

1938

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Foodstuffs	113.8	113.9	114.1	114.0	114.2	115.7	115.9	116.0	117.7	120.0	122.4	125.1
Fiber goods	107.3	115.4	119.6	119.8	119.7	130.4	119.3	114.5	118.3	118.5	120.4	121.6
Metal articles	219.5	229.0	228.0	229.5	243.2	276.2	284.1	245.3	228.7	215.2	215.6	208.7
Building materials	134.1	138.4	142.0	144.9	145.5	147.0	147.3	143.2	146.5	144.3	146.9	150.0
Industrial chemicals	119.7	125.7	126.7	126.0	122.7	121.0	118.7	120.0	117.7	115.7	116.0	115.7
Fertilizers	128.3	127.5	128.8	128.8	128.0	128.0	128.0	126.0	127.8	130.3	132.0	133.0
Fuel	129.2	129.6	130.2	134.2	135.9	138.4	139.7	139.7	137.1	136.2	135.9	136.0
Miscellaneous	146.3	146.4	148.7	149.9	155.9	160.6	170.7	169.0	165.8	166.8	164.9	164.1
Average	131.1	135.1	136.9	137.8	140.0	147.8	148.2	141.9	141.0	139.9	141.2	141.7

1939

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Foodstuffs	129.2	131.4	132.5	134.6	137.0	138.7	138.0	142.1	150.5	154.8	159.9	163.0
Fiber goods	126.6	141.0	141.7	141.9	140.4	140.3	139.7	138.1	140.4	139.5	141.4	145.6
Metal articles	208.3	207.4	208.1	204.7	199.9	184.8	183.8	185.6	186.1	185.5	185.1	190.0
Building materials	150.1	154.1	156.1	156.2	158.3	148.0	149.8	152.3	158.0	160.8	163.1	165.8
Industrial chemicals	115.7	117.3	121.7	122.0	122.7	126.0	125.3	125.7	126.3	127.0	127.0	127.3
Fertilizers	136.5	138.8	140.3	143.8	145.0	145.8	144.8	148.0	162.8	166.0	167.3	171.5
Fuel	136.3	137.1	139.6	139.3	139.1	139.1	140.1	140.0	139.0	141.6	143.2	144.2
Miscellaneous	165.1	166.9	167.7	169.9	172.1	172.4	172.6	170.9	177.1	178.7	179.7	179.7
Average	144.2	148.9	150.2	150.8	151.1	148.8	148.6	149.8	154.6	156.6	158.7	161.7

RETAIL PRICES ACCORDING TO KINDS

1937

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Foodstuffs	100.9	100.1	98.3	100.9	100.5	99.6	99.6	101.1	104.1	103.1	102.7	105.8
Clothes and accessories	101.9	103.5	103.6	104.6	104.9	104.4	104.1	102.8	103.7	104.1	103.8	104.6
Fuel	96.4	96.6	95.9	96.6	97.9	98.1	98.6	98.6	99.6	102.1	103.9	105.7
Building materials	135.6	128.9	131.3	135.6	137.0	132.3	135.1	135.0	135.1	135.4	139.6	143.4
Miscellaneous	97.8	100.0	101.8	103.2	103.4	103.1	103.0	103.7	103.4	103.2	104.3	105.2
Average	103.0	102.6	101.9	104.0	104.1	103.1	103.3	103.9	105.8	105.6	105.8	108.2

1938

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Foodstuffs	108.6	109.9	111.5	112.4	110.7	108.9	112.5	118.2	118.6	118.6	118.6	121.1
Clothes and accessories	107.0	117.3	123.0	126.3	127.5	131.6	143.0	142.5	141.0	142.3	143.5	144.6
Fuel	107.9	108.9	109.7	111.7	112.9	114.4	116.0	116.6	116.9	116.3	116.4	117.1
Building materials	146.0	148.3	152.0	152.9	155.0	160.3	169.3	165.1	167.3	164.7	168.3	168.9
Miscellaneous	105.8	108.8	112.8	110.2	118.1	120.4	126.0	127.7	126.8	125.7	125.7	125.3
Average	110.6	114.0	116.8	118.6	118.3	118.9	124.6	127.5	127.5	127.4	127.9	129.6

