manufacture[Kōjō Tōkei-Hyō] compiled by the Ministry of Agriculture and Commerce in 1909 (the first) and 1914 (second) will be used as the benchmarks. The figures for other years are estimated by linking them with the annual data obtained from the Statistics of Agriculture and Commerce

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*The writer is very much obliged to Professors Kazushi Ohkawa and Mataji Umemura in Hitotsubashi University.

[1]The "daily wages" means total wage earnings including special payments. The concept of 'wage rates per hour' had not widely prevailed in pre-war Japan and the data for it cannot be obtained consistently. Therefore, in this note, the writer adopted 'wage earnings per day' as the most appropriate term, following the conventional way in Japan.

[Nōshōmu Tōkei-Hyō] compiled by the Ministry of Agriculture and Commerce. For the second sub-period, 1922-1939, the triennial figures in the Survey of Labor Statistics [Rōdō Tōkei Jitchi Chōsa] compiled by the Bureau of Statistics are used as the benchmarks. The figures for other years will be estimated by linking them with the annual series of the Labor Statistics [Rōdō Tōkei] by the Bank of Japan. These two series for the period 1899-1918 and 1922-1939 are linked with each other by using the figures obtained from the Annual Statistics of Tokyo City [Tokyo-Shi Tōkei Nenpyō] and the Statistics of Osaka City [Osaka-Shi Tōkei-Sho]. In the procedures mentioned above the figures by sex and by industry group in the six statistics are used.

In these statistics, however, there are some inconsistencies to be adjusted through these statistics. First, some statistics give the wages by age groups but not the average figures for them. Second, some statistics give the wages for male and female separately but not the averages of them. Third, classification of industries into industry groups is not consistent among them. Hence, regarding these statistics, the average wages for all ages, and the averages for both sexes should be estimated for each industry. Next we should classify them into the nine industry groups, following the standard classification of industries.[2]

II. Estimation for Individual Statistics

1) Statistics of Agriculture and Commerce, 1899-1918

The Statistics of Agriculture and Commerce gives the daily wages of production workers (only those of factories including ten or more workers), by

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[2]The standard classification is that of the Special Population Census and the Establishment Census in 1947 ([1], pp. 140-153).

age group (fourteen or more years old and less than fourteen), and by industry. They do not give the average figures for all age groups. These figures are to be estimated as the weighted averages of the wages for individual age groups using the number of production workers as the weights. This calculation is to be made by sex for all industries. Next, the industries are to be classified following the standard classification. In doing so the figures for the number of workers by sex and by industry is needed. These can be obtained from the same statistics. All procedures required were already completed by M. Umemura [2]. The results (summarized in Table 1) are used for our purpose.

2) Statistics of Manufacture, 1909 and 1914

The Statistics of Manufacture in 1909 and 1914 gives the daily wages of production workers and the number of them.[3] These figures are tabulated by age group (fourteen or more and less than fourteen), by sex, by the number of workers of factories (excluding the factories with less than four workers), and by industry.

The procedures of estimation previously used for the Statistics of Agriculture and Commerce are required again. These were done by M. Umemura and A. Nakamura, and we have the figures by sex and by industry group [5]. The results are shown in Table 1.

3) Survey of Labor Statistics, 1924, 1927, 1930, 1933 and 1936

The Survey of Labor Statistics in 1924, 1927, 1930 and 1933 gives the daily wages of workers belonging to the factories with thirty or more workers.

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[3]The Statistics of Manufacture for 1919-1928 gives the 'number of factories by the daily wages of production workers.' From these statistics, M. Umemura and A. Nakamura estimated the wages by industry group [6]. But we will not use them in our estimation because of the inadequate nature of these statistics.

The statistics in 1936 are for the factories with fifty or more workers.[4] They do not show the average wages for both sexes. These wages are estimated by industry. After arranging the industries according to the standard classification of industries, we estimate the wages for the manufacturing industries as a whole and for the nine industry groups. The estimates are shown in Table 2.[5]

4) Labor Statistics, 1922-1939

The Labor Statistics shows monthly the wages of private factories including forty to fifty or more workers and all public factories. This survey begins in November of 1921 and in June of 1923, for the private and the public factories respectively, and ends in August of 1939. Both the contract wages and the total earnings including special payments are shown. The latter for private factories is adopted for our estimation, as I assume that this corresponds to the 'daily wages' previously used.

a. Average Wages for All Manufacturing Industries

The Historical Statistics of Industrial Relations in Japan [1] shows the annual figures of daily wages by sex for manufacturing industries as a whole.

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[4]The latest Survey of Labor Statistics in 1939 was not published as the wage statistics were concerned. The Special Survey of Labor Statistics [Rinji Rōdō Tōkei Jitchi Chōsa] in 1938 shows the wages for the factories including five or more workers. Because of the big wage differentials between small-scale and large-scale factories, the figures in the special survey are not continuous to the ordinary survey. (The special survey gives the figures for fifty or more workers factories at the same time. However, these figures are tabulated only by industry group, the figures by industry not being given. Furthermore, the special survey does not give the figures for 'Textiles.') These are the reasons why we do not use the data in the special survey.

[5]Comparing the estimates of wages by industry group from the Survey of Labor Statistics with these from the Labor Statistics (see the next section), they are closely related with each other. The wages for both sexes in 'Printing and Binding' in 1933 show, however, big gaps between the two estimates. Therefore the original estimates for this industry in 1933 are adjusted by the estimates from the Labor Statistics. The adjusted figures are shown in parentheses in Table 2.

These annual figures are obtained by making simple averages of monthly figures for daily wages in the Labor Statistics. We use them in our estimation. The Historical Statistics does not show, however, the average figures for male and female as totals. We should estimate these figures as the weighted averages of the figures for male and those for female using the number of production workers as the weights. The annual figures for the number of workers are simple averages of the monthly figures obtained from the statistics.[6] The estimated figures are shown in parentheses in Table 3.

b. Wages for Individual Industry Groups

This estimation will be made in such a manner that we can utilize the annual figures by industry given in the Historical Statistics as far as possible. The table below shows our estimating procedures. In the left side, our nine major industry groups are shown. In the right side, the industries noted with ' ' are the individual industries and those noted with " " are the major industry groups in the Labor Statistics and the Historical Statistics. For the industries noted with double asterisks, the annual figures are available from the Historical Statistics for the entire period. For the industries with a single asterisk, the Historical Statistics gives the annual figures for the years 1926-1939. Therefore, for the industries without asterisks and for the industries with single asterisks (1922-1925 only), the monthly figures

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[6]For 1939, the number of workers is obtained only for three months, from January to March. The figures for this year are the averages of the figures for these three months.

(1)	Textiles	= "Dyeing and Weaving"** + 'Clothing and Sewing' + 'Hats'
(2)	Metal and Metal Products	= 'Metal Products'*
(3)	Machinery	= 'Machinery'* + 'Vessels'* + 'Vehicles'* + 'Tools'* + 'Parts of Weaving Machines'
(4)	Ceramics	= 'Ceramics'*
(5)	Chemicals	= "Chemicals"** - 'Ceramics'*
(6)	Wood and Wood Products	= 'Lumbering and Furnitures'*
(7)	Printing and Binding	= 'Printing and Binding'*
(8)	Food	= "Beverages and Food"**
(9)	Miscellaneous	= 'Paper Products' + 'Leather Products' + 'Ropes and Nets' + 'Stationeries' + 'Miscellaneous.'

obtained from the Labor Statistics are averaged for our use.[7] Hence we have the annual wages by sex for all industries shown in the right side of the table. Next we estimate the average wages for both sexes. Of course they are estimated as weighted averages of the wages for both sexes. For the weights, the number of production workers at the end of December is used.[8]

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[7] In the Labor Statistics for 1922 and for January of 1923, the daily wages are shown by five regional districts and by juveniles and adults. The weighted averages for all districts and for all age groups should be estimated for every month. In this estimation, the number of production workers by district and by age group is used as the weights. 'Lumbering and Furnitures' shows a doubtful figure for female wages in 1922, and is not used in our estimation. We estimate it by using its ratio to male wages in the same industry in 1921.

[8] For 1939 only, the number of workers at the end of March is used. For the eight industries shown below, the Labor Statistics gives only the total of the number of male and female workers. But they do not give separately the number of male and that of female for the entire period with the exception of 1922:

'Clothing and Sewing,' 'Hats,' 'Parts of Weaving Machines,' 'Paper Products,' 'Leather Products,' 'Ropes and Nets,' 'Stationeries' and 'Miscellaneous.'

