

SERVANTS OF INDIA SOCIETY'S LIBRARY,
POONA 4

CN .

AcN 13733
Date of release for loan

This book should be returned on or before the date last mentioned below.

An overdue charge of 5 paise will be levied for each day the book is kept beyond this date.

19 OCT 1968

4 DEC 1968

A. B. F. P.

Supplied by
DECCAN BOOK STALL,
POONA 4.

Dhananjayrao Gadgil Library



GIPE-PUNE-013733

THE SMALL INDUSTRIES
OF JAPAN

THE INSTITUTE OF PACIFIC RELATIONS

The Institute of Pacific Relations is an unofficial body composed of National Councils in eleven countries. Its object is the study of the social, economic and political relations of the peoples of the Pacific area. The Institute, as such, does not express opinions or advocate policies. Any opinions or policies advocated in this book are, therefore, purely individual.

NATIONAL COUNCILS OF THE INSTITUTE

AMERICAN COUNCIL, INSTITUTE OF PACIFIC RELATIONS

AUSTRALIAN INSTITUTE OF INTERNATIONAL AFFAIRS

CANADIAN INSTITUTE OF INTERNATIONAL AFFAIRS

CHINA INSTITUTE OF PACIFIC RELATIONS

COMITÉ D'ÉTUDES DES PROBLÈMES DU PACIFIQUE

JAPANESE COUNCIL, INSTITUTE OF PACIFIC RELATIONS

NETHERLANDS-NETHERLANDS INDIES COUNCIL, INSTITUTE OF
PACIFIC RELATIONS

NEW ZEALAND BRANCH, INSTITUTE OF PACIFIC RELATIONS

PHILIPPINE COUNCIL, INSTITUTE OF PACIFIC RELATIONS

ROYAL INSTITUTE OF INTERNATIONAL AFFAIRS

U.S.S.R. COUNCIL, INSTITUTE OF PACIFIC RELATIONS

THE SMALL INDUSTRIES OF JAPAN

Their Growth and Development

By

TEIJIRO UYEDA,

President, Tokyo University of Commerce

AND ASSOCIATES

*A Report in the International Research Series of the
Institute of Pacific Relations*



*Issued under the Auspices of the Japanese Council,
Institute of Pacific Relations*

SECRETARIAT
INSTITUTE OF PACIFIC RELATIONS

NEW YORK

1938

Supplied by-
DECCAN BOOK STALL,
POONA 4.

X 91.42

G8

13733

Printed in China by Kelly and Walsh, Limited, Shanghai

PREFACE

This study of Japanese small-scale industries has been made on behalf of the Japanese Council of the Institute of Pacific Relations and forms part of a large international programme of inquiries which the International Research Committee of the Institute has inaugurated on the problems of industrial competition and standards of living in the countries of the Pacific Area. It is thus related, on the one hand, to the investigations of industrialization in China which have been carried out for the Institute in Shanghai and Tientsin and, on the other, to the more recent studies of the textile industries in the Pacific which are now being made in the United States, Great Britain, China, and Japan, for the various national councils of the Institute.

Small-scale industries play a great rôle in Japanese industrial life and the recent expansion of the export trade in their products has provoked a great deal of international controversy, resulting at times in rather serious measures of trade restriction. But owing to the lack of precise data concerning them, which is largely due to their industrial character itself, we have, even to-day, insufficient knowledge in this sphere. This fact obliged us in preparing this book to make minute study 'on the spot'. In this sense we venture to say that this volume is the first conclusive work of its kind, not only for the public abroad, but also for the Japanese themselves.

Small-scale industries can be divided into two or three branches at least, according to their products and market relations. However, to study all these is technically beyond the limit of this book. Those dealt with here are representative small-scale industries for export.

When we had nearly put the last touch to this work, the present situation in China commenced. As for the effects of this new situation upon the branches of industry in question, it is naturally impossible to treat them in the present study. The situation forms another subject, which will be worked out in the future.

It goes without saying that statistical data used in this book are of the most recent dates available. However, to our great regret, many important statistics are published, in Japan as well as in other countries, with a delay of two or three years, sometimes, even of five years, and this is why we cannot present all the data up to some uniform date, say, the end of 1936. The main sources of statistics utilized are in Japanese. They are as follows:

Factory Statistics (Kojo Tokei Hyo), published by the Ministry of Commerce and Industry every five years from 1911 to 1920, and annually since 1920. The latest issue, for 1935, was published in March, 1937.

Statistics of the Department of Commerce and Industry (Shokosho Tokei Hyo), published by the Ministry of Commerce and Industry annually since 1926. The latest issue, for 1935, was published in December, 1936.

Survey of the Business Conditions of Industry (Kogyo Keiei Jokyo Shirabe), published by the Ministry of Commerce and Industry.

- | | |
|--|--|
| Vols. 1 & 2. <i>Silk Pongee, Striped Drills and Enamelled Ironware</i> , 1933. | Vol. 4. <i>Rubber Shoes and Rubber Soled Shoes</i> , 1934. |
| Vol. 3. <i>Potteries</i> , 1933. | Vol. 5. <i>Electric Lamps</i> , 1934. |
| | Vol. 6. <i>Woollen Tissues</i> , 1934. |

Vol. 7. *Cast Ironware*, 1935.

Report of the Survey of Labour Statistics (Rodo Tokei Jitchi Chosa Hokokushu), published by the Cabinet Bureau of Statistics every three years since 1924. The latest issue, for 10th October, 1933, was published in March, 1937.

Report of Census (Kokusei Chosa Hokokushu), published by the Cabinet Bureau of Statistics. Held on 1st October, 1920 and 1930. The Report of 1930 was published in November, 1935.

Statistics of Factory and Mining Labour (Rodo Tokei), published by The Bank of Japan monthly since February, 1922.

Annual Report of Factory Inspectors (Kojo Kantoku Nempo), published by the Bureau of Social Affairs annually since 1916. The latest issue, 1935, was published in March, 1937.

Monthly Returns of Japan's Foreign Trade (Gaikokushu Boeki Geppo), published by the Ministry of Finance monthly since 1874.

Annual Statistics of Cotton and Silk Tissues (Men-orimono oyobi Kinu-orimono Nempo), published by the Ministry of Commerce and Industry annually since 1928. The latest issue, for 1936, was published in March, 1937.

Statistics of the Cotton Spinning Industry (Menshi Boseki Jijyo Sankosho), published by the Japan Cotton Spinners' Association (Dai Nippon Boseki Rengo Kai) semi-annually since 1903. The latest issue, for the second half of 1936, was published in April, 1937.

Annual Statistics of the Woollen Industry (Yomo Kogyo Tokei Nempyo), published annually by the Japan Woollen Industry Association (Nippon Yomo Kogyo Kai). The latest issue, for 1935, published in December, 1936.

Report on Family Budgets (Kakei Chosa Hokokushu), published by the Cabinet Bureau of Statistics in 1926-1927, and annually since 1931-1932.

The greater part of the present book consists of chapters which were submitted as separate papers to the Sixth Conference of the Institute of Pacific Relations, held at Yosemite National Park, California, in August, 1936. These have since been thoroughly revised and an introductory chapter has been added. Though the book is issued as a report in the International Research Series of the Institute and under the auspices of the Japanese Council, it should be clearly understood that neither the Council nor the Institute as a whole necessarily endorses or accepts responsibility for statements of fact or opinion in it. For these the authors alone are responsible.

TEIJIRO UYEDA

Tokyo,

20th November, 1937

13733

CONTENTS

	PAGE
PREFACE	v
CHAPTER I. THE PRESENT STATE OF THE SMALL INDUSTRIES OF JAPAN	I
By TEIJIRO UYEDA	
CHAPTER II. THE COTTON INDUSTRY	20
By TEIJIRO UYEDA AND TOKIJIRO MINOGUCHI	
1. The Rise of the Japanese Cotton Industry	20
2. The Latest Trend of Japanese Cotton Textiles in World Markets	27
3. The Depreciated Yen as a Factor in the Expansion of Japanese Exports	45
4. Organization of the Japanese Cotton Industry	49
5. The Large Spinning-Weaving Mills in Japan and their Business Conditions	65
6. The Smaller Cotton Textile Mills in Japan and their Business Conditions	75
7. Characteristics of Labour in the Japanese Cotton Industry ..	84
8. Labour Conditions in the Japanese Cotton Industry	99
CHAPTER III. THE RAYON TEXTILE INDUSTRY	113
By TEIJIRO UYEDA AND TAKEO SODA	
1. Introduction	113
2. Growth of Rayon Weaving Industry	117
3. Scale of Production	120
4. Labour Conditions	125
5. Organization of the Industry and the Position of the Weaver ..	129
6. Control in the Rayon Weaving Industry	136
CHAPTER IV. THE WOOLLEN INDUSTRY	138
By TEIJIRO UYEDA AND TOSUKE INOKUCHI	
i. The Growth of the Woollen Textile Industry in Japan	138
i. <i>Period when foreign supply of woollen tissues dominated</i>	138
ii. <i>Growth of the muslin industry</i>	139
iii. <i>Establishment of the woollen and worsted yarn spinning industry and the development of the weaving industry</i> ..	141
iv. <i>Manufacture of woollen cloth and serge for Western dress</i> ..	143
v. <i>Transition from domestic to export industry</i>	147

	PAGE
2. Scale of the Woollen Textile Industry in Japan	149
3. Organization of the Industry	158
4. Living Conditions of Small-scale Weaving Manufacturers	161
5. Labour Conditions	163
6. Recent Business Conditions of Small-scale Woollen Textile Weavers	172
7. Conclusion	179
CHAPTER V. THE RUBBER GOODS INDUSTRY	182
BY TEIJIRO UYEDA AND TEIJU ODAHASHI	
1. Development of the Rubber Goods Industry in Japan	182
2. Processes in the Manufacture of Rubber Goods	195
3. Scale of Production	200
4. Labour Conditions in the Rubber Goods Industry	207
i. <i>Age and sex of workers</i>	207
ii. <i>Working conditions</i>	210
iii. <i>Wages</i>	215
5. Control and Management of Rubber Goods Factories	220
CHAPTER VI. THE BICYCLE INDUSTRY	231
BY TEIJIRO UYEDA AND HIROSHI KOYASU	
1. Historical Introduction	231
i. <i>The first period</i>	231
ii. <i>The second period</i>	231
iii. <i>The third and fourth periods</i>	232
2. Organization of the Industry	234
3. Labour Conditions	240
i. <i>Relations between employers and employees</i>	240
ii. <i>Age and sex of workers</i>	241
iii. <i>Method of recruiting factory operatives, localities from which they are drawn and duration of employment</i>	242
iv. <i>Labour unions</i>	242
v. <i>Conditions relating to employment</i>	243
vi. <i>Wages in recent years</i>	244
4. Improvement in Industrial Management	245
<i>Effect of controlled production</i>	248
5. Chief Factors Contributing to the Recent Advance of this Industry into World Markets	249
6. Conclusion	252
CHAPTER VII. THE ENAMELLED IRONWARE INDUSTRY	253
BY TEIJIRO UYEDA AND HIROSHI KOYASU	
1. Historical Introduction	253
2. Organization of the Industry	255

CONTENTS

XI
PAGE

3.	Labour Conditions	257
	i. <i>Relations between employers and employees</i>	258
	ii. <i>Age and sex of workers</i>	258
	iii. <i>Localities from which workers are drawn and duration of employment</i>	258
	iv. <i>Home conditions</i>	259
	v. <i>The employee and the labour union</i>	259
	vi. <i>Labour conditions</i>	260
	vii. <i>Recent wages</i>	261
✓ 4.	Recent Improvement in the Organization of the Industry	262
	<i>Results of production control</i>	263
5.	Recent Increase in Exportation and Its Factors	265
CHAPTER VIII. THE ELECTRIC LAMP INDUSTRY		266
BY TEIJIRO UYEDA AND TOSUKE INOKUCHI		
1.	Introduction	266
2.	Main Classes of Manufacturers	267
	i. <i>The Tokyo Electric Company, Limited</i>	268
	ii. <i>'Home-made' electric lamp manufacturers</i>	268
	(a) <i>'Standard' electric lamp companies</i>	268
	(b) <i>'Town' electric lamp manufacturers</i>	269
3.	Main Features of Small-scale Manufacturing	270
4.	Business Conditions of Small-scale Manufacturers	274
5.	Labour Conditions	279
6.	Control in Small-scale Electric Lamp Manufacturing	283
APPENDIX: COST OF LIVING AND REAL WAGES IN JAPAN, 1914-1936		287
BY TEIJIRO UYEDA AND TOSUKE INOKUCHI		
1.	Introduction	287
2.	The 'Standard of Living' and Methods of Estimating Its Fluctuations	289
3.	Computation of the Cost of Living Index Number	290
	i. <i>Family budgets</i>	290
	ii. <i>Price changes in family budget items</i>	291
	iii. <i>The calculation of the index</i>	293
	iv. <i>The results</i>	294
4.	Index Number of the Wages of Industrial Workers	297
5.	Index Number of Real Wages	300
6.	Conditions since 1931	304
NOTE: Per Capita Consumption of Some Important Commodities		308