1939

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Foodstuffs	121.4	123.1	123.5	126.1	128.9	127.4	130.1	133.1	138.8	138.7	141.9	145.2
Clothes and accessories	147.2	149.8	152.4	151.6	151.2	149.0	149.4	149.7	150.2	153.9	152.6	153.7
Fuel	117.6	117.9	118.6	119.0	118.6	118.6	119.1	119.1	119.1	120.3	121.6	123.1
Building materials	167.0	169.6	173.1	176.0	177.1	177.3	166.7	167.7	170.8	173.0	174.5	176.2
Miscellaneous	126.3	127.6	129.0	129.7	129.9	130.9	131.8	132.8	138.9	134.9	135.8	136.3
Average	130.3	132.1	133.3	134.9	136.4	135.2	135.8	137.7	141.3	144.3	144.1	146.5

COMPARISON OF INDEX NUMBERS OF WHOLESALE PRICES AND CIRCULATION OF BANK-NOTES

(Based on December 1929=100)

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1935:												
Wholesale	97.9	98.3	97.6	97.3	96.9	95.7	94.8	95.3	97.5	100.1	99.6	98.5
Bank-notes	98.0	90.8	88.3	90.0	80.2	88.7	88.5	87.5	86.5	92.6	93.4	107.2
1936:												
Wholesale	98.5	98.4	98.7	99.2	98.9	99.3	100.7	101.1	101.9	101.9	103.6	109.8
Bank-notes	106.6	96.5	97.0	95.8	92.8	95.0	96.1	95.2	93.5	97.7	98.6	114.6
1937:												
Wholesale	120.0	119.9	123.3	126.1	123.7	121.8	122.8	122.3	123.7	124.5	126.9	128.8
Bank-notes	111.9	107.2	103.0	105.9	103.2	106.5	103.0	110.1	111.1	119.1	122.6	142.0
1938:												
Wholesale	131.1	135.1	136.9	137.8	140.0	147.8	148.2	141.9	141.0	139.9	141.2	141.7
Bank-notes	141.3	130.9	129.5	132.4	131.3	136.1	139.9	140.9	140.0	146.5	148.6	171.3
1939:												
Wholesale	144.2	148.9	150.2	150.8	151.1	148.8	148.6	149.8	154.6	156.6	158.7	161.7
Bank-notes	175.0	175.3	176.2	162.5	153.4	161.9	167.8	171.2	173.0	187.0	193.9	227.8

NEW BUILDINGS IN JAPAN PROPER

(21 larger cities)

(Compiled by the Ministry of Commerce and Industry)

Nature of Construction	1938			1939		
	No.	Floorage (Sq. km.)	Expenses (In ¥1,000)	No.	Floorage (Sq. km.)	Expenses (In ¥1,000)
Steel-skeletoned reinforced concrete	91	145	12,888	50	68	6,181
Reinforced concrete	1,097	480	31,802	337	233	19,537
Steel-skeleton	1,653	1,388	80,662	700	963	64,675
Wooden	116,184	12,059	255,079	121,168	13,725	372,113
Brick, stone or concrete	212	15	624	364	59	3,332
Others	94	6	186	94	6	241
Total	119,331	14,095	381,243	122,713	15,054	466,119

MONTHLY LIVING EXPENSES OF OFFICIALS AND LABORERS IN JAPAN PROPER

(Investigations made by the Bureau of Statistics on the monthly incomes and expenses of the representative families of each group during the 12 months from September 1937 to August 1938)

MONTHLY INCOME (Amount in yen)

	No. of Households Investigated	Average No. of Members in each Household	Income from	
			Total Income	Salary & Deposits, Loans Property Insurance etc.
Salaried men:				
Governmental officials	198	4.08	166.14	97.95
Bank and Company staffs	287	3.82	188.82	107.75
Educators	77	3.60	163.85	97.70
Laborers:				
Factory operatives	863	4.23	169.97	96.09
Transport laborers	176	4.36	164.37	92.49

MONTHLY EXPENSES

	Total of Expenses	Expenses for Daily Life					Total for	
		Food	Housing	Heat and Light	Clothing	Others	Total Deposits, Loans, Insurance, etc.	
Salaried men:								
Governmental officials	166.14	31.36	14.06	4.66	9.74	26.38	86.20	79.94
Bank & Company staffs	188.82	32.84	15.84	4.79	10.42	27.71	91.60	97.22
Educators	163.85	30.20	16.25	4.83	9.93	26.55	87.74	76.11
Laborers:								
Factory operatives	169.97	32.77	12.59	4.04	8.55	23.15	81.10	88.87
Transport laborers	164.37	32.72	13.01	4.23	7.83	23.28	81.07	83.30