(continued on following page)

Next we estimate the wages for nine individual industry groups shown in the left side of the table. In this estimation, the number of workers in December is used as the weights. Estimates are shown in Table 3.[9]

5) Annual Statistics of Tokyo City, 1917-1922

The Annual Statistics of Tokyo City shows the daily wages for production workers by sex and by industry for all manufacturing factories in Tokyo. The figures for wages by sex and by industry are tabulated individually for the following four types of factories:

A. Factories with motive power and including ten or more production workers,

B. Factories with motive power and including less than ten production workers,

C. Factories without motive power and including ten or more production workers, and

D. Factories without motive power and including less than ten production workers.

(footnote 8 continued from previous page)

These industries are all included in the industry group "Miscellaneous" in the Labor Statistics. For this industry group as a whole, the figures for the number of workers by sex are obtained for the entire period. By using the figures in December we calculate the annual ratios of male to female workers. Multiplying these sex ratios with the total number of workers of each industry shown above, we obtain the annual figures for the number of male workers for this industry. For the following eight industries, we have not the number of workers by sex for the years 1923-1926:

'Metal Products,' 'Machinery,' 'Vessels,' 'Vehicles,'
'Tools,' 'Ceramics,' 'Lumbering and Furnitures' and
'Printing and Binding.'

For these industries, we calculate the sex ratios for the years 1922 and 1927. By interpolating these ratios, we estimate the sex ratios for the years 1923-1926. Multiplying these ratios for the eight industries with the total number of workers for the corresponding industries, we get the number of male workers for them.

[9]The average wages for all industries were previously estimated. They can be obtained in a different way. Weighting the wages for the nine individual industry groups with the number of workers in the end of the year, we actually obtain the average wages for all industries as a whole. The results are shown in Table 3 as a reference.

We should estimate the average wages of these types by sex and by industry. In this estimation, the number of production workers at the end of the year by sex, by industry and type is used as weights. These figures are available from the same statistics.[10]

The next step of estimation is to rearrange the industrial classification. Rearrangement is made in the following way:

(1)	Textiles	= "Dyeing and Weaving"
(2)	Metal and Metal Products	= 'Metal Products' + 'Refining'
(3)	Machinery	= "Machinery" - 'Metal Products'
(4)	Ceramics	= 'Ceramics'
(5)	Chemicals	= "Chemicals" - 'Ceramics' - 'Lacquered Ware'
(6)	Wood and Wood Products	= 'Wood and Bamboo Products'
(7)	Printing and Binding	= 'Printing and Binding'
(8)	Food	= "Beverages and Food"
(9)	Miscellaneous	= "Miscellaneous" + 'Lacquered Ware' - 'Wood and Bamboo Products' - 'Printing and Binding'

The notations in this table are the same as those used in the previous section. The wages by sex for the industry groups (1), (4), (6), (7) and (8) are obtained from the Annual Statistics of Tokyo City. For the other industry groups, that is (2), (3), (5) and (9) we should estimate the wages by sex using the figures for the individual industries shown in the right side. Next, from these estimates by sex and by industry group, we estimate the average wages by sex for all industries as a whole. These statistics do not show the average wages for both sexes. They should be estimated both for the manufacturing in-

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[10] In addition, the figures for 1917 and 1918 are shown by three age groups; less than eleven, twelve to fourteen, and fifteen or more years old. Therefore, for these years, we should estimate the average wages for these three age groups by sex, by industry and by type of factory.

dustries as a whole and by nine major industry groups.[11] In these estimations above, the number of production workers by sex and by industry at the end of the year is used as weights. The estimates are indicated in Table 4.

6) Statistics of Osaka City, 1917-1922

The Statistics of Osaka City gives the daily wages by sex and by industry. They cover all the manufacturing factories in the city. The estimating procedures are, in principle, similar to those for Tokyo. But the rearrangement of industrial classification is as follows:

(1)	Textiles	= "Dyeing and Weaving"
(2)	Metal and Metal Products	= 'Metal Products' + 'Refining'
(3)	Machinery	= "Machinery" - 'Metal Products' + 'Measuring Instruments'
(4)	Ceramics	= 'Ceramics'
(5)	Chemicals	= "Chemicals" - 'Ceramics'
(6)	Wood and Wood Products	= 'Lumbering' + 'Joinery' + 'Turnery' (1917-1920) or 'Wood, Bamboo, Bines Products' (1921-1922)
(7)	Printing and Binding	= 'Printing and Binding'
(8)	Food	= 'Beverages and Food'
(9)	Miscellaneous	= "Miscellaneous" - 'Printing and Binding' - (6)

In this estimation, the number of production workers at the end of the year by sex and by industry is used as weights. They are available from the same statistics. The estimates are shown in Table 5.[12]

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[11] Examining the estimates, we find that the wages of both sexes for the last industry group (9) are in extremely low levels for 1919. We believe they are doubtful and the averages of the figures for 1918 and those for 1920 are taken as substitutes for them. The average wages by sex and those for both sexes for all manufacturing industries are revised accordingly. These estimates are shown in parentheses in Table 4.

[12] The male wage for industry group (9) in 1918 is, however, not continuous to those in 1917 and 1919. This is assumed as the average of the figures for 1917 and 1919. Therefore the average wage for both sexes in this industry group and the average wages for male and both sexes for all manufacturing industries should be altered. These revised figures are shown in parentheses in the same table.

III. Linking of the Previous Partial Estimates

In Part II we estimated the daily wages for production workers by sex and by industry group individually from the separate basic sources. Now we are going to link these individual estimates in order to get one consistent series covering the years 1899-1939 by sex and by industry group.

1) Series for 1899-1918

For the years 1899-1918, we take the estimates from the Statistics of Manufacture (Table 1) in 1909 and 1914 as the benchmarks. Figures for the other years are estimated by linking the estimates from the Statistics of Agriculture and Commerce (Table 1) with those for benchmark years. That is, we calculate the ratios of the wages obtained from the Statistics of Manufacture to those from Statistics of Agriculture and Commerce for the benchmark years. The ratios for the years 1899-1908 are assumed to be equal to the ratio in 1909 (the first benchmark year). For the years 1915-1918, they are assumed in the 1914 level (the second benchmark). For the intermediate years, 1910-1913, they are estimated by linearly interpolating the ratios in the benchmark years. And multiplying these ratios with the wages from the Statistics of Agriculture and Commerce for the periods 1899-1908, 1910-1913 and 1914-1918, we obtain the estimates for these periods. Conceptually the estimates are the daily wages for the factories including five or more production workers.

The estimating procedures explained above are applied to all manufacturing industries and individually to each industry group. Of course these calculations are made individually for male and female and for their totals.

2) Series for 1922-1939

The estimates from the Survey of Labor Statistics (Table 2) in 1924, 1927, 1930, 1933 and 1936 are used as the benchmarks. For other years, the wages are estimated by linking these benchmarks with the figures obtained from the Labor Statistics (Table 3).[13] The linking procedures are similar to those for the period 1899-1918 explained in the previous section. The results are the daily wages of the production workers in the factories including thirty or more of them.

3) Linking of Two Series

Now we have the two series for 1899-1918 and 1922-1939 by sex and by industry group respectively. These two series are linked with each other by taking into consideration the movements in the wages in the two cities, Tokyo and Osaka, for the intermediate years, 1919-1921. At first, we estimate the weighted averages of the estimates from the two sources: the Annual Statistics of Tokyo City (Table 4) and the Statistics of Osaka City (Table 5), by sex and industry group. The weights are the numbers of production workers in the two cities by sex and by industry group.[14] The estimates are shown in Table 6.[15] But the composition ratios of production workers among industry groups in Tokyo-Osaka Cities are somewhat different from those for all Japan. Therefore we estimate the average wages of all industry groups by using the weights for all Japan. The number of production workers was obtained from the Statistics of Manufacture in 1919-1922.[16] The estimates are given in the last column of

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[13] For 1933, the estimates shown in parentheses are used.

[14] As to these figures, see Part II, 5) and 6).

[15] The estimates shown in parentheses are corresponding to the figures in parentheses of Table 4 and Table 5.

[16] For the years 1917-1918, the figures for 1919 are used.

Table 6. Next, we calculate the ratios of the wages in the first series to the wages of Tokyo-Osaka Cities for 1918.[17] And the ratios of the wages of Tokyo-Osaka Cities to those in the second series are also calculated for 1922. Linearly interpolating the ratios for 1918 and 1922, we get the estimated ratios for the intermediate years for 1919-1921. By multiplying them with the wages of Tokyo-Osaka Cities, we get the estimated wages for the intermediate years. These estimating procedures are applied to all manufacturing industries and both sexes. The results are shown in Table 7.[18]

Here it must be noted that the first series are for the factories with five or more workers, while the second series, for the thirty or more workers factories. For the years covered with the first series, it is generally known that the sizable wage differentials do not exist between small-scale and large-scale factories. The first series can be more or less safely interpreted as to be linked with the second series, so that our estimates during 1899-1939 can be taken as the estimates for the factories with thirty or more workers.