LIST OF TABLES

	PAGE
1. Estimated Number of Persons Employed in Small-scale Industrial Establishments in Japan Employing 1-49 Persons	8
2. Factories in Germany Classified by Size	9
3. Comparison of British and Japanese Cotton Textile Exports in the World Market (1928-1935)	28
4. Exports of Coarse Cotton Cloth from Japan and Great Britain (1928-1935)	29
5. Exports of Dyed Cotton Cloth from Japan and Great Britain (1928-1935)	29
6. Exports of Bleached Cotton Cloth from Japan and Great Britain (1928-1935)	32
7. Japan's Cotton Cloth Exports to Principal Markets (1928-1936)	33
8. Competition between Japan, Great Britain and China in the Chinese Cotton Tissue Market (1928-1935)	34
9. Competition between Japan and Great Britain in the British India (including Ceylon) Cotton Tissue Market (1928-1935)	34
10. Competition between Japan, Great Britain and British India in the Indian Cotton Cloth Market (1928-1936)	38
11. Imports of Cotton Tissue into Netherlands East Indies (1929-1934)	39
12. Imports of Coarse Cotton Cloth into Netherlands East Indies (1929-1934)	39
13. Imports of Dyed Cotton Cloth into Netherlands East Indies (1929-1934)	41
14. Imports of Bleached Cotton Cloth into Netherlands East Indies (1929-1934)	41
15. Competition between Japan and Great Britain in the Egyptian Cotton Tissue Market (1928-1935)	44
16. Number of Factories and Operatives in the Japanese Cotton Spinning and Weaving Industries according to Number of Operatives per Factory (End of 1935)	53
17. Number of Spindles and Spinning Mills (End of 1932)	55
18. Japanese Cotton Weaving Industry: Number of Looms of Each Kind Operated in Factories of Different Sizes (1926-1936)	58
19. Production and Exports of Cotton Cloth (in terms of bales of Cotton Yarn) Manufactured in the Spinning-Weaving Mills and Specialized Weaving Mills of Japan (1928-1935)	60

	PAGE
20. Exports of Cotton Cloth Manufactured in Specialized Weaving Mills (1928-1935)	60
21. Nos. i-viii: Output of Various Cotton Tissues Produced by the Spinning-Weaving Mills and Specialized Weaving Mills of Japan (1926-1935)	61-63
i. Shirtings	v. Cotton Flannel
ii. Sheetings	vi. Cotton Crêpe
iii. Drills	vii. Cotton Satin
iv. Cloth	viii. <i>Kokuraori</i>
22. Capital Composition of Japanese Cotton Spinning-Weaving Companies (1914-1935)	66
23. Depreciation of Fixed Capital of Japanese Cotton Spinning-Weaving Companies (1914-1935)	68
24. Increase of Efficiency in the Japanese Cotton Spinning Industry (1926-1935)	70
25. Number of Workers Employed in Different Processes in the Japanese Spinning Industry (10th October, 1927, 1930 and 1933)	72
26. Increase of Efficiency in the Weaving Section of Spinning-Weaving Mills in Japan (1926-1935)	73
27. Types of Capital Invested in the Striped Tissues (<i>Shima-Mitsuaya</i>) Textile Mills of Japan (1932)	74
28. Comparison of Cotton Cloth Produced per Loom in the Spinning-Weaving Mills and in Specialized Weaving Mills in Japan (1926-1936)	74
29. Comparison of Number of Looms per Worker in the Spinning-Weaving Mills and in the Specialized Weaving Mills in Japan (1926-1935)	76
30. Prices and Weaving Costs in Yen of Controlled Cotton Cloth in Japan (1930-1934)	81
31. Age Composition of Workers in the Cotton Spinning and Weaving Industries of Japan (1st October, 1920)	84
32. Age Composition of Workers in the Cotton Spinning-Weaving Mills and Specialized Weaving Mills of Japan (10th October, 1933)	87
33. Age Composition of Workers in the Textile and Other Industries of Japan (10th October, 1933)	88
34. Duration of Employment in the Japanese Cotton Textile Industry: Workers According to the Number of Years' Work (10th October, 1933)	91
35. Duration of Employment in the Japanese Metal, Machine and Tool Manufacturing, Shipbuilding, and Textile Industries: Workers According to the Number of Years' Work (10th October, 1933)	92
36. Recruitment of Workers in the Japanese Spinning and Weaving Industries (1927-1934)	99

LIST OF TABLES

	XV PAGE
37. Number of Workers in Japanese Spinning Mills Living in Dormitories (1926-1934)	101
38. Number of Workers in Japanese Weaving Mills Living in Dormitories (1926-1934)	101
39. Number of Workers in the Japanese Spinning and Weaving Industries Living in Dormitories of Various Sizes (1st October, 1934)	103
40. Wages of Female Workers, Grouped According to Length of Employment, in Japanese Cotton Spinning and Weaving Mills (10th October, 1933)	104
41. Wages of Female Workers, Grouped According to Age, in Japanese Cotton Spinning and Weaving Mills (10th October, 1933)	105
42. Wages of Workers in the Japanese Cotton Industry (1929-1936)	107-108
43. Increase and Decrease of Employment in the Japanese Silk Reeling, Spinning and Weaving Industries (1927-1935) ..	109
44. Supply and Consumption of Rayon Yarn in Japan (1918-1936)	113
45. Exports of Rayon Tissues from Japan (1928-1936)	114
46. Production of Yarn in Japan (1918-1936)	115
47. Price of Rayon Yarn in Japan (1923-1936)	116
48. Cost of Rayon Yarn in Various Countries (December, 1933) ..	116
49. Output of Rayon Tissues in Japan (1930-1936)	117
50. Japan's Exports of Rayon Tissues to Principal Countries (1928 and 1930-1936)	118
51. Factories Weaving Silk and Rayon Tissues in Fukui Prefecture (1923-1924 and 1926-1935)	119
52. Production of Rayon Tissues and Silk Tissues in Fukui Prefecture (1930-1936)	120
53. Number of Factories and Workers in the Japanese Rayon Weaving Industry According to Number of Workers per Factory (1929-1935)	121
54. Production of Rayon Tissues by Various Sized Factories in Japan (1929-1935)	122
55. Production of Rayon Tissues per Worker and per Factory by Various Sized Factories (1931)	122
56. Output of Rayon Tissues in Factories with 4 Workers or Under and 5 Workers or over (1930-1935)	123
57. Number of Weaving Factories and Workshops In Fukui Prefecture Classified According to Number of Looms (1924, 1927, 1930, 1933-1936)	123
58. Number of Factories (Whole Country and Fukui Prefecture) Classified According to Number of Looms (1932)	124
59. Number of Workers per Factory in the Rayon Weaving Industry in Fukui Prefecture (1923-1936)	124

	PAGE
60. Sex and Age Composition of Rayon Weaving Workers in Japan (1929, 1931, 1933-1935)	125
61. Number of Family Workers and Wage Workers in the Weaving Industry, Fukui Prefecture (1931-1935)	126
62. Aggregate Working Hours, Wages, and Hourly Wages in the Rayon Weaving Industry (1929-1935)	127
63. Cost per Yard of Raw Material and Processes in the Manufacture of Rayon Tissues	133
64. Output and Price per <i>Tan</i> of Rayon Tissues in Fukui Prefecture	133
65. Cost of Production of Plain Cloth (1933)	135
66. Wool Consumption in Japan (1912-1933)	145
67. Japan's Imports, Exports and Output of Raw Wool, Woollen and Worsted Yarns, and Tops (1896-1935)	148
68. Japan's Exports of Woollen Tissues to Principal Countries (1929-1936)	150
69. Number of Factories and Workers in the Japanese Woollen Weaving Industry According to Number of Workers per Factory (1929-1935)	151
70. Proportion of Total Output of Woollen Tissues Produced by Large Companies (1924-1936)	152
71. Proportions Occupied by Large Companies in the Total Production of Mousselines de Laines, Woollen Cloth, and Serges (1924-1935)	154
A. Total Production	154
B. Production of Large-scale Factories (Members of the Japan Woollen Industry Association)	154
C. Proportion of Large-scale Factories' Production to Total Production	155
72. Number of Workers and Looms per Factory (1923-1934) and Output (1932) in Aichi Prefecture	156
73. Number of Workers in Establishments Classified by Number of Looms (1923-1935)	165
A. Actual Numbers	
B. Index Numbers	
74. Age Distribution of Workers Classified by Type of Work Performed (1930 and 1933)	166
75. Duration of Employment of Workers in Woollen Weaving Industry (1930 and 1933)	167
76. Average Daily Wage of Woollen Textile Workers (1927, 1930, 1933)	168
77. Percentage of Hand Looms and Power-Looms in Aichi Prefecture (1923-1934)	173
78. Average Income and Expenditure per Factory (1932)	175
79. Examples of Income, Expenditures, and Profit in the Woollen Weaving Industry (1933)	176

LIST OF TABLES

Xvii

	PAGE
80. Constituents in the Cost of Woollen Tissues (1933)	177
81. World Consumption of Rubber (1930-1935)	182
82. Number of Rubber Manufacturing Plants in Japan (End of 1935)	185
83. Production of Rubber Goods in Japan (1919-1935)	187
84. Exports of India-rubber and Gutta-percha Manufactures from Japan (1918-1936)	188
85. Automobile Tyres Imported into and Manufactured in Japan (1930-1935)	189
86. Japanese Exports of Rubber Boots and Shoes, According to Continent (1931-1935)	192
A. Rubber Boots and Shoes with Fabric Uppers	
B. Shoes made Entirely of Rubber	
87. Rubber Goods Factories Classified According to Number of Workers Employed (1919-1935)	201
88. Number of Workers Employed in Rubber Goods Factories of Various Sizes (1919-1935)	202
89. Value of Rubber Goods Produced in Japan (1929-1935)	203
90. Number of Establishments and Persons Employed in Rubber Boot and Shoe Factories Classified According in Number of Persons Employed (1932)	204
91. Ages of Workers in Rubber Goods Manufacturing (1921-1935)	206
92. Ages of Workers in Factories Classified According to Number of Workers Employed (1935)	211
93. Number of Workers in Factories Producing Rubber Shoes and Rubber-soled Fabric Shoes (1932)	212
94. Daily Wages of Workers in the Kobe Rubber Goods Factories (February, 1934)	216
95. Aggregate Working Hours and Wages in the Rubber Goods Factories of Japan (1929-1935)	219
96. Average Daily Wage of the Ordinary Workman in Osaka Rubber Goods Factories (1926-1933), and Bank of Japan Wage Index (1926-1936)	220
97. Corporate and Individual Rubber Goods Manufacturing Enter- prises Classified According to Profit and Loss (1932)	224
98. Percentage of Profit According to Size of Establishment in the Rubber Shoe and Rubber-soled Fabric Shoe Industries (1932)	225
99. Annual Output of Bicycles in Japan (1913, 1918, 1929-1936)	233
100. Annual Exports of Bicycles from Japan (1917-1936)	233
101. Number and Percentage of Factories and Workers in the Japanese Bicycle Industry According to Number of Workers per Factory (1930)	236
102. Age Distribution and Daily Wages of Workers in Large Bicycle Factories in Japan (1930)	241

	PAGE
103. Wages Per Hour in the Bicycle Industry (1929-1935)	244
104. Japanese Output and Exports of Enamelled Ironware (1920-1936)	254
105. Number and Percentage of Enamelled Ironware Factories and Workers According to Number of Workers per Factory (1930)	255
106. Wages per Hour in the Enamelled Ironware Industry (1929- 1935)	256
107. Recent Exports of Japanese Electric Lamps (1928-1936)	267
108. Tokyo Lamp Factories Producing Materials and Parts (1933) ..	270
109. Number of Factories and Workers in the Electric Lamp Industry According to Number of Workers per Factory (1928- 1935)	272
110. Number of Factories Classified According to their Capital (1932)	274
111. Index Number of the Average Export Price of Electric Lamps (1929-1936)	275
112. Classification of Average Income, Expenditures and Profit per Factory (1932)	276
113. Constituents in the Cost of Electric Lamps (1932)	278
114. Ages of Workers in Electric Lamp Factories, Tokyo (1933) ..	280
115. Daily Wages of Workers in Electric Lamp Factories (1934) ..	281
116. Average Annual Earnings per Worker (1932)	281
117. Index Numbers of Working Hours and Wages in Tokyo Lamp Factories (1929-1935)	282
118. Family Budgets of Industrial Workers with Incomes Under 100 yen, Tokyo (1926-1927)	295
119. Items of Living Expenses and Their Weights, Tokyo (1914- 1922). (A)	296
119. Items of Living Expenses and Their Weights, Tokyo (1922- 1933). (B)	296
120. Tokyo Cost of Living Index Numbers (1914-1933)	298
121. Real Wage Index Numbers (1914-1933)	301
122. Real Wage Index Numbers in Various Manufacturing Industries (1926-1933)	302
123. Index Numbers of per Capita Consumption of Some Important Commodities (1914-1933)	310-313