4) Comparison with Previous Estimates

The solid lines in Chart I depict our estimates by sex for all manufacturing industries. They show a slight increasing trend from 1899 to around 1915

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[17] For the years 1917-1918, the figures for 1919 are used.

[18] For the average wages of all industries, we use the estimates obtained by using the nation-wide weights. The figures shown in parentheses are those estimated by means of linking with the estimates from the Statistics of Manufacture in 1919-1922. That is, we calculate the ratios of the wages in the second series to the wages from the Statistics of Manufacture for 1922 (by sex and by industry group). Multiplying the ratios with the estimates from these statistics for 1919-1921 (by sex and by industry group), we obtain the wages for the intermediate period (by sex and by industry group).

or 1916. Thereafter they show a rapid increase, reflecting the boom during World War I up to the year 1919. After this year they are almost unchanged and turned out to decrease almost through the 1920's--an unsettled period of the Japanese economy. They turn to increasing trends in about 1937 after the constant trends for several years. With respect to the pattern of wage movements mentioned above, no sizable difference can be seen between male and female wages, except a notable fact that during the latter part of the twenties the female wages dropped much more sharply than the male ones.

In this chart, the two previous estimates are drawn for the convenience of comparison with our estimates. The previous estimates are all by M. Umemura (average wages for all industries only). The first estimates are the weighted averages of the twenty occupational wages obtained from the statistics compiled by the Ministry of Commerce and Industry ([4], p. 194). These estimates are depicted by the dotted line. They are higher than our estimates for almost all the years. The reason is that the survey of occupational wages are inclined to rather high skilled laborers. The long-term trends are similar, however, between our estimates and Umemura's first estimates. An important difference is that the former shows the turning points in 1919, while the latter in 1920. In this respect our estimates seem to be reasonable, if we take into consideration the fact that the year 1919 is the turning point of the economy from the post-war boom to depression. The second estimates by Umemura, depicted by the broken line, are very similar to our estimates in the estimating procedures and consequently in the results. The estimating procedures for 1899-1918 are entirely the same as those of our estimates. For 1922-1939, they are almost the same. But in the Umemura estimates, the

figures of the Special Survey of Labor Statistics in 1938 are used ([4], pp. 75-76),[19] but not in our estimates. Umemura's estimation for the intermediate period, 1919-1921, is similar to ours. But he links the two series with each other by using the wages of Tokyo City only. Furthermore, the weights of individual industry groups are those for Tokyo City. On the other hand, in our estimation, two statistics for wages in Tokyo and Osaka are used. And the weights are not regional but for all Japan. Umemura's estimates deviate from our estimates for several years around 1920. That is, they increase continuously for these years. In this respect, our estimates with turning points in 1919 might be more realistic. Another deviation is found for the years after 1937. In my opinion it may be more reasonable not to use the figures of the special survey in 1938.[20] The reason is that 'Textiles' is not included in this survey.[21]

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[19] The figures are not yet published.

[20] Furthermore, we examine the industrial wages by sex obtained from the Survey of Labor Statistics, the Labor Statistics, the Statistics of Tokyo City, and the Statistics of Osaka City, and give some modifications to them. This is one of the reasons for the gaps between our estimates and the Umemura estimates.

[21] See footnote 4.

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TABLE I(1) Both Sexes

Daily Wages of Production Workers in Manufacturing Industries by Industry Group and Sex--Estimates from STATISTICS OF MANUFACTURE and STATISTICS OF AGRICULTURE AND COMMERCE

(unit: yen)

Statistics of Manufacture	Textiles	Metal & Metal Products	Machinery	Ceramics	Chemicals	Wood & Wood Products	Printing & Binding	Food	Miscel-laneous	All Manufac-turing
1909	0.27	0.50	0.60	0.44	0.34	0.48	0.40	0.39	0.35	0.33
1914	0.30	0.59	0.69	0.47	0.40	0.51	0.43	0.46	0.38	0.38
1919	0.96	1.65	1.83	1.54	1.26	1.64	1.50	1.40	1.21	1.22
1920	0.88	1.74	1.87	1.50	1.26	1.66	1.67	1.42	1.22	1.19
1921	0.98	1.88	2.02	1.63	1.38	1.76	1.82	1.42	1.34	1.28
1922	0.97	1.95	2.08	1.56	1.35	1.75	1.94	1.33	1.29	1.32
1923	0.98	1.99	2.23	1.66	1.39	1.82	1.84	1.39	1.35	1.34
1924	1.01	2.03	2.25	1.66	1.43	1.85	1.90	1.43	1.36	1.38
1925	1.02	2.02	2.21	1.60	1.42	1.82	1.91	1.43	1.34	1.36
1926	0.97	2.00	2.17	1.52	1.39	1.70	1.90	1.41	1.29	1.32
1927	0.96	1.98	2.16	1.49	1.38	1.74	1.87	1.39	1.28	1.32
1928	0.94	1.98	2.18	1.48	1.40	1.73	1.88	1.39	1.26	1.32

(continued on following page)

TABLE I(1), continued

Statistics of Agriculture and Commerce	Textiles	Metal & Metal Products	Machinery	Ceramics	Chemicals	Wood & Wood Products	Printing & Binding	Food	Miscel-laneous	All Manufac-turing
1899	0.19	0.33	0.47	0.32	0.19	0.28	0.28	0.24	0.24	0.22
1900	0.19	0.37	0.52	0.34	0.21	0.32	0.30	0.25	0.29	0.24
1901	0.19	0.42	0.49	0.34	0.21	0.32	0.29	0.25	0.26	0.24
1902	0.20	0.41	0.53	0.35	0.16	0.36	0.29	0.27	0.29	0.23
1903	0.20	0.40	0.54	0.36	0.23	0.36	0.29	0.22	0.26	0.24
1904	0.19	0.44	0.55	0.35	0.24	0.37	0.30	0.29	0.27	0.25
1905	0.20	0.42	0.57	0.38	0.25	0.37	0.29	0.27	0.27	0.26
1906	0.21	0.45	0.50	0.38	0.27	0.41	0.30	0.28	0.24	0.27
1907	0.23	0.47	0.66	0.44	0.31	0.43	0.32	0.32	0.29	0.30
1908	0.26	0.52	0.61	0.50	0.30	0.45	0.36	0.40	0.32	0.32
1909	0.27	0.51	0.61	0.44	0.33	0.46	0.39	0.41	0.35	0.33
1910	0.27	0.50	0.64	0.44	0.33	0.46	0.36	0.27	0.35	0.32
1911	0.27	0.54	0.68	0.46	0.34	0.48	0.37	0.41	0.36	0.34
1912	0.27	0.56	0.66	0.47	0.37	0.49	0.46	0.45	0.35	0.35
1913	0.29	0.56	0.67	0.47	0.40	0.51	0.45	0.44	0.38	0.37
1914	0.29	0.55	0.66	0.47	0.40	0.49	0.44	0.47	0.37	0.36
1915	0.28	0.54	0.70	0.47	0.38	0.47	0.40	0.45	0.38	0.36
1916	0.30	0.58	0.72	0.49	0.40	0.51	0.41	0.46	0.40	0.39
1917	0.36	0.68	1.07	0.58	0.49	0.63	0.49	0.54	0.49	0.52
1918	0.52	0.93	1.32	0.84	0.69	0.90	0.63	0.76	0.67	0.71

TABLE I(2) Male

Statistics of Manufacture	Textiles	Metal & Metal Products	Machinery	Ceramics	Chemicals	Wood & Wood Products	Printing & Binding	Food	Miscel-laneous	All Manufac-turing
1909	0.40	0.53	0.61	0.48	0.45	0.51	0.43	0.46	0.47	0.48
1914	0.46	0.62	0.70	0.51	0.53	0.55	0.46	0.50	0.49	0.54
1919	1.28	1.76	1.88	1.70	1.53	1.80	1.63	1.53	1.54	1.61
1920	1.23	1.83	1.92	1.65	1.54	1.79	1.80	1.54	1.57	1.63
1921	1.34	1.99	2.06	1.78	1.68	1.90	1.95	1.53	1.75	1.72
1922	1.38	2.05	2.13	1.71	1.65	1.89	2.08	1.55	1.72	1.79
1923	1.39	2.08	2.28	1.83	1.67	1.97	1.99	1.59	1.78	1.85
1924	1.42	2.13	2.31	1.83	1.73	1.99	2.05	1.64	1.79	1.88
1925	1.40	2.12	2.27	1.76	1.73	1.95	2.06	1.63	1.76	1.85
1926	1.37	2.08	2.24	1.69	1.69	1.87	2.03	1.60	1.69	1.81
1927	1.37	2.07	2.22	1.65	1.68	1.85	2.01	1.57	1.67	1.81
1928	1.35	2.07	2.24	1.65	1.70	1.83	2.01	1.57	1.65	1.81