LIST OF DIAGRAMS

	PAGE
1. Growth of Cotton Yarn Production in the Cotton Spinning Industry in Japan (1887-1936)	21
2. Number of Spindles in the Cotton Spinning Industry in Japan (1887-1936)	22
3. Production and Imports of Raw Cotton in Japan (1878-1912)	24
4. Japan's Exports and Imports of Cotton Yarn (1912-1934) ..	25
5. Exports of Cotton Tissues from Japan (1913-1934)	26
6-9. Competition between Japan and Great Britain in World Cotton Tissue Trade (1928-1935)	30-31
6. Cotton Tissue (Total)	30
7. Coarse Cotton Cloth	30
8. Dyed Cotton Cloth	31
9. Bleached Cotton Cloth	31
10. Competition between Japan, Great Britain and China in the Chinese Cotton Tissue Market (1928-1935)	35
11-14. Competition between Japan and Great Britain in the British India (including Ceylon) Cotton Tissue Market (1929-1936)	36-37
11. Cotton Tissue (Total)	36
12. Coarse Cotton Cloth	36
13. Bleached Cotton Cloth	37
14. Dyed Cotton Cloth	37
15-18. Competition between Japan and Other Countries in the Netherlands East Indies Cotton Tissue Market (1929-1934)	42-43
15. Cotton Tissue (Total)	42
16. Coarse Cotton Cloth	42
17. Dyed Cotton Cloth	43
18. Bleached Cotton Cloth	43
19-22. Competition between Japan and Great Britain in the Egyptian Cotton Tissue Market (1928-1935)	46-47
19. Cotton Tissue (Total)	46
20. Coarse Cotton Cloth	46
21. Bleached Cotton Cloth	47
22. Dyed Cotton Cloth	47
23. Foreign Exchange Rates (1929-1934)	48
24. Production and Marketing System of Japan's Cotton Industry	50
25. Number of Spindles in each Cotton Spinning Establishment in Japan, 1932 (71 Companies)	52

	PAGE
26. Number of Looms in each Cotton Spinning-Weaving Establishment in Japan, 1932 (47 Companies)	54
27. Distribution of Looms Among Cotton Weaving Factories of Various Sizes (1923-1933)	54
28. Percentage of Total Output of Various Cotton Tissues Produced by Japanese Specialized Weaving Factories (1926-1935)	56
29. Capital Composition of Japanese Cotton Spinning-Weaving Companies in Japan (1914-1935)	59
30. Efficiency Index Numbers in the Japanese Cotton Spinning Industry (1913-1935)	64
31. Output of Cotton Yarns in Japan (1913-1935)	67
32. Efficiency Index Numbers in Weaving Section of Spinning-Weaving Mills in Japan (1913-1935)	71
33. Index Numbers of Prices of Japanese Cotton Tissues Under Production Control Scheme (1930-1934)	78
34. Index Numbers of Prices of Japanese Cotton Tissues Not Under Production Control Scheme (1930-1934)	80
35. Fluctuations of Weaving Cost and Price of Cotton Flannels (1931-1934)	82
36. Fluctuations of Weaving Cost and Price of Cotton Crêpes (1931-1934)	82
37. Fluctuations of Weaving Cost and Price of Cotton Striped Drills (1931-1934)	83
38. Age Composition of Workers in Cotton Spinning Mills (Government Census, 1st October, 1920)	85
39. Age Composition of Cotton Weaving Workers (Government Census, 1st October, 1920)	86
40. Age Composition of Workers in all Japanese Industry other than Textile Industry, and in Textile Industry	90
41. Number of Male and Female Workers (Expressed as Percentages of the Total) in the Japanese Cotton Spinning Industry Classified According to Length of Employment (1930)	93
42. Number of Male and Female Workers (Expressed as Percentages of the Total) in the Japanese Cotton Weaving Industry Classified According to Length of Employment (1930)	94
43. Regional Distribution of Sources of Supply of Female Cotton Spinning Workers (1931)	96
44. Supply of Female Cotton Spinning Workers by Towns and Villages in Niigata Prefecture (1934)	98

LIST OF DIAGRAMS

xxi

	PAGE
45. Index Numbers of Workers and Wages (Nominal and Actual) in Japanese Cotton Spinning Industry (1926-1936)	110
46. Index Numbers of Workers and Wages (Nominal and Actual) in Japanese Cotton Weaving Industry (1926-1936)	110
47. Supply of Female Silk Reeling Workers by Towns and Villages in Niigata Prefecture (1934)	112
48. Organization of the Rayon Weaving Industry in Japan	131
49. Price of Rayon Yarn and Rayon Tissues (1935-1936)	134
50. Japan's Production, Export and Import of Woollen Tissues (1896-1936)	140
51. Japan's Production, Export and Import of Muslin (1896-1935)	142
52. Production of Woollen Tissues in Japan (1899-1935)	144
53. Japan's Production, Export and Import of Woollen Cloth and Serges (1896-1935)	146
54. Japan's Imports of Crude Rubber (1901-1935)	183
55. Number of Factories and Workers in the Rubber Goods Industry in Japan (1909-1935)	184
56. Processes in the Manufacture of Rubber Goods	196
57. Age Distribution of Workers in Rubber Moulding in the Tokyo District (1930)	209
58. Average Daily Wages in Rubber Goods Factories According to Length of Employment (1930)	218
59. Employment, Wage Rates and Earnings in Rubber Goods Factories (1926, 1929-1936)	221
60. Organization of the Bicycle Industry: Large Units	235
61. Organization of the Bicycle Industry: Small Independent Units	235
62. Organization of the Bicycle Industry: Small Controlled Units	237
63. Index Numbers of Prices of Bicycle Parts and of Foreign Exchanges (1932-1933)	250
64. Organization of the Enamelled Ironware Industry in Japan	257
65. Index Numbers of Prices of Enamelled Iron Goods and of Foreign Exchanges (1932-1933)	264
66. Tokyo Cost of Living Index Numbers (1914-1933)	315
67. Tokyo Cost of Living and Retail Price Index Numbers (1914-1933)	315
68. Index Numbers of Money Wages in Japan (1914-1933)	316
69. Index of Real Wages, Tokyo and Whole Country (1914-1933)	316
70. Real Wage Index before and after the Second (December, 1931) Gold Embargo in Japan (October, 1931-June, 1937)	317

	PAGE
71. Real Wage Index According to Industries (1926-1933) (1) ..	318
72. Real Wage Index According to Industries (1926-1933) (2) ..	318
73. Real Wage Index According to Industries (1926-1933) (3) ..	318
74. Index Numbers of Real Wages and Employment in Japan (October, 1931—June, 1937)	319
75. Index Numbers of per Capita Consumption of Some Important Commodities (1914-1931). A	320
Index Numbers of per Capita Consumption of Some Important Commodities (1914-1933). B	320
Index Numbers of per Capita Consumption of Some Important Commodities (1914-1933). C	320
Index Numbers of per Capita Consumption of Some Important Commodities (1914-1932). D	320

APPENDIX
COST OF LIVING AND REAL WAGES IN JAPAN,

1914-1936

I. INTRODUCTION

THE object of this appendix is to present some statistical materials on one important aspect of the Japanese population problem. An increase of population need not cause serious social difficulties even though the rate of growth is high or the density of population is great in proportion to the area of the country. Anxiety need only arise when the growth seems likely to force a lowering of the standard of living of the people or seriously check its rise.

If the standard of living continues to rise, an increasing population may be a blessing, but if it tends to force down standards, it will become a menace to the peace of society. Of course, we must guard against placing undue importance on the effects of changes in population on standards of living, and we have to consider not only the number of inhabitants but also the growth of industries giving employment to them. In a completely industrialized country general commercial and financial conditions play a large part in determining the standard of living of the people, and changes in the size of the population may be relatively much less important. Nevertheless, in a country like Japan, where about half of the entire population is engaged in agriculture of a traditional kind and where the average farming household subsists on some two and a half acres of land, a rapid increase in the rural population must have an unfavourable effect on their standard of living, unless it is accompanied by an expansion of employment in towns, or a development of new rural industries. In fact, a continuous migration of young men and women from rural to urban districts in search of employment is an outstanding feature of Japan. If the industries of the towns are expanding, such a flow of population goes on smoothly, but, if this is not the case, people must remain at home and tend to overcrowd rural occupations. The available land becomes insufficient to employ

each 'pair of hands'. Thus, in villages, overpopulation in a Malthusian sense occurs and must have a depressing influence upon the standard of living both in town and country.

It is generally believed by those who have observed the economic development of Japan during the last sixty years that the standard of living of the people was steadily rising for many years before the Great War, that it made a striking upward jump during the war-boom years, and that, in more recent times, it has become difficult to maintain this higher level. So far, however, we have not been able to prove this observation by statistics. There have long existed in some other countries, calculations which clearly show fluctuations in real incomes over a very long period, e.g. Sir William Beveridge, in discussing the relations between unemployment and the increase of population in England, has estimated changes in the real wages of the English working classes since 1860.¹ The following study of the real wages of industrial workers in Japan has been attempted with the aim of presenting some materials of a similar kind. The scope of our inquiry is limited to industrial workers. For the conditions of agricultural workers, we must refer to Dr. Nasu's latest (Japanese) work.² These two inquiries should give a fairly complete picture of conditions in the country as a whole. However, we believe that the conditions of industrial workers also reflect, to a considerable extent, the conditions of the people in general.

The method of estimating changes in real wages that we have adopted in this study is to divide the actual earnings in each year by the cost of living index number of that year, and compare the results thus obtained from year to year. For the latest years such figures are not difficult to obtain, as the Bank of Japan has published an index number of wages since 1926, while the *Asahi* newspaper has compiled a cost of living index going back to 1931. The Bank of Japan's index number of retail prices, going back to 1922, is also to some extent a substitute for the cost of living index number. But as we want to show changes over a longer period going back at least to the beginning of the Great War, we are faced with difficulties. We have the wage index number compiled by the

¹ *Unemployment*, 1930.

² *Nōsanbutu Kakakuhendō to Nōkakonyūhin Kakakuhendō to no HikakuKentō (Comparison between price fluctuations of agricultural products and manufactures for agricultural use)*.

Ministry of Commerce and Industry covering the whole period of twenty years, but we had to compute a fresh cost of living index number for this period, based upon family budget statistics and the index number of commodity prices. Further, we found the available materials defective in many points. The family budget figures which we used were those published by the Cabinet Bureau of Statistics in 1926-1927. We must, however, be content if we can reach conclusions giving a fair, general idea of the violent changes in real wages which took place during this eventful period in national history.

For the years following the re-imposition of the gold embargo in 1931, the Bank of Japan and *Asahi* index numbers have enabled us to make a separate and more complete study. The fact that, since the departure from gold and the depreciation of the yen, real wages have been going down in spite of the prosperity of a considerable number of industries is a phenomenon which has very serious political repercussions.

2. THE 'STANDARD OF LIVING' AND METHODS OF ESTIMATING ITS FLUCTUATIONS

By 'standard of living', we mean the sum total of goods and services which people think essential for their accustomed way of living. For instance, every Japanese industrial worker has a general idea of the conditions under which he can satisfy those needs and desires of himself and his family which are regarded as proper to the class to which he belongs. These might include the provision of meals consisting of rice, fish, and vegetables; neat cotton clothing; of two- to three-roomed house; frequent baths; a certain amount of recreation, etc. In order to obtain these things he must have sufficient income and leisure, for without them he will feel discontented. If he is contemplating marriage, consultation among family members concerned will be focussed on the question of the sufficiency of his income for maintaining a home at that level of comfort. The 'standard of living' is not simply inherited, but changes with the current conditions of society. Prosperous industry will mean better pay and, if it continues for a time, a rise in the standard of living; the luxuries of yesterday become the necessities of to-day. Over a long period, people are not so much concerned whether their standard is high or low, but they feel happy when it is rising.

Depressed industry makes it difficult to live up to the accustomed standard, and, if it continues, will enforce a fall in standards; what were considered necessities previously now have to be looked on as luxuries. This process of degradation naturally breeds discontent.

The standard of living itself is not a definite thing, which can be expressed numerically, but we can obtain the statistics of family budgets of workers, which may be taken to contain figures of their expenditure on all the usual goods and services which they consume. If their wages are sufficient to pay for these at current prices, it may be said that their standard is being maintained.

From figures collected by the Cabinet Bureau of Statistics, we can learn the amount of money spent by the families of industrial workers in Japan on rent, clothing, rice and other food. When changes in the prices of commodities make it necessary to spend more money to maintain standards, their living conditions become hard. With rising prices, a family will have to economise or perhaps run into debt, and consequently lower its standard, at least for the time being; falling prices of commodities mean higher standards, with the same money income. The indicator of the purchasing power of money to be used in connection with this problem should not, however, be one of general prices but of the cost of living.

Of course, there are other methods of studying changes in the standard of living. For instance, from the figures of national consumption of rice, wheat, sugar, fish, meat, vegetables, cotton, wool, silk, tobacco, drinks, etc., the annual consumption per head of the population can be calculated. We have therefore tried to do this with certain important commodities, and our results are shown in the Note on page 308. Unfortunately, however, figures of national consumption are generally incomplete.

3. COMPUTATION OF THE COST OF LIVING INDEX NUMBER

Before proceeding further, it is necessary to explain the methods by which our cost of living index number has been obtained so that its real significance may be made clear.

i. *Family budgets*

Our index number is to be based upon the prices of the various goods and services, which enter the workers' daily consumption. But, as each of these items has a different degree of importance in

the total expenditure of a household, we must weight them according to the individual importance before we make an average for the purpose of forming a single index. There are many ways of determining the weights, but the best is to study the family budgets of consumers.

We are able to do this, as the Cabinet Bureau of Statistics has published a reliable report on the family budgets of various social classes, every year since 1926-1927. It may not be exactly correct to use 1926-1927 as a base year in calculating the cost of living as far back as 1914, for there may have been changes in the mode of life of these classes between the two dates. We were unable, however, to find any suitable material compiled at an earlier date, and also, we know from general observation that our results are not likely to be unreasonably inaccurate if based on that year's budgets.

The report of the Bureau of Statistics divides families into three groups, those of (a) salaried men, (b) industrial workers, and (c) farmers. Each of these are sub-divided into nine classes according to the size of their incomes. The lowest class contains those with monthly incomes of 60 yen and under and the highest those with over 200 yen. The intermediate classes are spaced at 20 yen intervals. For each class is calculated the average monthly expenditure per family and the proportion of money spent on each item of consumption. For our study we have used the family budgets of industrial workers living in Tokyo, with incomes of from 60 to 100 yen a month, because this class may be taken as representative of the whole wage-earning population of the country. According to the wage statistics of the Bank of Japan and the Ministry of Commerce and Industry which include various kinds of factory workers, the average adult male worker receives about 75 yen a month when in full work.

ii. *Price changes in family budget items*

In order to measure changes in the prices of the various kinds of goods and services contained in the family budgets shown above, it is essential to obtain the necessary price index numbers. But here also figures covering the twenty years since 1914 are not obtainable. For the want of something better for our purpose we have used the Bank of Japan's retail prices for the period after 1922

and the retail price statistics prepared by the Ministry of Finance, for the earlier years. This arrangement leaves a gap between the two price indices at 1922, but we believe that it will not prevent us from getting a general idea of changes that have taken place over the twenty years.

However, a general price index number is not sufficient to enable us to measure changes in all the items appearing in family budgets, as it does not include charges for 'services', house-rents and certain other indispensable items. We have had therefore to make our own inquiries into house rents, barber's and bath-house charges, school fees, prices of school text books, amusement expenses and tram fares for each year since 1914. With these we have figures covering 81 items for the years after 1922, and 27 between 1914 and 1922.

As will be seen from Table 118, the two most important items of domestic expenditure in Japan are rice and house rent. Inquiries concerning house rents are extremely difficult to undertake and it is almost impossible to get any reliable materials on the subject for no large-scale investigation into rents has ever been undertaken in Tokyo. We managed to obtain a number of out-of-date records from private owners of rented houses, but they were all found to be incomplete. Some of the houses had been burnt in the great earthquake, and accordingly their records stop at that time. Our inquiries were further complicated as we were interested particularly in houses usually rented by the working classes. All the useful results of our inquiries are contained in the following four groups of scanty materials. 1. Rents for 1914-1934 of eleven houses for industrial workers at Toyōke-Machi, Shiba-ku, Tokyo. 2. Rents for 1931-1934 of 1,500 houses collected by the Dojunkai Building Society. 3. Rents for 1924-1934 of 48 houses belonging to an individual owner in Fukagawa, Tokyo. 4. Rents for 1924-1934 of 500 houses near Oshima, Mukojima-ku, belonging to a firm in Nihonbashi, Tokyo.

As we wanted figures covering a period of twenty years, No. 1 alone contained materials fully suited for our purpose, but as it deals only with eleven houses it cannot be considered representative of fluctuations of Tokyo house rents. We have, however, compared it with the other three groups and found that since 1924 all groups have moved together fairly closely. We can only hope that our

conclusions, though very tentative, may be of some use in showing the trend of fluctuations in Tokyo generally.

It should also be noted that our index numbers only refer to houses built in and before 1914. These houses by now are old and much repaired, and the fall in their rents is largely due to the effects of wear and tear, and does not necessarily represent the trend of house rents in general. This is particularly true in Japan where houses are made of wood and plaster and are considered to be old after they have been standing for comparatively few years. The rents of these older houses will therefore not be so sensitive to external economic conditions as those of newer ones. In order to eliminate this weakness in the index numbers it would be necessary to re-select from time to time the houses examined. This weakness applies not only to our present study; the doubtful accuracy of house rent figures in Japan must be taken into consideration in all works of this kind. We are fully aware of the inadequacy of this part of our materials and shall welcome the appearance of more trustworthy figures.

iii. *The calculation of the index*

The classification of goods and services in the price statistics is not the same as that used in the family budgets; nor do the items relating to price changes gathered from the various sources perfectly cover all the items appearing in such budgets. Further, as the price statistics between 1914 and 1922 contained fewer items than those for the years after 1922, it was necessary to make separate lists for the two periods. Nevertheless, it has been possible to provide price indices of the goods and services fairly representative of the items given in the family budget. Accordingly, we proceeded to weight each of these price indices according to its importance in the workers' household expenditure as shown by the budget and tried to make a single index of the cost of living for our representative class of industrial workers, i.e. those with monthly incomes of from 60 to 100 yen.

It should be mentioned here that we had to revise the weight table shown in the official family budget.

Minor items such as taxes, social expenses including presents, entertainment of friends, club fees, etc., travelling expenses, servants' pay, and others incompletely recorded were excluded from the list.

These tend to fluctuate in the same way as the general cost of living. Prepared food delivered at the house and lunches taken outside were also removed from the list as their prices cannot be ascertained and they may be taken to change in the same way as prices of food in general. The total weight of food expenses was left as it was and the proportion of sub-items in food expenses was revised.

After weighting and adding together the individual items, the total was divided by the weights. The year 1914 was chosen as base, as we wanted to show the remarkable changes that took place during the Great War, the years of the war boom, the post-war crisis, the years of partial recovery, the return of Japan to the gold standard and her second departure from gold. There is some discrepancy between the figures for 1914-1922 and those for 1922-1933 for the reasons already stated, but it was thought better to leave them as they were rather than to attempt any revision. The results are seen in Diagram 66.

iv. *The results*

Our diagram shows that during the first two years of the Great War, the cost of living fell below its pre-war level. This was mainly due to declining prices of rice. But after 1916, as the war boom began to affect every part of economic life, there was a very sudden and sharp jump. Between 1917 and 1919, there was an acute rise which led in 1918 to rice riots. In 1921 as a result of the post-war reaction, the index dropped abruptly, and it fell gradually and continuously until 1931, with the exception of 1923-1925 when the great earthquake led to a temporary rise of prices. Between 1930 and 1931, after the removal of the gold embargo at the beginning of the world depression, there was a sharp fall. Since the re-imposition of the embargo in December, 1931, there has been a gradual rise.

The movements in the index numbers of the separate items may be summed up as follows. That for food moved together with the general index, which is natural, since the index for food represents the most important and therefore most heavily weighted of the items of expenditure. Its fluctuations were, however, more marked. The index-number for clothing also moved in the same direction but with still greater fluctuations owing perhaps to the greater elasticity of demand for these products and to the fact that they are largely international in character. On the other hand, house rents and

miscellaneous expenses remained comparatively stable, and their movements lagged behind those of the general index. During the War, while all other items reached exceptional heights, the house rent index remained low and to some extent prevented the upward movement of the general index. More recently, however, while commodity prices fell, house rents kept stable, and checked the fall in the general index number. The difference between the general index and food index is chiefly due to the stabilizing effects of house rent figures. The light and heat index made an abrupt rise during the War and stayed at that height until it began to fall in 1928.

A comparison of our general cost of living index number, since 1922, with that of retail prices (Diagram 67) shows perhaps a very slight tendency of retail prices to fall faster than the cost of living. This tendency also is dependent upon the slower movements of house rents, services, and miscellaneous expenses.

The retail price index of the Bank of Japan is made by means of a simple arithmetic average, using no system of weighting, but its choice and its method of grouping of commodities appear to give special emphasis to the main articles. For instance, under the heading 'rice', we find four kinds of rice, Japanese rice, Japanese glutinous rice, Korean and Formosan rice, and foreign rice. Thus, as rice is given four points whereas most other articles have only one, any change in the price of rice must have correspondingly strong influence on the general index. Again, 'foodstuffs' include 51 items out of the hundred chosen by the Bank; and thus, food is made by far the most important group in the whole, being given actually a weight similar to that in our own index (46.26 per cent). We therefore believe that the risk involved in using the Bank of Japan's retail price-index number as a substitute for the cost of living index is not very large, provided that the importance of house rent is borne in mind.

4. INDEX NUMBER OF THE WAGES OF INDUSTRIAL WORKERS

Our next business is to examine how workers' wages have changed in comparison with the cost of living index number. There are various sets of wage statistics in Japan, including those of the Bank of Japan, the Ministry of Commerce and Industry, the Bureau of Statistics, and *Asahi* newspaper, but those of the Bank of Japan and

the Ministry of Commerce and Industry are most generally used. The Bank of Japan's index number of wages is the most reliable and, as it represents the wages of factory workers, seems best suited for our purpose. However, as it goes back only to 1926, we had to use the index of the Ministry of Commerce and Industry for the years before that date, *i.e.* for the larger part of our study.

TABLE 120. TOKYO COST OF LIVING INDEX NUMBERS (1914-1933)

	General index number	Food & drink	Housing	Lighting & heating	Clothing	Other expenses
1914	100.0	100.0	100.0	100.0	100.0	100.0
1915	92.5	85.0	100.8	99.1	93.1	100.0
1916	100.6	91.9	101.8	98.9	112.2	119.7
1917	123.7	123.6	103.1	135.1	160.3	127.5
1918	174.3	194.2	107.3	202.0	244.6	159.2
1919	216.9	256.3	115.4	239.6	306.8	183.3
1920	235.2	273.8	132.4	303.6	288.0	213.1
1921	208.3	213.9	144.3	314.3	238.2	230.3
1922	222.7	239.8	157.5	322.6	222.0	233.1
	215.4	224.9	160.1	291.9	233.1	231.2
1923	205.3	208.7	160.9	289.4	221.1	220.8
1924	208.0	215.2	158.6	301.0	220.5	218.1
1925	214.4	224.3	171.1	282.6	221.9	219.5
1926	207.6	210.8	183.6	272.2	194.2	219.1
1927	204.4	203.0	193.5	293.3	168.5	214.0
1928	199.0	191.7	194.6	290.6	167.5	213.4
1929	193.1	186.0	193.3	263.7	161.5	208.2
1930	174.5	165.5	186.7	215.9	133.4	195.7
1931	155.6	139.5	182.6	191.9	113.7	177.6
1932	156.5	145.2	179.0	165.4	115.8	181.8
1933	161.1	147.7	177.4	205.2	125.9	183.8

Author's estimate.

The Bank of Japan's index is based on investigations into the wages paid by a number of representative factories in different industries employing more than 40 or 50 workers, with which the Bank had arranged for the collection of reports. The Bank publishes an index number for (a) wage rates and (b) actual earnings. The 'wage rates' are obtained by taking an average of the 'average wages' reported from different factories. The average wages paid by each of the reporting factories on the last day of the month are added up and divided by the number of such factories. The 'actual

earnings' are obtained by dividing the total payments made to workers during the month by the total number of working days of all the workers employed there. In it are included ordinary wages, over-time pay, and all allowances other than the bonuses paid twice a year according to long established Japanese custom. 'Actual earnings' are better suited for our purpose.

The wage index of the Ministry of Commerce and Industry is based on monthly reports from the Chambers of Commerce in the thirteen large cities, dealing with the average daily earnings of skilled workers, and includes besides regular wages, over-time and all other allowances. The value of payments in kind is also calculated and added to the total earnings. It is important to note that the index includes the wages of handicraft artisans such as carpenters and masons. This index has undergone three changes in the course of its history, and we have to-day three different sets of index numbers with different base years: A. 1900, B. 1921-1923, and C. April 1934-March 1935. Index A includes 28 kinds of workers, index B, 52, and index C, 73. A represents mainly the wages of handicraft artisans, B and C include those of factory workers as well.

The A index of the Ministry of Commerce and Industry is the only one that covers the whole period we are trying to study, but other indices may be useful for the investigation for more recent years. Diagram 68 shows first the trend of wage movements for the whole period, based solely upon index A; and second, three lines showing movements in the years after 1928, based upon (a) the Bank of Japan's index of 'actual earnings', (b) index A, and (c) index B, of the Ministry of Commerce and Industry. The conclusions to be drawn from this diagram seem, briefly, to be as follows:

First, from the graph for the whole period, we find that the wages of industrial workers, particularly of those belonging to the artisan group, rose sharply during the World War and held up fairly well until 1924, when they began to fall gradually. It may be mentioned here that the fall in the general level of prices during 1921 and 1922 affected wages to a very small extent, and that the great earthquake of 1923 must have had some influence in keeping them on a higher level in the years immediately following. With the setting in of the world depression and the return of Japan to the gold standard a very steep fall took place between 1929 and

1931. This downward movement was somewhat checked after the second gold embargo in December, 1931, and between 1933 and 1934 the index became stationary. However, by this time, the cost of living had already begun to rise again.

Second, when we look at the three lines for recent years at the foot of the diagram, we find a similar fall during the years before 1931 as in the first line, with more or less stationary conditions after 1932. Nevertheless, the three lines, being based upon three different materials, show some discrepancies. The two indices of the Ministry of Commerce and Industry have slightly sharper drops than the Bank of Japan's index. This is probably because wages of handicraft workers are more liable to fluctuations than those of factory employees.

Realization of this difference between the wage movements of craftsmen and factory workers may be useful in helping us to interpret our index for the whole period, and tends to show that Index A of the Ministry of Commerce and Industry gives a somewhat exaggerated impression of the fluctuations of wages in general, as it represents mainly the wages of traditional craftsmen. We believe, however, that these exaggerations are only slight.

On comparing Diagram 68 with Diagrams 66 and 67, it will be clearly seen that the wage index followed about the same course as the movements of commodity prices and the general cost of living, but with considerable time lag. At a time when business was improving and prices had already begun to rise considerably, wages had only slowly moved upwards. On the other hand, wages remained stationary after prices and the cost of living had started to fall. This matter must be left for consideration in later pages.