(continued on following page)

TABLE I(2), continued

Statistics of Agriculture and Commerce	Textiles	Metal & Metal Products	Machinery	Ceramics	Chemicals	Wood & Wood Products	Printing & Binding	Food	Miscel-laneous	All Manufac-turing
1899	0.30	0.36	0.48	0.35	0.28	0.35	0.30	0.32	0.33	0.34
1900	0.29	0.41	0.54	0.36	0.30	0.37	0.32	0.33	0.42	0.38
1901	0.29	0.45	0.50	0.37	0.31	0.37	0.31	0.34	0.39	0.37
1902	0.29	0.43	0.53	0.38	0.25	0.42	0.30	0.36	0.42	0.36
1903	0.29	0.43	0.55	0.39	0.34	0.41	0.31	0.28	0.40	0.37
1904	0.30	0.47	0.56	0.38	0.34	0.42	0.31	0.37	0.43	0.41
1905	0.31	0.45	0.58	0.42	0.35	0.45	0.31	0.37	0.43	0.41
1906	0.33	0.48	0.51	0.42	0.38	0.48	0.33	0.37	0.40	0.41
1907	0.36	0.49	0.67	0.48	0.43	0.50	0.35	0.40	0.41	0.48
1908	0.41	0.56	0.63	0.54	0.41	0.51	0.39	0.53	0.45	0.50
1909	0.40	0.54	0.62	0.47	0.44	0.49	0.42	0.48	0.48	0.48
1910	0.40	0.54	0.65	0.47	0.44	0.52	0.38	0.46	0.49	0.48
1911	0.41	0.58	0.69	0.50	0.44	0.53	0.41	0.48	0.52	0.51
1912	0.42	0.59	0.68	0.51	0.49	0.55	0.49	0.49	0.49	0.53
1913	0.43	0.59	0.69	0.51	0.53	0.56	0.49	0.48	0.53	0.54
1914	0.43	0.59	0.67	0.51	0.52	0.55	0.48	0.51	0.50	0.53
1915	0.43	0.59	0.72	0.52	0.50	0.53	0.43	0.48	0.52	0.54
1916	0.45	0.61	0.74	0.54	0.51	0.57	0.44	0.50	0.54	0.57
1917	0.53	0.73	1.10	0.63	0.60	0.71	0.54	0.59	0.65	0.75
1918	0.73	1.00	1.35	0.92	0.83	1.01	0.68	0.84	0.87	1.00

TABLE I(3) Female

Statistics of Manufacture	Textiles	Metal & Metal Products	Machinery	Ceramics	Chemicals	Wood & Wood Products	Printing & Binding	Food	Miscel-laneous	All Manufac-turing
1909	0.25	0.25	0.26	0.24	0.21	0.23	0.22	0.21	0.22	0.24
1914	0.27	0.27	0.29	0.26	0.24	0.25	0.26	0.28	0.25	0.27
1919	0.89	0.81	0.80	0.85	0.79	0.78	0.87	0.84	0.77	0.88
1920	0.81	0.85	0.84	0.82	0.78	0.81	0.96	0.83	0.78	0.81
1921	0.89	0.92	0.95	0.90	0.86	0.82	1.09	0.83	0.86	0.89
1922	0.86	0.98	1.00	0.85	0.84	0.80	1.16	0.83	0.84	0.86
1923	0.89	0.98	1.05	0.89	0.86	0.83	1.09	0.92	0.88	0.89
1924	0.92	0.98	1.08	0.89	0.90	0.81	1.14	0.92	0.90	0.92
1925	0.93	0.94	1.08	0.86	0.87	0.84	1.17	0.93	0.89	0.93
1926	0.88	0.95	1.04	0.84	0.84	0.80	1.15	0.87	0.86	0.88
1927	0.86	0.94	1.06	0.79	0.84	0.76	1.11	0.87	0.84	0.86
1928	0.84	0.91	1.04	0.78	0.85	0.79	1.12	0.88	0.84	0.85

(continued on following page)

TABLE I(3), continued

Statistics of Agriculture and Commerce	Textiles	Metal & Metal Products	Machinery	Ceramics	Chemicals	Wood & Wood Products	Printing & Binding	Food	Miscel-laneous	All Manufac-turing
1899	0.17	0.14	0.16	0.17	0.13	0.16	0.14	0.15	0.15	0.17
1900	0.18	0.19	0.18	0.19	0.13	0.17	0.16	0.15	0.17	0.17
1901	0.18	0.19	0.17	0.19	0.13	0.18	0.15	0.16	0.17	0.17
1902	0.18	0.16	0.21	0.19	0.11	0.18	0.16	0.17	0.17	0.17
1903	0.18	0.18	0.22	0.20	0.14	0.18	0.16	0.17	0.15	0.18
1904	0.18	0.19	0.20	0.19	0.14	0.19	0.16	0.19	0.15	0.18
1905	0.18	0.18	0.21	0.20	0.16	0.18	0.16	0.17	0.17	0.18
1906	0.19	0.17	0.21	0.21	0.17	0.19	0.18	0.17	0.17	0.19
1907	0.21	0.22	0.23	0.24	0.19	0.23	0.20	0.20	0.20	0.21
1908	0.24	0.24	0.25	0.24	0.17	0.21	0.20	0.19	0.22	0.23
1909	0.25	0.24	0.26	0.24	0.20	0.23	0.22	0.22	0.22	0.24
1910	0.25	0.24	0.26	0.25	0.20	0.23	0.20	0.20	0.23	0.24
1911	0.25	0.27	0.28	0.26	0.21	0.24	0.20	0.21	0.23	0.24
1912	0.25	0.26	0.27	0.27	0.22	0.25	0.29	0.24	0.24	0.25
1913	0.27	0.27	0.29	0.26	0.23	0.25	0.27	0.25	0.25	0.26
1914	0.26	0.25	0.28	0.26	0.24	0.24	0.24	0.28	0.24	0.26
1915	0.25	0.25	0.29	0.25	0.22	0.24	0.23	0.26	0.23	0.25
1916	0.27	0.28	0.28	0.26	0.23	0.27	0.25	0.27	0.25	0.27
1917	0.33	0.33	0.35	0.33	0.30	0.28	0.28	0.31	0.31	0.33
1918	0.47	0.45	0.45	0.48	0.43	0.46	0.37	0.44	0.44	0.47

Remarks: For factories with five or more production workers, Statistics of Manufacture; ten or more workers, Statistics of Agriculture and Commerce.

Sources: [3], [5], [6]. See Part II, 1) and 2).

TABLE II

Daily Wages of Production Workers in Manufacturing Industries by Industry Group and Sex--Estimates from SURVEY OF LABOR STATISTICS

(unit: yen)

	Textiles	Metal & Metal Products	Machinery	Ceramics	Chemicals	Wood & Wood Products	Printing & Binding	Food	Miscel-laneous	All Manufac-turing
Both Sexes										
1924	0.97	2.34	2.45	1.72	1.54	1.90	2.14	1.45	1.51	1.44
1927	0.96	2.45	2.55	1.75	1.62	1.83	2.10	1.53	1.50	1.44
1930	0.79	2.40	2.43	1.63	1.54	1.53	2.03	1.52	1.34	1.35
1933	0.68	2.28	2.39	1.42	1.36	1.30	1.39	1.41	1.15	1.28
							(1.95)			(1.29)
1936	0.71	2.26	2.16	1.45	1.45	1.29	1.85	1.27	1.11	1.35
1938		2.11	2.09	1.40	1.39	1.29	1.63	1.22	1.18	1.74
Male										
1924	1.47	2.48	2.53	1.89	1.90	2.03	2.37	1.89	2.01	2.10
1927	1.48	2.57	2.64	1.93	1.95	1.99	2.32	1.99	2.03	2.15
1930	1.35	2.51	2.50	1.80	1.85	1.64	2.21	1.95	1.83	2.05
1933	1.25	2.40	2.50	1.59	1.67	1.39	1.53	1.85	1.55	1.96
							(2.14)			(1.99)
1936	1.19	2.37	2.28	1.65	1.72	1.40	2.07	1.76	1.54	1.95
1938		2.23	2.20	1.60	1.69	1.36	1.76	1.37	1.56	1.93
Female										
1924	0.86	1.06	1.15	0.90	0.86	0.87	1.26	1.08	0.98	0.89
1927	0.84	1.04	1.23	0.86	0.86	0.84	1.22	1.09	1.03	0.87
1930	0.66	1.03	1.19	0.78	0.88	0.74	1.19	1.09	0.87	0.71
1933	0.55	0.88	0.98	0.67	0.77	0.62	0.74	0.97	0.79	0.61
							(1.05)			(0.61)
1936	0.58	0.86	0.89	0.70	0,82	0.64	0.99	0.84	0.74	0.63
1938		0.84	0.91	0.71	0.79	0.64	0.96	0.86	0.76	0.82

Remarks: For factories with thirty or more production workers (1924, 1927, 1930 and 1933); fifty or more (1936); five or more (1938).

Sources: Survey of Labor Statistics by Bureau of Statistics. See Part II, 3).

TABLE III(1) Both Sexes

Daily Wages of Production Workers in Manufacturing Industries by Industry Group and Sex--Estimates from LABOR STATISTICS

(unit: yen)

	Textiles	Metal & Metal Products	Machinery	Ceramics	Chemicals	Wood & Wood Products	Printing & Binding	Food	Miscel-laneous	All Manufac-turing	(All Manufac-turing)
1922	1.169	2.539	2.615	1.849	1.567	1.859	2.349	1.686	1.440	1.576	1.589
1923	1.097	2.575	2.662	1.865	1.493	1.795	2.270	1.694	1.708	1.493	1.500
1924	1.115	2.693	2.752	1.971	1.571	1.928	2.414	1.764	1.810	1.570	1.521
1925	1.137	2.645	2.727	1.964	1.622	1.820	2.368	1.730	1.778	1.544	1.515
1926	1.189	2.705	2.782	2.034	1.666	1.828	2.423	1.742	1.689	1.607	1.563
1927	1.179	2.718	2.762	2.063	1.690	1.853	2.476	1.781	1.765	1.628	1.574
1928	1.190	2.794	2.835	2.038	1.716	1.832	2.486	1.747	1.757	1.674	1.613
1929	1.160	2.817	2.797	1.997	1.723	1.799	2.418	1.751	1.753	1.659	1.590
1930	1.038	2.677	2.585	1.859	1.743	1.658	2.332	1.729	1.662	1.499	1.491
1931	0.932	2.570	2.421	1.714	1.611	1.484	2.265	1.664	1.604	1.395	1.368
1932	0.868	2.557	2.519	1.648	1.570	1.427	2.236	1.613	1.568	1.379	1.331
1933	0.845	2.598	2.622	1.652	1.529	1.381	2.194	1.575	1.472	1.405	1.363
1934	0.833	2.684	2.541	1.602	1.496	1.357	2.182	1.538	1.458	1.444	1.407
1935	0.833	2.687	2.463	1.602	1.479	1.357	2.101	1.493	1.408	1.463	1.415
1936	0.834	2.611	2.419	1.587	1.470	1.358	2.061	1.477	1.366	1.476	1.438
1937	0.883	2.722	2.456	1.656	1.557	1.399	2.067	1.507	1.429	1.605	1.539
1938	0.917	2.752	2.511	1.761	1.631	1.493	2.126	1.549	1.519	1.770	1.702
1939	1.005	2.810	2.598	1.944	1.764	1.719	2.268	1.646	1.629	1.887	1.878

TABLE III(2) Male

	Textiles	Metal & Metal Products	Machinery	Ceramics	Chemicals	Wood & Wood Products	Printing & Binding	Food	Miscel-laneous	All Manufac-turing	(All Manufac-turing)
1922	1.574	2.706	2.686	2.004	1.879	2.125	2.566	1.925	1.877	2.178	2.262
1923	1.536	2.750	2.723	2.024	1.806	2.028	2.486	1.910	2.026	2.141	2.180
1924	1.561	2.875	2.826	2.138	1.873	2.062	2.625	1.998	2.176	2.225	2.245
1925	1.586	2.822	2.810	2.142	1.939	2.029	2.572	1.980	2.135	2.200	2.199
1926	1.620	2.890	2.872	2.213	1.983	2.018	2.632	2.011	2.018	2.255	2.257
1927	1.625	2.904	2.850	2.246	2.016	2.026	2.696	2.052	2.145	2.275	2.278
1928	1.644	2.991	2.929	2.225	2.034	1.994	2.703	2.032	2.134	2.325	2.320
1929	1.622	2.996	2.895	2.187	2.053	1.948	2.618	2.045	2.138	2.308	2.302
1930	1.546	2.819	2.681	2.033	2.083	1.773	2.520	1.984	2.026	2.179	2.179
1931	1.481	2.709	2.516	1.874	1.931	1.592	2.443	1.901	1.960	2.063	2.059
1932	1.439	2.723	2.646	1.832	1.874	1.516	2.406	1.858	1.945	2.087	2.081
1933	1.418	2.783	2.776	1.850	1.839	1.477	2.376	1.861	1.881	2.150	2.138
1934	1.391	2.832	2.702	1.806	1.800	1.473	2.378	1.859	1.865	2.178	2.171
1935	1.369	2.836	2.622	1.817	1.780	1.478	2.309	1.843	1.824	2.156	2.154
1936	1.340	2.753	2.576	1.810	1.759	1.480	2.262	1.844	1.757	2.131	2.131
1937	1.387	2.882	2.632	1.889	1.836	1.531	2.277	1.914	1.866	2.252	2.221
1938	1.438	2.924	2.696	2.005	1.935	1.662	2.367	1.991	1.926	2.388	2.356
1939	1.607	2.988	2.788	2.213	2.093	1.909	2.530	2.127	2.064	2.518	2.517

TABLE III(3) Female

	Textiles	Metal & Metal Products	Machinery	Ceramics	Chemicals	Wood & Wood Products	Printing & Binding	Food	Miscel-laneous	All Manufac-turing	(All Manufac-turing)
1922	1.045	1.187	1.173	0.974	0.896	0.947	1.401	1.045	0.996	1.043	1.036
1923	0.976	1.145	1.201	0.969	0.876	0.906	1.305	1.031	1.014	0.979	0.981
1924	0.979	1.157	1.303	1.033	0.895	0.848	1.379	1.039	1.042	0.986	0.986
1925	1.006	1.150	1.293	0.964	0.910	0.842	1.366	0.986	1.032	1.009	1.009
1926	1.059	1.142	1.283	1.029	0.909	0.832	1.395	0.955	1.018	1.058	1.058
1927	1.039	1.158	1.266	1.037	0.914	0.837	1.393	0.982	1.000	1.040	1.040
1928	1.040	1.148	1.225	1.026	0.928	0.829	1.384	0.968	0.973	1.040	0.040
1929	1.006	1.131	1.211	0.988	0.930	0.812	1.376	0.953	0.954	1.009	1.008
1930	0.893	1.118	1.160	0.877	0.905	0.771	1.335	0.944	0.896	0.903	0.904
1931	0.772	1.055	1.107	0.737	0.872	0.718	1.268	0.907	0.846	0.791	0.790
1932	0.700	0.993	1.046	0.690	0.844	0.681	1.229	0.875	0.820	0.725	0.724
1933	0.683	0.981	0.998	0.716	0.796	0.652	1.172	0.849	0.773	0.708	0.708
1934	0.678	0.978	0.977	0.712	0.773	0.634	1.123	0.822	0.745	0.703	0.700
1935	0.674	0.951	0.962	0.740	0.776	0.638	1.041	0.797	0.729	0.701	0.699
1936	0.676	0.931	0.939	0.731	0.761	0.649	1.020	0.779	0.731	0.702	0.702
1937	0.724	0.962	0.979	0.790	0.802	0.668	1.015	0.807	0.778	0.754	0.750
1938	0.752	1.009	1.020	0.824	0.863	0.709	1.025	0.853	0.843	0.797	0.792
1939	0.817	1.077	1.095	0.926	0.942	0.810	1.086	0.938	0.908	0.867	1.870

Remarks: For private factories with forty (or fifty) production workers.

Sources: Labor Statistics by Bank of Japan. See Part II, 4).

TABLE IV

Daily Wages of Production Workers in Manufacturing Industries by Industry Group and Sex--Estimates from ANNUAL STATISTICS OF TOKYO CITY

(unit: yen)

	Textiles	Metal & Metal Products	Machinery	Ceramics	Chemicals	Wood & Wood Products	Printing & Binding	Food	Miscel-laneous	All Manufac-turing
Both Sexes										
1917	0.472	0.659	0.809	0.668	0.472	0.800	0.663	0.527	0.618	0.662
1918	0.645	0.935	0.994	0.836	0.647	1.115	0.868	0.682	0.803	0.862
1919	1.080	1.589	1.773	1.552	1.041	1.843	1.683	1.268	0.475	1.474
									(1.052)	(1.502)
1920	1.227	1.731	1.799	1.712	1.126	2.114	1.957	1.207	1.280	1.671
1921	1.424	1.924	2.013	1.878	1.196	2.468	2.249	1.278	1.200	1.828
1922	1.448	1.884	2.128	1.960	1.298	2.259	2.318	1.304	1.575	1.907
Male										
1917	0.651	0.716	0.839	0.701	0.598	0.836	0.707	0.565	0.712	0.737
1918	0.891	0.996	1.034	0.879	0.795	1.168	0.929	0.737	0.941	0.959
1919	1.429	1.700	1.795	1.647	1.313	1.949	1.833	1.400	0.556	1.650
									(1.202)	(1.678)
1920	1.659	1.810	1.865	1.799	1.416	2.188	2.093	1.289	1.462	1.819
1921	1.882	2.010	2.080	1.970	1.499	2.559	2.383	1.378	1.309	2.016
1922	1.860	1.977	2.197	2.054	1.628	2.290	2.455	1.385	1.767	2.080
Female										
1917	0.344	0.335	0.316	0.322	0.298	0.355	0.429	0.330	0.339	0.343
1918	0.471	0.454	0.420	0.422	0.412	0.439	0.555	0.411	0.469	0.461
1919	0.808	0.759	0.791	0.704	0.692	0.775	1.028	0.727	0.251	0.773
									(0.635)	(0.797)
1920	0.915	0.855	0.984	0.793	0.772	0.826	1.275	0.761	0.800	0.934
1921	1.003	0.912	0.948	0.842	0.824	0.919	1.447	0.827	0.932	1.009
1922	1.076	0.984	1.015	0.926	0.856	1.039	1.518	0.894	0.902	1.076

Remarks: For all factories.