5. INDEX NUMBER OF REAL WAGES

With the index numbers of the cost of living and money wages available, the remainder of our calculations are rather simple. We divide the wage index of each year by the cost of living index and thus obtain an index of real wages. This may be said to indicate changes in the physical volume of goods and services which could be bought with the wages received. The index is charted in Diagram 69.

The index of real wages in Japan after a small rise showed a fall during the first three years of the Great War, to below the pre-war

TABLE 121. REAL WAGE INDEX NUMBERS (1914-1933)

	Ministry of Commerce and Industry wage index		Real wage index		Bank of Japan actual earnings index		Cost of living index ¹ 1926=100	Real wage index	
	Whole country	Tokyo	Whole country	Tokyo	Whole country	Tokyo & Yokohama		Whole country	Tokyo & Yokohama
1914	100.0	100.0	100.0	100.0					
1915	100.1	98.5	108.2	106.5					
1916	105.7	106.7	105.1	106.1					
1917	121.7	128.7	98.4	104.0					
1918	161.0	164.0	92.3	94.1					
1919	221.8	218.2	102.3	100.6					
1920	288.1	292.2	122.5	124.2					
1921	287.1	297.3	137.8	142.7					
1922	309.3	322.0	143.6	149.5					
			138.9	142.6					
1923	308.0	328.2	150.0	159.9					
1924	316.3	356.1	152.1	171.2					
1925	311.9	346.0	145.5	161.4					
1926	310.1	347.7	149.1	167.5	100.0	100.0	100.0	100.0	100.0
1927	303.9	343.8	148.7	168.2	102.1	104.6	98.4	103.7	106.3
1928	303.4	333.4	152.4	167.5	105.3	108.3	95.9	109.8	113.0
1929	299.8	331.1	155.2	171.4	103.9	107.6	93.0	111.7	115.7
1930	274.6	301.1	157.3	172.5	98.7	102.8	84.1	117.4	122.3
1931	246.7	295.8	158.6	190.2	90.7	97.1	74.9	121.0	129.6
1932	236.4	286.4	151.0	182.9	88.1	96.3	75.4	117.5	127.7
1933	236.7	289.6	147.0	179.8	89.2	98.8	77.6	115.0	127.4

¹ Calculated from author's cost of living index number.

TABLE 122. REAL WAGE INDEX NUMBERS IN VARIOUS MANUFACTURING INDUSTRIES (1926-1933)

	¹ Spinning	¹ Silk reeling	¹ Weaving	¹ Knitting	Machine manuf.	Ship- building	Vehicle manuf.	Total manuf.	Metal manuf.
1926	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1927	101.4	97.6	99.8	101.1	102.5	97.7	103.4	101.9	102.1
1928	105.5	100.0	102.6	100.3	108.1	104.6	104.9	104.4	108.0
1929	103.6	101.3	102.6	100.4	110.0	109.2	103.9	104.7	111.5
1930	103.2	98.4	99.7	99.3	112.9	111.9	106.9	106.5	116.1
1931	99.4	90.5	99.2	101.8	119.3	115.6	113.4	114.9	125.1
1932	87.4	81.6	90.8	97.2	127.7	120.2	113.9	116.4	124.9
1933	80.6	79.5	85.7	90.5	129.7	125.2	115.4	115.1	124.1
	Cement, pottery, glass, etc.	Paper	Medicine	Rubber	Artificial fertilizer	Food & drink	Printing & binding	Furniture & wood manufacture	Dyeing
1926	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1927	103.1	102.2	102.3	103.2	103.5	103.7	104.0	102.0	100.0
1928	104.9	106.8	105.0	107.9	105.5	105.5	107.1	103.1	102.3
1929	106.2	110.2	109.2	112.5	109.3	109.3	107.0	103.8	102.5
1930	109.3	121.0	116.2	114.8	120.5	117.3	114.0	104.6	109.0
1931	113.0	126.4	126.7	123.0	126.0	126.1	123.8	105.3	118.0
1932	109.8	119.9	121.1	117.1	125.9	122.5	121.2	99.6	114.6
1933	107.8	119.1	106.6	111.2	123.0	119.2	116.4	94.4	107.4

¹ Women's wages. The remaining columns show men's wages only.

Based on the Bank of Japan's *Statistics of Factory and Mining Labour*; Actual Earnings indices for various industries.

level. This was because wage rates rose much more slowly than the cost of living. The low level in 1918 provides an explanation for the rice riots which broke out in the summer of that year.

This was the lowest point of the whole period. In the following year, business suddenly began to climb steeply, and both the cost of living and wage rates showed a tremendous rise. But since wages rose much faster than the cost of living, the workers, who had been suffering hardship for several years in the past, began to enjoy some of the good things of life.

Later, though the rate of increase slackened, real wages continued to rise until 1924, the year following the earthquake, for in spite of the sudden drop of commodity prices directly after the War and the stationary condition of trade in the following years, money wages remained fairly high.

Through the seven years from 1924 to 1931, both the cost of living and wages fell, but as the fall in wages was less marked, real wages continued to rise slightly. Even the heavy drop of money wages in 1930-1931 did not check this rise, as prices were falling still faster.

However, for the two years following the re-imposition of the gold embargo in 1931, wages sank sufficiently to reduce real wages sharply, as in the early days of the War, while the cost of living rose slightly. This helps to explain the social unrest of 1932-1933.

On the whole, the standard of living of industrial workers, after having been raised substantially after the War, has not made any progress since that time, and to-day the position is not as good as that in 1924. This is exactly what general observation leads us to expect.

These statements apply only to industrial workers in fairly large factories, and not to farmers and workers in small industries. Nor do they take account of unemployment or under-employment. During the War and for some years after, a large stream of people flowed into the cities and obtained work which provided them with a much higher standard of living than that of the farmers whom they had left behind. The post-war world depression, and perhaps the reorganization of some larger industries on a more efficient basis, tended to lower the demand for labour. This influence seemed at its worst in 1930-1931. An added trouble is that the number of young people seeking a livelihood has been rapidly

increasing over the whole period and these have provided a huge labour reserve. Although the index of real wages of industrial workers was slowly rising between 1925 and 1931, the number of people absorbed into industry increased very little. Money wages were falling faster. Against the higher real wages of the employed have to be set the lowered standards of those for whom industry had no opening. Statistics are frequently liable to present a false picture of actual conditions. During the boom, when more women and children and fewer skilled workers were employed, average wages did not rise but may even have fallen, simply because there was a large number of inefficient workers. Therefore, although average wages may show a stationary or downward tendency, the actual wages of each grade may be rising. On the contrary, when business is shrinking, those likely to be discharged first are the unskilled workers who receive low wages, and the average of the remaining more skilled workers tends to make the index number unreasonably high. The figures produced here are not free from this defect, but we have not yet discovered any method of correcting them. This limitation is said to be especially true of the Bank of Japan's wage report, where the differences of skill, age and sex of workers are ignored; averages being taken of all workers in each factory, and the general index made by simply averaging these averages. The Bank, however, publishes separate figures of average wages for various industries employing different types of workers, as well as the number of people employed in each. These materials should be utilized in any comprehensive examination of the problem.

6. CONDITIONS SINCE 1931

Recent developments, especially since the re-imposition of the gold embargo in December, 1931, may be appropriately made the subject of our concluding section, because a study of this period may be useful in helping towards the solution of some practical problems of to-day. With the aid of the Bank of Japan's wage reports and the cost of living index of the *Asahi* newspaper we have constructed a few diagrams differing from those for the earlier years.

Diagram 70 shows the monthly changes since October, 1931, of (a) money wages (actual earnings), (b) cost of living, (c) employment, and (d) real wages. The last line, (d) real wages, was

prepared by dividing (a) by (b). The figure for October, 1931, has been used as a base. We find that actual monthly earnings have been more or less stationary over the whole period, although since January, 1934, the index has not gone below the base line. On the other hand, the cost of living has been steadily rising from the beginning, though not very rapidly. Accordingly, the real wage index has shown a continuous downward tendency and is now some ten per cent below the base level. Industrial workers, on the whole, have received about the same sums of money in wages, but, as the goods and services they require for daily life have become more expensive, they have not only been unable to improve their standards but on the contrary have been obliged to economize in household consumption. Such a state of affairs has seemed to some unnatural in view of the rapid recovery in business after the summer of 1932, and many attempts have been made to explain these figures.

One explanation has been that the results are due to the fact that changes in wages always lag behind those in business conditions and commodity prices, as was seen in the years immediately following the outbreak of the World War. This view is quite correct as far as it goes and it must be taken into consideration, but, as at least five years have already passed since prices began to rise, it seems hardly sufficient to explain the situation fully.

Another explanation is concerned with statistical technique. Since business started to recover, industrial employment has greatly increased. When new-comers are recruited in large numbers, average wages are likely to fall even though skilled workers are getting better pay, and in fact, there are many cases in which higher grade workers' wages have improved during this period. This explanation seems also true as far as it goes, as the employment index (Diagram 70) rose continuously until the middle of 1935. We must, as in the earlier part of this chapter, again admit this defect in our present statistical method. At the same time, it would be impossible for anybody who has observed the actual facts to say that the living conditions of workers are improving in all industries, and that the unsatisfactory tendency shown by the figures is non-existent. It is true that employment vastly increased in the industries covered by the figures, and thus certainly somewhat alleviated the lot of working-class families. It is also true that earnings have not

increased sufficiently to compensate for the rising cost of living, and that real wages, therefore, are on the average definitely falling.

One of the characteristic features of the economic condition of Japan to-day is the one-sidedness of the 'boom.' Good conditions prevail in one industry side by side with distress in others. For our analysis, therefore, it is necessary to study various industries separately. For this purpose we have constructed separate diagrams (71, 12 and 73) of real wages for certain individual industries. The results of this study may be summed up as follows:

1. Women's real wages show the most marked downward tendency. In the spinning, weaving, knitting, and silk-reeling industries, which are worked almost completely with female labour, real wages have steadily declined since 1928 and show a heavy drop after 1931. It is remarkable that the spinning and weaving industries which have made such an advance since the second gold embargo should have such low wage levels. This tendency is still continuing, though the reeling industry, which had suffered most, improved somewhat in the second half of 1934 owing to the recovery of the silk trade.

One explanation for the fact that cotton operatives' money wages do not rise with the rise in the cost of living is that these female workers live in dormitories attached to the factories; all of their housing and a part of their food expenses are met by their employers. It is, therefore, only a rise in the cost of other necessaries and comforts that affects their living conditions. When, however, girls as a usual practice send a part of their wages to their parents or relations in the country, changes in the purchasing power of money must to that extent affect the life of those people more strongly.

2. In those industries where most workers are men, movements in real wages have been very different. Before the second gold embargo, the real wages of men had, on the whole, been rising for some years. Their money wages dropped a little soon after the restoration of the gold standard at the beginning of 1930, but the cost of living also fell. Even in the furniture and wood manufacturing industries, which were exceptions, the fall was not as great as in the textile industries. After 1932, when the cost of living was beginning to rise real wages in many of these industries showed a fall but, here also, the drop was not as great as that of women's wages. In some instances, particularly in metal working, shipbuilding, and

industries manufacturing tools, machinery, and vehicles, real wages went up throughout the whole period.

There are broadly two groups of industries showing divergent movements in men's wages. The first group, containing industries producing artificial fertilizer, paper, pottery, rubber manufactures, chemicals, and foods and drinks, as well as the printing and book-binding, dyeing, and furniture and wood manufacturing industries, has experienced a rather sharp fall since 1932. The second group includes the heavier industries mentioned above, and has the benefit of encouragement from both the depreciation of the currency and extension of expenditure on armaments. Moreover, these industries require workmen with special skill, whose supply cannot be quickly increased. Most of the industries belonging to the first group do not require such degree of skill, and additional working forces, therefore, can easily be obtained from the country districts. When a large number of farming households are in a distressed condition, such abundant supplies of unskilled men force wages in these industries to a low level.

The fall in the real wages of women can also be partly explained in the same way. Most of the girls working in textile mills come from farming families, and their wages are always influenced by economic conditions in their home provinces. The low prices of the two outstanding rural products, rice and cocoons, have therefore been reflected in the wages of these girl workers. On the other hand, reorganization schemes, which have been carried furthest in cotton spinning and weaving under the pressure of deflation, have succeeded in economizing labour power to such an extent that the demands for female labour have not greatly increased in spite of the large expansion of production. Diagram 74 shows how small the increase in employment in spinning was as compared with other industries.

When we see the divergent movements in the real wages of men workers and women workers, and between the various groups of men, the conclusion arrived at is that the wage situation in Japan is by no means satisfactory. Notwithstanding the growth of industrial production during the past few years, most of the two million factory workers, apart from the minority employed in heavy industries, are still reaping little of the harvest of the 'boom'. To look into the cause of this state of affairs is outside the scope of

this chapter. Personally, the authors' connection with this and other studies leads them to the conclusion that the rapidly growing population, and especially that section belonging to productive ages (15-59 years), is of considerable importance in any explanation, though there are other influences of at least equal strength at work.

NOTE:

PER CAPITA CONSUMPTION OF SOME
IMPORTANT COMMODITIES

One possible method of measuring the living standards of a nation is to calculate the per capita consumption of various commodities used in the daily life of the people.