Sources: Annual Statistics of Tokyo City. See Part II, 5).

TABLE V

Daily Wages of Production Workers in Manufacturing Industries by Industry Group and Sex--Estimates from STATISTICS OF OSAKA CITY

(unit: yen)

	Textiles	Metal & Metal Products	Machinery	Ceramics	Chemicals	Wood & Wood Products	Printing & Binding	Food	Miscel-laneous	All Manufac-turing
Both Sexes										
1917	0.43	0.73	0.96	0.66	0.62	0.84	0.64	0.69	0.67	0.67
1918	0.67	0.98	1.18	1.11	0.73	1.01	0.92	0.80	0.58 (0.95)	0.87 (0.92)
1919	1.13	1.59	1.96	1.51	1.10	1.88	1.32	1.47	1.23	1.50
1920	1.09	1.29	1.90	1.65	1.10	1.84	1.85	1.51	1.26	1.41
1921	1.31	1.88	2.14	1.99	1.37	2.06	2.11	1.51	1.68	1.75
1922	1.16	1.72	2.07	1.82	1.28	1.82	1.81	1.55	1.52	1.61
Male										
1917	0.65	0.76	0.96	0.71	0.80	0.86	0.67	0.72	0.77	0.80
1918	0.90	1.03	1.19	1.19	0.83	1.03	0.96	0.86	0.60 (1.07)	0.97 (1.04)
1919	1.52	1.65	1.97	1.64	1.34	1.92	1.58	1.59	1.37	1.70
1920	1.51	1.34	1.91	1.78	1.33	1.88	1.80	1.61	1.41	1.62
1921	1.83	1.97	2.18	2.15	1.67	2.16	2.22	1.62	1.90	2.00
1922	1.67	1.82	2.08	1.93	1.59	1.89	1.89	1.60	1.77	1.87
Female										
1917	0.31	0.39	0.45	0.37	0.32	0.42	0.41	0.46	0.32	0.32
1918	0.53	0.52	0.58	0.63	0.58	0.57	0.66	0.47	0.47	0.53
1919	0.92	0.86	0.91	0.82	0.73	0.86	1.16	0.78	0.65	0.87
1920	0.90	0.89	0.93	0.86	0.77	1.13	1.25	0.85	0.77	0.89
1921	1.03	0.97	0.96	0.99	0.91	0.97	1.42	0.86	1.04	1.02
1922	0.95	0.94	1.77	1.00	0.91	0.86	1.17	0.84	0.90	0.96

Remarks: For all factories.

Sources: Statistics of Osaka City. See Part II, 6).

TABLE VI

Daily Wages of-Production Workers in Manufacturing Industries by Industry Group and Sex--
Estimates from ANNUAL STATISTICS OF TOKYO CITY and STATISTICS OF OSAKA CITY

(unit: yen)

	Textiles	Metal & Metal Products	Machinery	Ceramics	Chemicals	Wood & Wood Products	Printing & Binding	Food	Miscel-laneous	All Manufac-turing	(All Manufac-turing)
Both Sexes											
1917	0.44	0.70	0.88	0.67	0.57	0.83	0.66	0.60	0.66	0.67	0.56
1918	0.67	0.96	1.09	1.00	0.71	1.05	0.88	0.74	0.65	0.86	0.77
									(0.90)	(0.89)	(0.78)
1919	1.12	1.59	1.86	1.53	1.08	1.87	1.64	1.37	1.09	1.49	1.29
									(1.20)	(1.50)	(1.30)
1920	1.12	1.45	1.83	1.68	1.11	2.02	1.93	1.33	1.27	1.55	1.31
1921	1.35	1.90	2.08	1.90	1.29	2.20	2.21	1.41	1.57	1.78	1.53
1922	1.25	1.79	2.11	1.88	1.29	1.99	2.22	1.38	1.55	1.77	1.50
Male											
1917	0.65	0.74	0.90	0.71	0.73	0.85	0.70	0.63	0.76	0.77	0.75
1918	0.90	1.01	1.11	1.06	0.82	1.08	0.94	0.79	0.70	0.97	0.96
									(1.04)	(1.01)	(0.97)
1919	1.49	1.67	1.90	1.64	1.33	1.93	1.76	1.50	1.23	1.68	1.62
									(1.34)	(1.69)	(1.63)
1920	1.56	1.51	1.88	1.79	1.37	2.09	2.06	1.43	1.43	1.73	1.66
1921	1.85	1.99	2.13	2.08	1.60	2.29	2.34	1.51	1.77	2.01	1.91
1922	1.75	1.88	2.15	1.98	1.61	2.04	2.35	1.46	1.77	1.99	1.88
Female											
1917	0.32	0.35	0.34	0.35	0.31	0.38	0.43	0.38	0.32	0.33	0.32
1918	0.52	0.49	0.45	0.56	0.53	0.51	0.58	0.44	0.47	0.51	0.51
1919	0.89	0.81	0.82	0.79	0.71	0.81	1.06	0.75	0.56	0.83	0.87
									(0.65)	(0.84)	(0.87)
1920	0.90	0.88	0.98	0.84	0.77	0.94	1.27	0.79	0.78	0.91	0.89
1921	1.02	0.95	0.95	0.95	0.87	0.96	1.44	0.84	1.01	1.02	1.01
1922	0.98	0.96	1.19	0.98	0.89	0.89	1.47	0.89	0.90	1.01	0.97

Remarks: Weighted averages of wages in Tokyo City and of those in Osaka City.

Sources: Tables IV and V. See Part III, 3).

TABLE VII

Daily Wages of Production Workers in Manufacturing Industries by Industry Group and Sex

(unit: yen)

	(0) All Manufacturing			(1) Textiles		
	Both Sexes	Male	Female	Both Sexes	Male	Female
1899	0.22	0.34	0.17	0.19	0.30	0.17
1900	0.24	0.38	0.17	0.19	0.29	0.18
1901	0.24	0.37	0.17	0.19	0.29	0.18
1902	0.23	0.36	0.17	0.20	0.29	0.18
1903	0.24	0.37	0.18	0.20	0.29	0.18
1904	0.25	0.41	0.18	0.19	0.30	0.18
1905	0.26	0.41	0.18	0.20	0.31	0.18
1906	0.27	0.41	0.19	0.21	0.33	0.19
1907	0.30	0.48	0.21	0.23	0.36	0.21
1908	0.32	0.50	0.23	0.26	0.41	0.24
1909	0.33	0.48	0.24	0.27	0.40	0.25
1910	0.32	0.48	0.24	0.27	0.40	0.25
1911	0.35	0.52	0.24	0.27	0.42	0.26
1912	0.36	0.54	0.26	0.28	0.44	0.26
1913	0.39	0.55	0.27	0.30	0.46	0.28
1914	0.38	0.54	0.27	0.30	0.46	0.27
1915	0.38	0.55	0.26	0.29	0.46	0.26
1916	0.41	0.58	0.28	0.31	0.48	0.28
1917	0.55	0.77	0.34	0.37	0.57	0.34
1918	0.75	1.02	0.49	0.54	0.78	0.49
1919	1.26(1.39)	1.74(1.92)	0.84(0.95)	0.91(1.01)	1.30(1.37)	0.84(0.95)
1920	1.30(1.36)	1.81(1.94)	0.85(0.87)	0.92(0.92)	1.34(1.32)	0.85(0.87)
1921	1.53(1.46)	2.12(2.05)	0.97(0.96)	1.11(1.03)	1.59(1.43)	0.96(0.95)
1922	1.51	2.13	0.93	1.02	1.48	0.92
1923	1.43	2.05	0.95	0.95	1.44	0.86
1924	1.44	2.10	0.89	0.97	1.47	0.86
1925	1.42	2.07	0.89	0.97	1.47	0.87
1926	1.44	2.12	0.91	0.99	1.49	0.88
1927	1.44	2.15	0.87	0.96	1.48	0.84
1928	1.47	2.19	0.85	0.94	1.48	0.82
1929	1.45	2.18	0.82	0.90	1.43	0.76
1930	1.35	2.05	0.71	0.79	1.35	0.66
1931	1.26	1.91	0.64	0.72	1.29	0.59
1932	1.25	1.94	0.61	0.69	1.27	0.55
1933	1.29	1.99	0.61	0.68	1.25	0.55
1934	1.34	2.02	0.61	0.68	1.22	0.56
1935	1.33	1.98	0.62	0.69	1.22	0.57
1936	1.35	1.95	0.63	0.71	1.19	0.58
1937	1.45	2.04	0.68	0.75	1.23	0.62
1938	1.60	2.17	0.71	0.78	1.28	0.65
1939	1.77	2.32	0.78	0.85	1.43	0.70

(continued on following page)

TABLE VII, continued

	(2) Metal & Metal Products			(3) Machinery		
	Both Sexes	Male	Female	Both Sexes	Male	Female
1899	0.32	0.35	0.15	0.46	0.47	0.16
1900	0.36	0.40	0.20	0.51	0.53	0.18
1901	0.41	0.44	0.20	0.48	0.49	0.17
1902	0.40	0.42	0.17	0.52	0.52	0.17
1903	0.39	0.42	0.19	0.53	0.54	0.22
1904	0.43	0.46	0.20	0.54	0.55	0.20
1905	0.41	0.44	0.19	0.56	0.57	0.21
1906	0.44	0.47	0.18	0.49	0.50	0.21
1907	0.46	0.48	0.23	0.65	0.66	0.23
1908	0.51	0.55	0.25	0.60	0.62	0.25
1909	0.50	0.53	0.25	0.60	0.61	0.26
1910	0.50	0.53	0.25	0.63	0.64	0.26
1911	0.55	0.59	0.29	0.69	0.69	0.29
1912	0.58	0.60	0.27	0.67	0.69	0.28
1913	0.59	0.61	0.29	0.70	0.71	0.30
1914	0.59	0.62	0.27	0.69	0.70	0.29
1915	0.58	0.62	0.27	0.74	0.75	0.30
1916	0.62	0.64	0.30	0.76	0.77	0.29
1917	0.73	0.77	0.36	1.12	1.14	0.36
1918	1.00	1.05	0.49	1.39	1.40	0.47
1919	1.73(1.86)	1.82(2.01)	0.84(0.90)	2.31(2.05)	2.34(2.14)	0.82(0.82)
1920	1.65(1.97)	1.72(2.09)	0.94(0.94)	2.18(2.09)	2.24(2.19)	0.93(0.87)
1921	2.24(2.12)	2.37(2.27)	1.05(1.02)	2.39(2.26)	2.47(2.35)	0.86(0.89)
1922	2.21	2.33	1.09	2.33	2.42	1.03
1923	2.24	2.37	1.05	2.36	2.45	1.06
1924	2.34	2.48	1.06	2.45	2.53	1.15
1925	2.33	2.46	1.05	2.45	2.56	1.18
1926	2.41	2.51	1.04	2.53	2.64	1.21
1927	2.45	2.57	1.04	2.55	2.64	1.23
1928	2.51	2.63	1.04	2.64	2.72	1.21
1929	2.54	2.67	1.03	2.60	2.69	1.22
1930	2.40	2.51	1.03	2.43	2.49	1.19
1931	2.29	2.38	0.96	2.25	2.31	1.12
1932	2.25	2.37	0.90	2.32	2.41	1.05
1933	2.28	2.40	0.88	2.39	2.50	0.98
1934	2.36	2.44	0.89	2.29	2.40	0.95
1935	2.34	2.44	0.87	2.22	2.33	0.92
1936	2.26	2.37	0.86	2.16	2.27	0.89
1937	2.37	2.48	0.89	2.19	2.32	0.93
1938	2.39	2.51	0.93	2.23	2.37	0.97
1939	2.44	2.57	0.99	2.31	2.45	1.04

TABLE VII, continued

	(4) Ceramics			(5) Chemicals		
	Both Sexes	Male	Female	Both Sexes	Male	Female
1899	0.32	0.36	0.17	0.20	0.29	0.14
1900	0.34	0.37	0.19	0.22	0.31	0.14
1901	0.34	0.38	0.19	0.22	0.32	0.14
1902	0.35	0.39	0.19	0.16	0.26	0.12
1903	0.36	0.40	0.20	0.24	0.35	0.15
1904	0.35	0.39	0.19	0.25	0.35	0.15
1905	0.28	0.43	0.20	0.26	0.36	0.17
1906	0.38	0.43	0.21	0.28	0.39	0.18
1907	0.44	0.49	0.24	0.32	0.44	0.20
1908	0.50	0.55	0.24	0.31	0.42	0.18
1909	0.44	0.48	0.24	0.34	0.45	0.21
1910	0.44	0.48	0.25	0.34	0.45	0.21
1911	0.46	0.51	0.26	0.35	0.45	0.22
1912	0.47	0.52	0.27	0.37	0.50	0.22
1913	0.47	0.51	0.26	0.40	0.54	0.23
1914	0.47	0.51	0.26	0.40	0.53	0.24
1915	0.47	0.52	0.25	0.38	0.51	0.22
1916	0.49	0.54	0.26	0.40	0.52	0.23
1917	0.58	0.63	0.33	0.49	0.61	0.30
1918	0.84	0.92	0.48	0.69	0.85	0.43
1919	1.30 (1.59)	1.44 (1.75)	0.68 (0.85)	1.11 (1.44)	1.44 (1.76)	0.66 (0.81)
1920	1.43 (1.55)	1.58 (1.70)	0.73 (0.82)	1.20 (1.44)	1.52 (1.77)	0.69 (0.80)
1921	1.63 (1.68)	1.85 (1.83)	0.83 (0.90)	1.47 (1.57)	1.84 (1.93)	0.81 (0.88)
1922	1.61	1.76	0.85	1.54	1.90	0.86
1923	1.62	1.78	0.84	1.46	1.82	0.84
1924	1.72	1.89	0.90	1.54	1.90	0.86
1925	1.69	1.86	0.83	1.57	1.94	0.86
1926	1.75	1.93	0.86	1.62	1.94	0.86
1927	1.75	1.93	0.86	1.62	1.95	0.86
1928	1.75	1.94	0.87	1.60	1.91	0.88
1929	1.74	1.92	0.86	1.57	1.89	0.89
1930	1.63	1.80	0.78	1.54	1.85	0.88
1931	1.49	1.65	0.67	1.42	1.74	0.85
1932	1.43	1.59	0.63	1.40	1.69	0.82
1933	1.42	1.59	0.67	1.36	1.67	0.77
1934	1.41	1.59	0.68	1.38	1.67	0.78
1935	1.43	1.62	0.70	1.42	1.71	0.81
1936	1.45	1.65	0.70	1.45	1.72	0.82
1937	1.51	1.72	0.76	1.54	1.80	0.87
1938	1.60	1.82	0.79	1.61	1.90	0.93
1939	1.77	2.01	0.89	1.75	2.05	1.02

(continued on following page)