Though we cannot measure accurately the total annual consumption of some commodities we can make reasonable estimates from existing materials on figures of exports, imports, and production. The total figures thus obtained, when divided by the population, may, if the results are used with discretion, provide some indication of per capita consumption and be some guide to changes in living standards.

Since such a device ignores, amongst other things, the differences between the income of the various classes of people, each of which has varying habits of consumption, it is defective in many respects. It may, however, be useful as a secondary guide when used side by side with a better method. For such a purpose it is, of course, very important to select suitable types of goods, including things widely used by ordinary households, and particularly those whose demand increases and decreases in proportion to rises and falls in the incomes of wage-earners. Table 123 and Diagram 75 have been constructed with these considerations in view.

The consumption of all the articles selected, apart from rice, vegetables, and cotton (which is not likely to alter much except in exceptional times) increased greatly during the war-boom years, but it has on the whole remained at about the same level since then. This tendency agrees with the result of our main study as well as with general observation. There are, however, features of individual items which are worth examination.

Among foodstuffs, the statistics of sugar consumption are the least defective, owing to the existence of import and excise duties. These show that sugar consumption increased rapidly between 1914 and 1923, but in later years made only slow progress. The figures for consumption of eggs, meat and fish followed, on the whole, a similar course, but with greater fluctuations, probably owing to a defect in statistical materials. After 1930 the figures for egg consumption showed a rapid rise owing to the growth of poultry-keeping in Japan. Meat, which has never been part of the main diet of the people, is now³ consumed in smaller quantities than in 1923. It should be noted that pork has become of much greater relative importance than beef. An exception to the general trend is seen in the figures of fruit consumption, which has risen some 30 per cent since 1923, but did not show a great increase during or immediately after the War.

Among clothing materials, wool has shown an enormous increase, being now nearly four times as high as before the War, while cotton has stayed at almost the same level from the beginning. The increase of wool consumption is probably due to a change in fashion.

Postal services and the consumption of electric light and gas steadily increased until the coming of the world depression.

³ 1937.

TABLE 123. INDEX NUMBERS OF PER CAPITA CONSUMPTION OF SOME
IMPORTANT COMMODITIES (1914-1933). (A)
(1914 = 100)

	Cereals	Vegetables	Fruit	Meat	Fish (including shellfish)	Rice	Wheat	Beef
1914	100.0	100.0	100.0	100.0	100.0	100	100	100
1915	111.9	—	104.4	110.9	135.2	117	109	115
1916	107.2	—	117.3	125.0	144.6	114	108	132
1917	111.9	88.6	98.1	119.2	130.5	118	121	115
1918	114.2	—	93.5	121.6	107.8	120	155	95
1919	115.6	—	109.5	122.9	122.7	118	183	109
1920	110.8	99.2	114.1	143.7	163.2	116	139	133
1921	116.9	—	109.6	162.0	172.6	120	209	152
1922	109.8	92.6	119.5	162.5	196.5	115	163	164
1923	112.6	90.2	104.6	168.9	208.3	120	198	168
1924	107.0	87.7	117.3	180.7	184.5	117	144	161
1925	113.7	90.0	125.0	185.4	202.8	117	193	146
1926	110.0	88.8	140.2	175.3	215.1	117	153	155
1927	106.8	93.8	136.2	163.6	214.0	114	179	148
1928	109.2	89.5	140.2	176.4	218.9	117	167	149
1929	104.3	89.8	136.1	186.3	222.8	114	151	146
1930	102.5	93.9	147.5	171.8	204.6	112	158	133
1931	107.6	91.2	135.8	172.2	231.0	117	178	148
1932	—	—	—	—	—	—	—	—
1933	—	—	—	—	—	—	—	—

Based on the Report of Prof. Kaneo Inouye of the Fukushima Higher Commercial School.

INDEX NUMBERS OF PER CAPITA CONSUMPTION OF SOME
IMPORTANT COMMODITIES (1914-1933). (B)

	Pork	Wool	Raw ¹ cotton	Apples	Oranges	Bananas (1925 =100)	Eggs	Sugar
1914	100	100	100	100	100	—	100	100
1915	129	139	111	71	104	—	107	101
1916	134	109	117	104	144	25	120	107
1917	126	117	102	110	60	40	132	120
1918	169	117	117	73	96	34	134	141
1919	165	147	117	66	115	34	139	141
1920	192	177	115	88	126	10	155	152
1921	261	116	104	87	127	31	209	166
1922	221	256	136	201	129	69	214	191
1923	181	276	118	94	118	87	225	201
1924	257	296	108	125	113	125	217	200
1925	334	269	105	170	160	100	201	207
1926	244	233	115	283	118	124	204	209
1927	206	272	122	204	149	99	219	215
1928	257	277	121	255	139	100	233	216
1929	304	229	113	266	114	81	248	223
1930	261	225	115	273	171	99	253	230
1931	252	345	132	216	173	117	286	—
1932	—	357	134	—	—	94	315	—
1933	—	387	—	—	—	—	296	—

¹ Consumption for domestic use.

INDEX NUMBERS OF PER CAPITA CONSUMPTION OF SOME
 IMPORTANT COMMODITIES (1914-1933). (C)

	Green tea	Coffee	Saké	Uncut tobacco	Cigarettes ¹ with mouth- pieces	Other cigarettes	Cigars	Cut tobacco
1914	100	100	100	100	100	100	100	100
1915	98	103	86	99	103	106	91	92
1916	96	136	89	91	119	119	124	89
1917	101	178	105	95	147	143	188	94
1918	114	237	115	105	198	159	226	95
1919	131	243	111	105	256	164	281	99
1920	146	302	130	117	314	203	165	95
1921	139	344	93	123	345	191	142	93
1922	136	411	119	121	351	208	129	89
1923	130	537	118	102	376	304	193	86
1924	134	627	115	123	375	384	154	82
1925	135	758	107	117	327	423	147	80
1926	134	865	105	114	295	494	113	79
1927	137	996	97	115	297	566	99	78
1928	140	1,176	89	119	294	639	99	74
1929	144	1,323	91	115	281	694	108	75
1930	141	1,543	81	112	228	766	62	74
1931	138	1,769	73	107	186	835	54	71
1932	137	1,884	61	103	177	959	70	71
1933	—	2,021	70	—	—	—	—	—

¹ Similar to Russian cigarettes with long paper mouthpieces.

INDEX NUMBERS OF PER CAPITA CONSUMPTION OF SOME
IMPORTANT COMMODITIES (1914-1933). (D)

	Wireless sets per thousand persons	Postal services ¹	Electric light candle power	Gas cubic metres	Post Office insurance yen	Telephones per thousand persons
1914	—	34.5	1.3	2.90	—	4.1
1915	—	35.7	1.3	2.92	—	4.2
1916	—	37.7	1.8	3.46	0.5	4.3
1917	—	43.5	2.3	4.14	1.1	4.6
1918	—	50.7	2.7	4.78	1.9	4.9
1919	—	42.7	3.3	5.06	2.8	5.0
1920	—	68.0	3.9	5.26	4.0	5.8
1921	—	70.4	4.5	5.41	5.8	6.6
1922	—	71.9	5.4	6.01	8.3	7.2
1923	—	63.9	5.8	5.62	10.5	7.4
1924	0.1	70.0	6.9	6.00	14.0	7.5
1925	4.3	71.4	7.7	6.84	17.6	8.3
1926	5.9	65.4	9.0	6.98	21.2	9.1
1927	6.2	78.8	9.8	7.89	24.1	9.9
1928	9.0	76.1	10.5	9.24	27.8	10.5
1929	10.2	80.3	11.1	10.30	30.7	10.9
1930	12.1	68.4	11.3	10.87	32.6	11.1
1931	16.2	68.7	12.0	11.32	34.5	11.1
1932	21.4	64.2	12.1	10.75	36.4	11.5
1933	25.5	—	—	—	—	—

¹ Number of letters and parcels carried.

DIAGRAM 66. TOKYO COST OF LIVING INDEX NUMBERS (1914-1933)

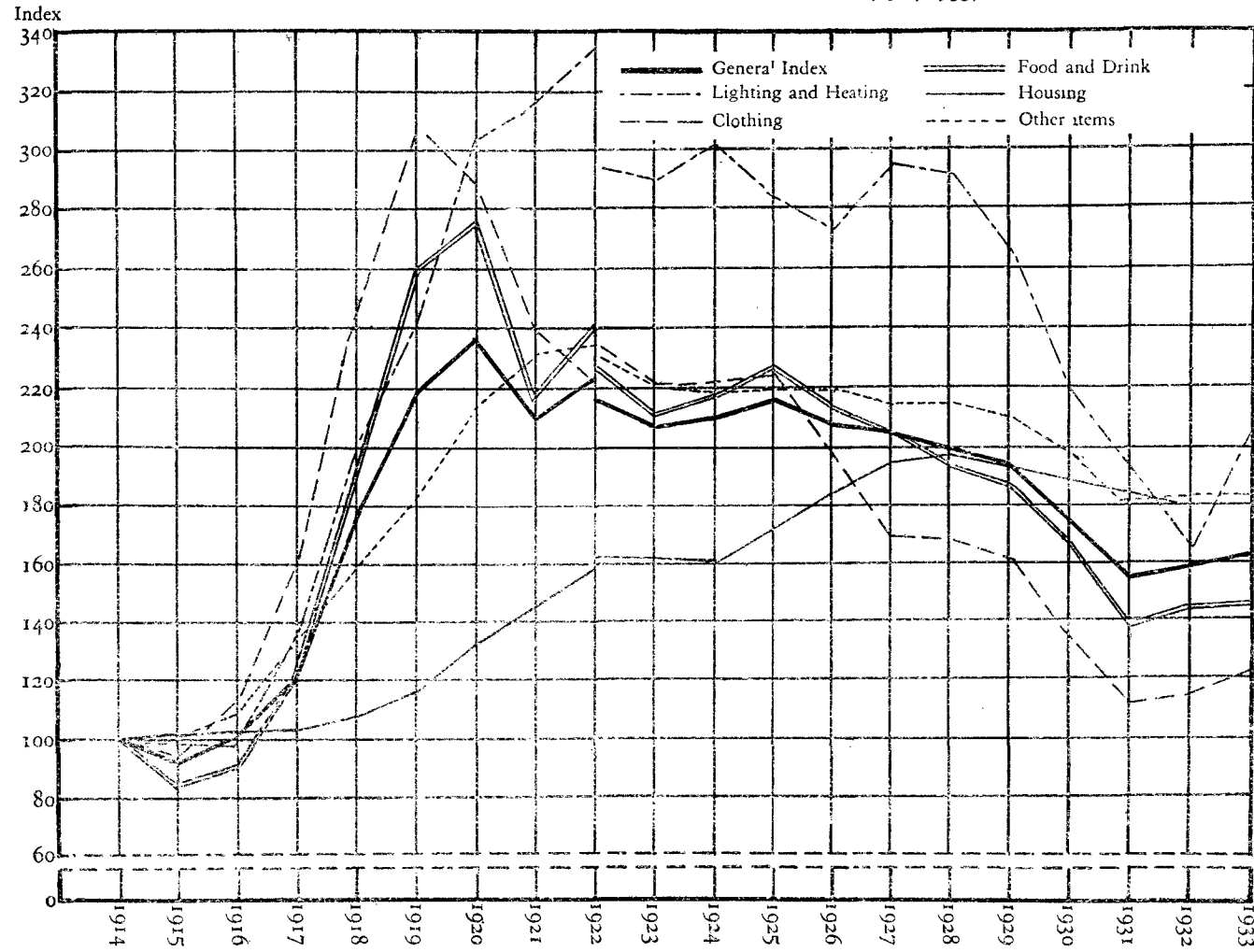


DIAGRAM 67. TOKYO COST OF LIVING AND RETAIL PRICE INDEX NUMBERS (1914-1933)