TABLE VII, continued

	(6) Wood & Wood Products			(7) Printing & Binding		
	Both Sexes	Male	Female	Both Sexes	Male	Female
1899	0.20	0.36	0.16	0.29	0.39	0.14
1900	0.33	0.38	0.17	0.31	0.33	0.16
1901	0.33	0.38	0.18	0.30	0.32	0.15
1902	0.37	0.44	0.18	0.30	0.31	0.16
1903	0.37	0.43	0.18	0.30	0.32	0.16
1904	0.38	0.44	0.19	0.31	0.32	0.16
1905	0.38	0.47	0.18	0.30	0.32	0.16
1906	0.43	0.50	0.19	0.31	0.34	0.18
1907	0.45	0.52	0.23	0.33	0.36	0.20
1908	0.47	0.53	0.21	0.37	0.40	0.20
1909	0.48	0.51	0.23	0.40	0.43	0.22
1910	0.48	0.54	0.23	0.37	0.38	0.20
1911	0.50	0.54	0.24	0.37	0.41	0.21
1912	0.51	0.56	0.26	0.46	0.48	0.30
1913	0.53	0.57	0.26	0.45	0.48	0.29
1914	0.51	0.55	0.25	0.43	0.46	0.26
1915	0.49	0.53	0.25	0.39	0.41	0.25
1916	0.53	0.57	0.28	0.40	0.42	0.27
1917	0.66	0.71	0.29	0.48	0.52	0.30
1918	0.94	1.01	0.48	0.62	0.65	0.40
1919	1.67(1.72)	1.85(2.00)	0.79(0.94)	1.25(1.62)	1.34(1.81)	0.77(0.95)
1920	1.84(1.74)	2.05(1.97)	0.96(0.98)	1.58(1.80)	1.73(2.00)	0.99(1.05)
1921	2.02(1.85)	2.29(2.09)	1.02(0.99)	1.94(2.00)	2.13(2.16)	1.18(1.19)
1922	1.84	2.08	0.97	2.09	2.31	1.27
1923	1.78	1.99	0.92	2.02	2.24	1.19
1924	1.90	2.03	0.87	2.14	2.37	1.26
1925	1.80	1.99	0.85	2.08	2.29	1.23
1926	1.81	1.98	0.84	2.08	2.29	1.24
1927	1.83	1.99	0.84	2.10	2.32	1.22
1928	1.78	1.91	0.82	2.14	2.35	1.19
1929	1.69	1.83	0.79	2.08	2.28	1.16
1930	1.53	1.64	0.74	2.03	2.21	1.19
1931	1.38	1.48	0.69	1.97	2.17	1.08
1932	1.33	1.41	0.65	1.97	2.14	1.07
1933	1.30	1.39	0.62	1.93	2.14	1.05
1934	1.28	1.38	0.61	1.94	2.16	1.03
1935	1.29	1.40	0.63	1.87	2.12	0.99
1936	1.29	1.40	0.64	1.85	2.07	0.99
1937	1.33	1.45	0.66	1.86	2.09	0.98
1938	1.42	1.58	0.70	1.91	2.18	0.99
1939	1.63	1.81	0.80	2.02	2.33	1.05

(continued on following page)

TABLE VII, continued

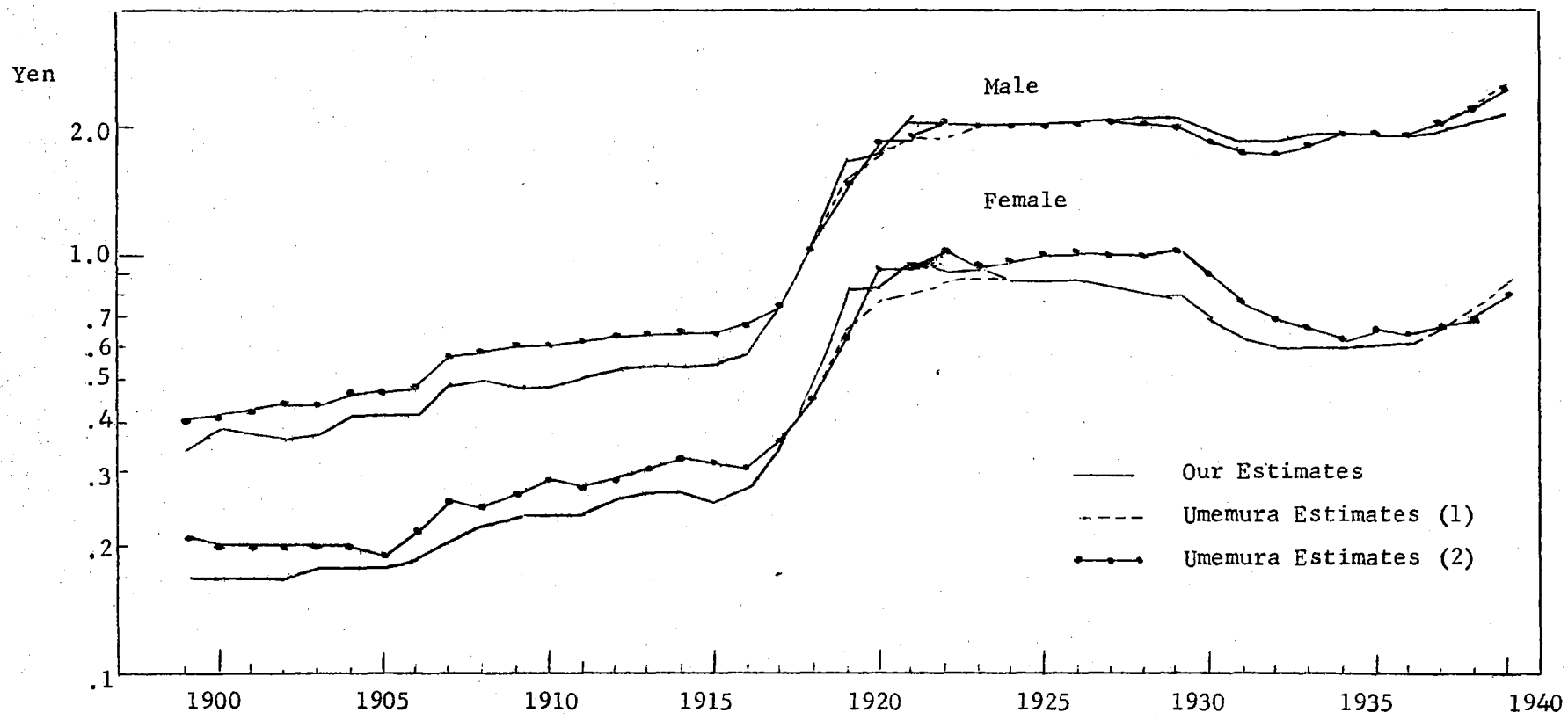
	(8) Food			(9) Miscellaneous		
	Both Sexes	Male	Female	Both Sexes	Male	Female
1899	0.23	0.31	0.14	0.24	0.32	0.15
1900	0.24	0.32	0.14	0.29	0.41	0.17
1901	0.24	0.33	0.15	0.26	0.38	0.17
1902	0.26	0.35	0.16	0.29	0.41	0.17
1903	0.21	0.27	0.16	0.26	0.39	0.15
1904	0.28	0.36	0.18	0.27	0.42	0.15
1905	0.26	0.36	0.16	0.27	0.42	0.17
1906	0.27	0.36	0.16	0.24	0.39	0.17
1907	0.30	0.38	0.19	0.29	0.40	0.20
1908	0.38	0.51	0.18	0.32	0.44	0.22
1909	0.39	0.46	0.21	0.35	0.47	0.22
1910	0.36	0.44	0.19	0.35	0.48	0.23
1911	0.39	0.47	0.20	0.36	0.51	0.23
1912	0.44	0.48	0.24	0.36	0.48	0.24
1913	0.43	0.47	0.25	0.39	0.52	0.26
1914	0.46	0.50	0.28	0.38	0.49	0.25
1915	0.44	0.47	0.26	0.39	0.51	0.24
1916	0.45	0.49	0.27	0.41	0.53	0.26
1917	0.53	0.58	0.31	0.50	0.64	0.32
1918	0.74	0.82	0.44	0.69	0.85	0.46
1919	1.37(1.46)	1.64(1.81)	0.80(1.10)	0.92(1.13)	1.15(1.56)	0.65(0.86
1920	1.33(1.48)	1.64(1.82)	0.87(1.09)	0.98(1.13)	1.29(1.59)	0.79(0.87)
1921	1.41(1.48)	1.81(1.81)	0.98(1.09)	1.21(1.25)	1.66(1.77)	1.04(0.96)
1922	1.38	1.83	1.09	1.20	1.73	0.94
1923	1.39	1.81	1.07	1.42	1.86	0.95
1924	1.45	1.89	1.08	1.51	2.01	0.98
1925	1.44	1.90	1.02	1.49	1.99	1.00
1926	1.48	1.93	0.97	1.42	1.90	1.02
1927	1.53	1.99	1.09	1.50	2.03	1.03
1928	1.52	1.97	1.08	1.48	1.98	0.98
1929	1.52	2.00	1.09	1.44	1.97	0.94
1930	1.52	1.95	1.09	1.34	1.83	0.87
1931	1.48	1.86	1.04	1.28	1.71	0.84
1932	1.44	1.84	1.00	1.24	1.65	0.82
1933	1.41	1.85	0.97	1.15	1.55	0.79
1934	1.37	1.82	0.95	1.15	1.57	0.76
1935	1.30	1.77	0.93	1.13	1.57	0.74
1936	1.37	1.76	0.84	1.11	1.54	0.74
1937	1.30	1.82	0.87	1.16	1.64	0.79
1938	1.33	1.89	0.92	1.23	1.69	0.85
1939	1.42m	2.02	1.01	1.32	1.82	0.92

Remarks: For factories with thirty or more production workers.

Sources: See Part III.

Chart 1

Movements in Daily Wages of Production Workers--
All Manufacturing Industries, by Sex



Remarks: For factories with thirty or more production workers.

Sources: Our estimates: Table VII. Umemura estimates: (1)--[4], pp. 193-194;
(2)--unpublished.