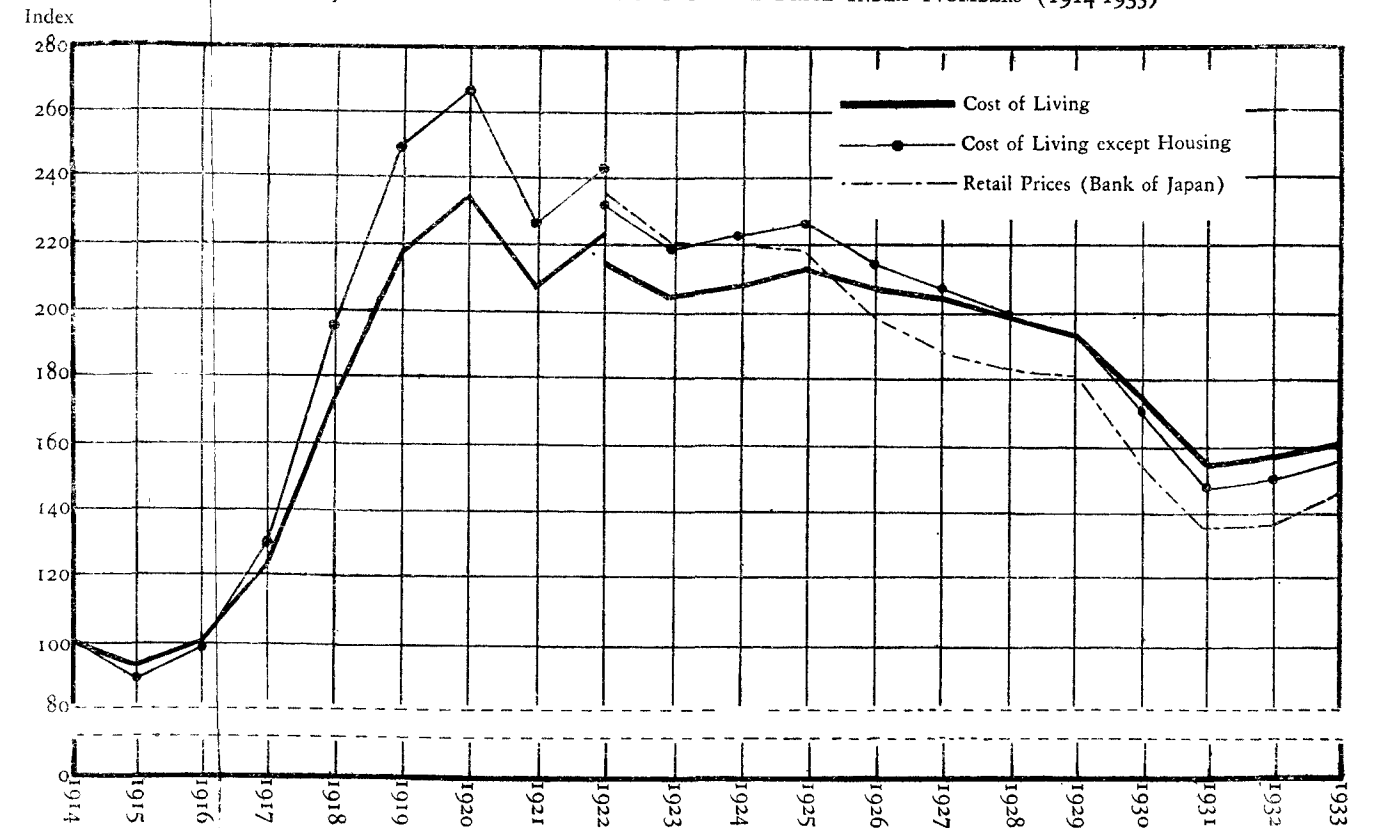


DIAGRAM 68. INDEX NUMBERS OF MONEY WAGES IN JAPAN (1914-1933)

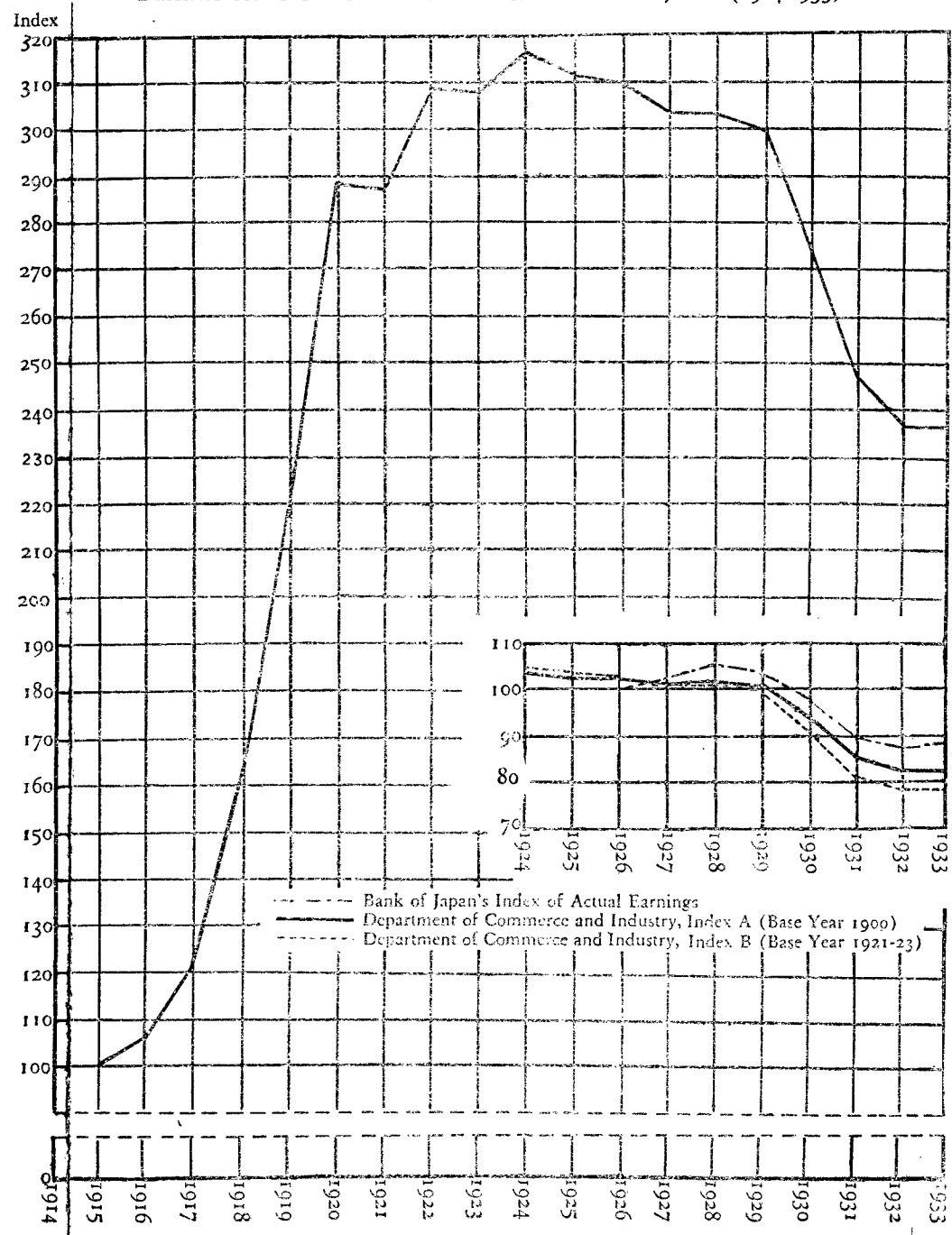


DIAGRAM 69. INDEX OF REAL WAGES, TOKYO AND WHOLE COUNTRY (1914-1933)

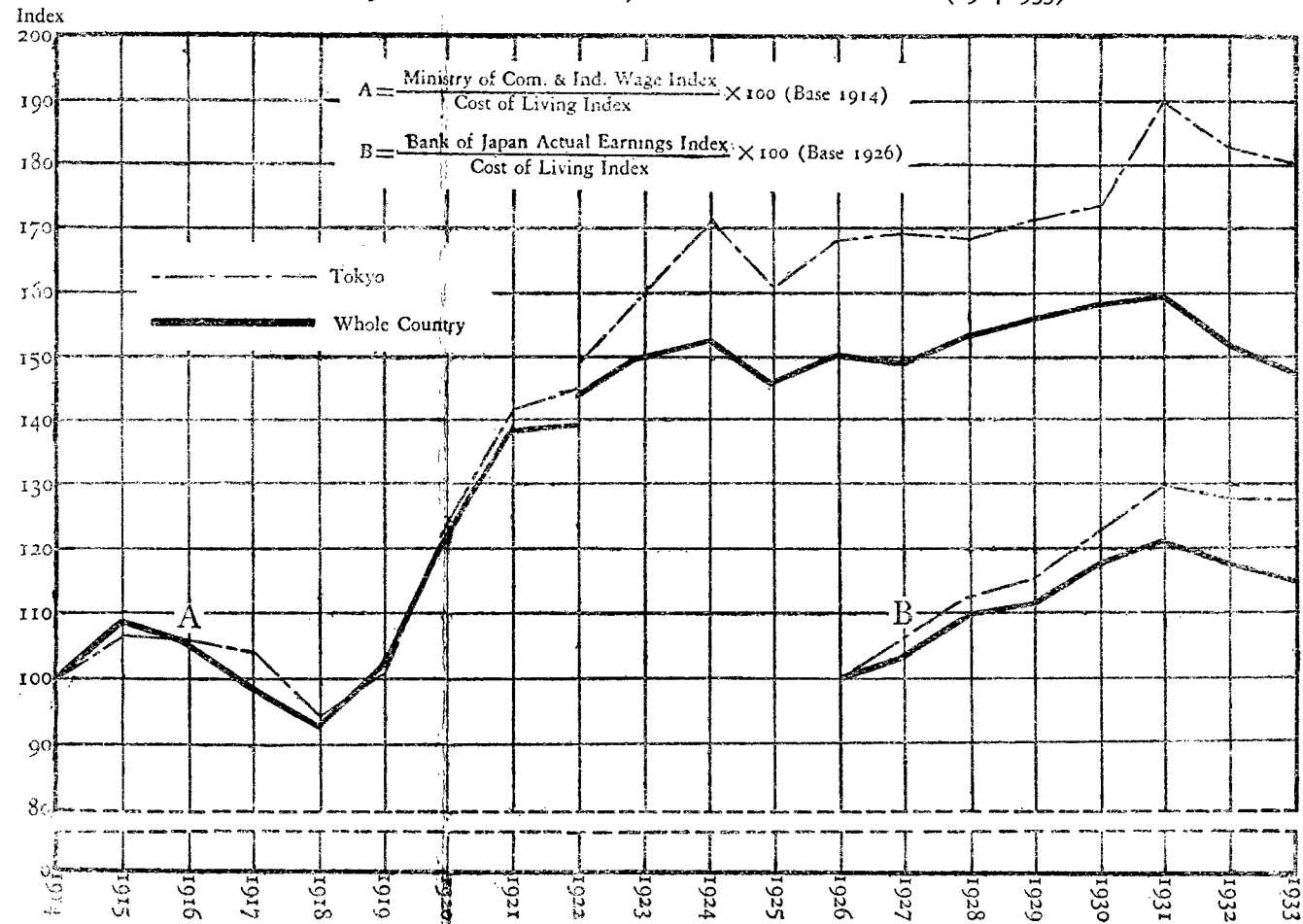


DIAGRAM 70. REAL WAGE INDEX BEFORE AND AFTER THE SECOND (DECEMBER, 1931) GOLD EMBARGO IN JAPAN (OCTOBER, 1931—JUNE, 1937)
(OCTOBER, 1931 = 100)

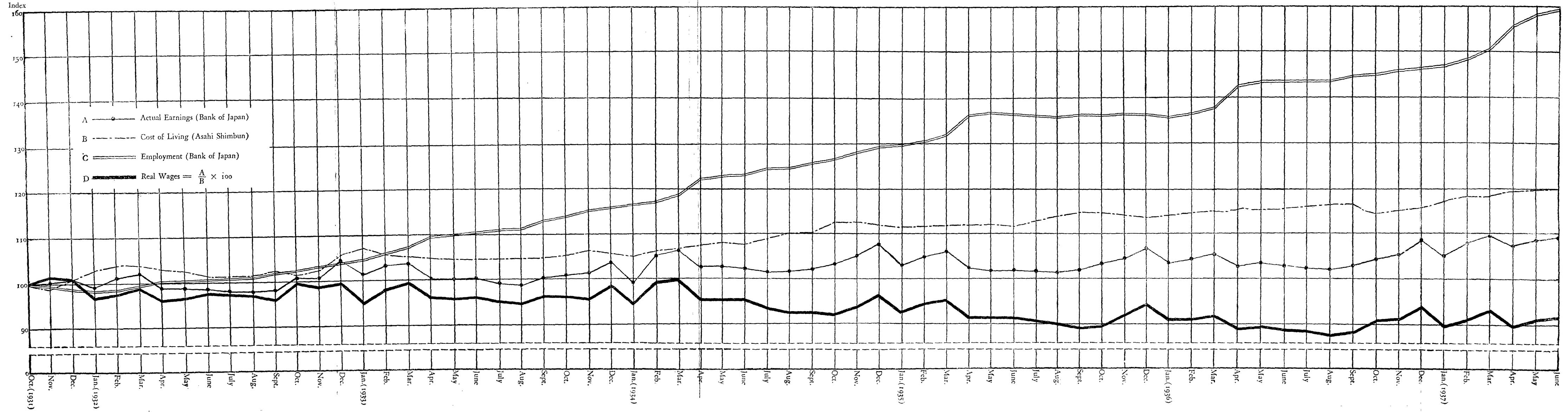


DIAGRAM 74. INDEX NUMBERS OF REAL WAGES AND EMPLOYMENT IN JAPAN (OCTOBER, 1931—JUNE, 1937)

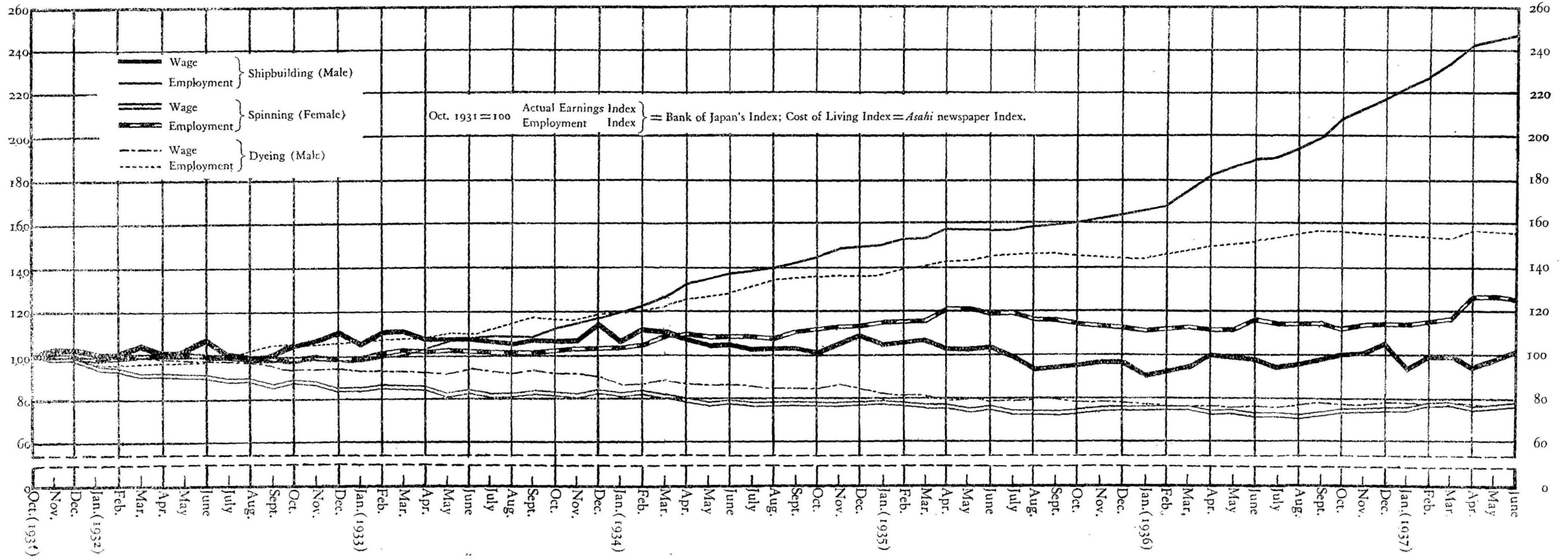


DIAGRAM 75. INDEX NUMBERS OF PER CAPITA CONSUMPTION OF SOME IMPORTANT COMMODITIES (1914-1931). A (1914 = 100)

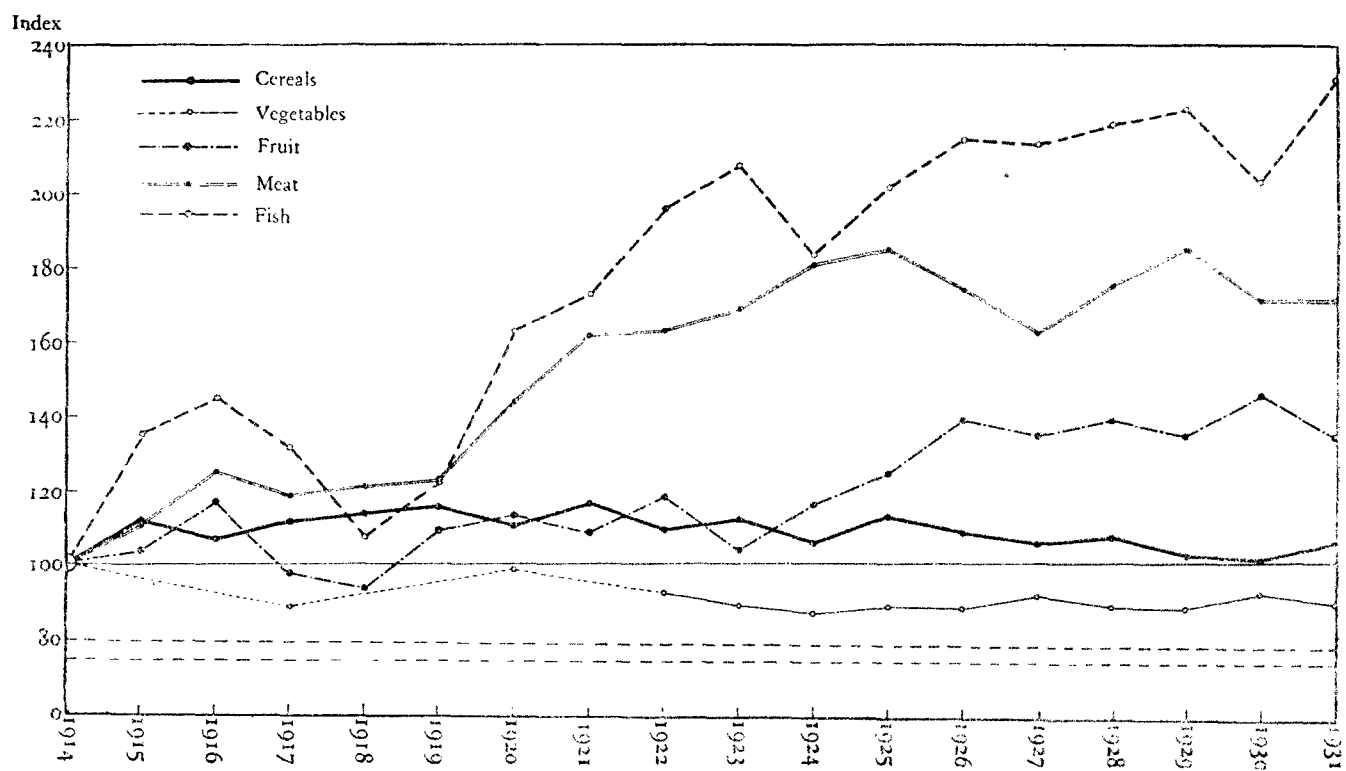


DIAGRAM 75. INDEX NUMBERS OF PER CAPITA CONSUMPTION OF SOME IMPORTANT COMMODITIES (1914-1933). B (1914 = 100)

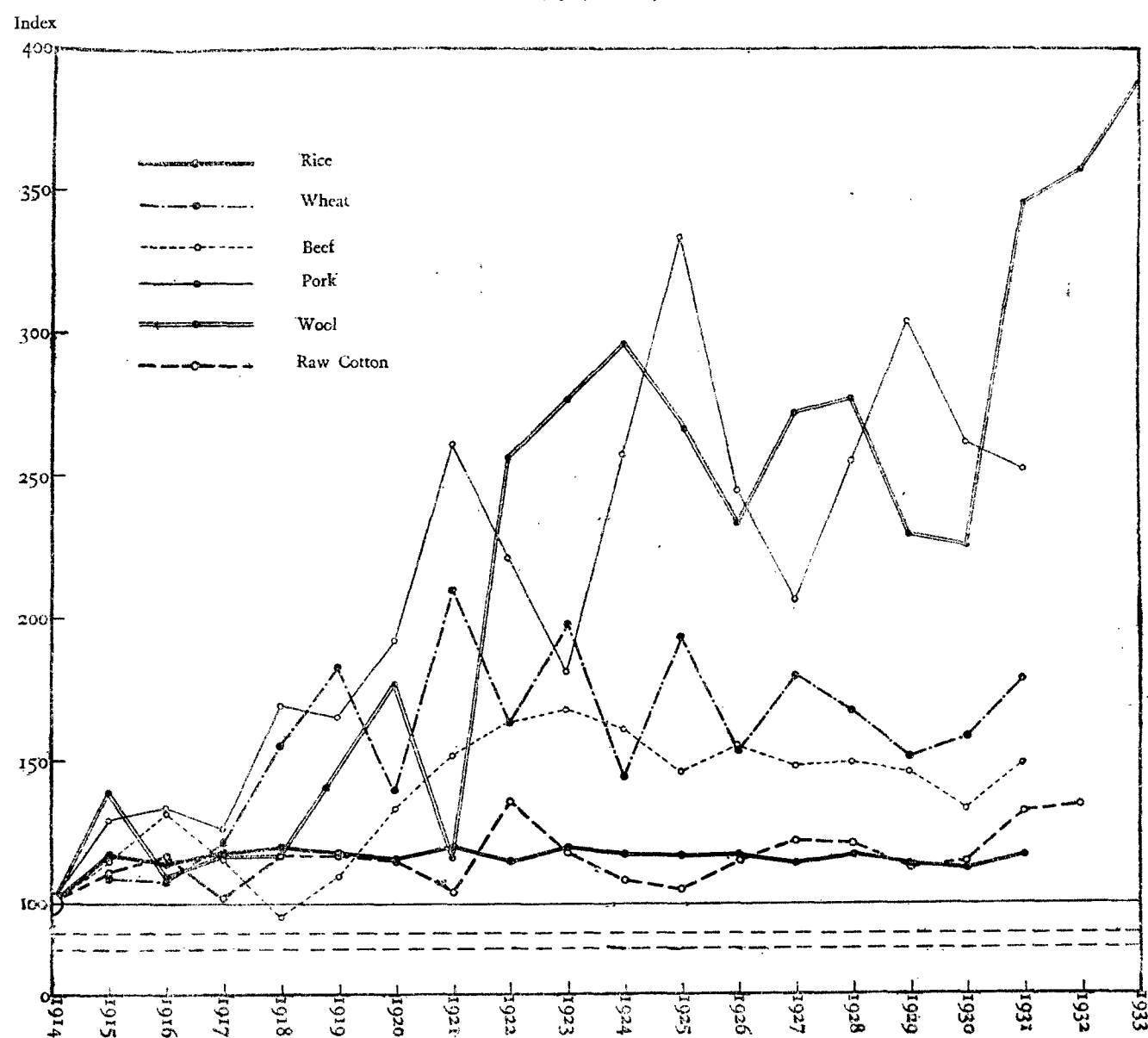


DIAGRAM 75. INDEX NUMBERS OF PER CAPITA CONSUMPTION OF SOME IMPORTANT COMMODITIES (1914-1933). C (1914 = 100)

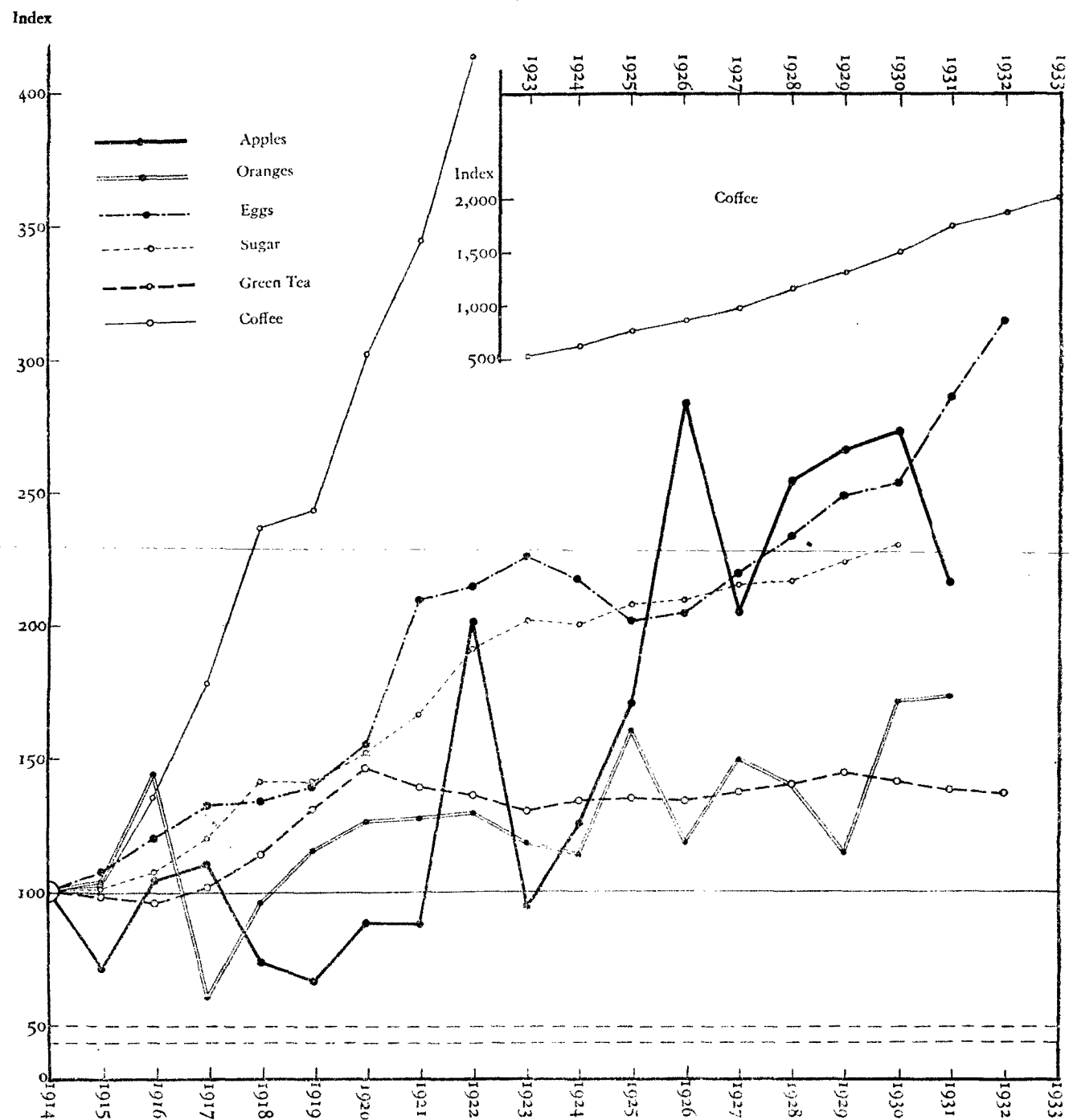


DIAGRAM 75. INDEX NUMBERS OF PER CAPITA CONSUMPTION OF SOME IMPORTANT COMMODITIES (1914-1932). D (1914 = 100)