YEARLY LIVING EXPENSES OF FARMERS IN JAPAN PROPER IN 1937

(Compiled by the Ministry of Agriculture and Forestry)

(Amount in yen)

	Landed Farmers	Tenants	Semi-landed Farmers	Total and Average
No. of households investigated	84	91	104	279
Average No. of members in each household	6.56	6.46	6.34	6.45
Net gain from farming	1,006.8	660.7	825.6	831.0
Net gain from side works	129.7	158.1	152.1	146.6
Miscellaneous income	57.8	46.1	46.0	50.0
Total income	1,194.4	865.0	1,023.8	1,027.7
Total of household expenses	892.7	695.0	770.9	786.2
Balance	301.6	170.0	252.8	241.5

INDEX NUMBER OF LIVING EXPENSES FOR JUNE 1940

(Compiled by the Cabinet Statistics Bureau)

(Base: July 1937=100)

	Total for Daily Life	Food	Housing	Heat and Light	Clothing	Others
Salaried men	142.8	155.6	113.6	136.3	190.7	116.1
Percentage of rise over the same month of 1939	21.1	30.3	7.6	15.5	27.6	9.0
Laborers	145.5	154.7	116.3	141.1	191.2	118.0
Percentage of rise over the same month of 1939	22.3	30.3	8.7	16.5	27.3	10.4

Note: Figures are based on investigation among salaried men and laborers whose monthly income is between ¥60 and ¥100.

INCREASE OF CAPITALIZATION OF BANKS AND COMPANIES IN THE EMPIRE DURING THE TWELVE MONTHS OF 1939

(Compiled by the Bank of Japan)

(In ¥1,000)

Kind of Business	Stocks for New Establishment		Increase of Stocks in Old Companies	
	No. of Companies	Amount	No. of Companies	Amount
1. Banking	—	0	3	152,000
2. Trust	—	0	—	0
3. Financing	9	4,870	—	0
4. Warehousing	6	1,240	1	500

Kind of Business	Stocks for New Establishment		Increase of Stocks in Old Companies	
	No. of Companies	Amount	No. of Companies	Amount
5. Insurance	—	0	—	0
6. Transportation	98	280,246	24	22,762
7. Railways	4	26,500	1	900
8. Shipping	27	132,660	11	17,560
9. Others	67	121,086	12	4,302
10. Mining	143	376,630	12	51,380
11. Electric power and gas	8	798,245	7	79,825
12. Electric power	7	795,245	5	73,925
13. Gas	1	3,000	2	5,900
14. Manufacturing industries	999	882,492	175	750,935
15. Spinning	4	1,630	1	100
16. Weaving	26	5,780	1	1,625
17. Chemical	119	270,115	19	49,100
18. Dyeing	9	1,601	—	0
19. Paper	13	2,160	1	45
20. Machine and tool	429	270,792	90	321,365
21. Shipbuilding and dockyards	5	2,330	5	140,300
22. Ceramic	21	5,680	3	1,125
23. Metal	189	276,390	41	206,155
24. Brewing	8	3,900	1	450
25. Foodstuff	38	12,529	4	8,650
26. Silk	2	680	2	1,120
27. Timber	11	1,740	1	150
28. Miscellaneous	125	27,165	6	20,750
29. Fisheries	9	3,738	—	0
30. Agriculture and forestry	25	29,290	3	900
31. Commerce	474	104,888	9	31,150
32. Miscellaneous	176	104,888	9	10,350
33. Total	1,947	2,824,463	252	1,099,802

Kind of Business	Issue of Corporation Bonds		Total		Increase or Decrease (—) as Compared with the Previous Year	
	No. of Companies	Amount	No. of Companies	Amount	No. of Companies	Amount
1. Banking	—	—	3	152,000	1	118,000
2. Trust	—	0	—	0	—	0
3. Financing	—	0	9	4,870	9	4,870
4. Warehousing	—	0	7	1,740	4	(—)6,660
5. Insurance	—	0	—	0	—	0
6. Transportation	9	250,000	131	553,008	53	310,513
7. Railways	7	240,000	12	267,400	5	120,250
8. Shipping	1	5,000	39	155,200	(—)1	96,790
9. Others	1	5,000	80	130,388	49	93,473
10. Mining	3	37,000	158	465,010	25	(—)276,430
11. Electric power & gas	21	409,100	36	1,287,170	27	1,158,145
12. Electric power	21	409,100	33	1,287,270	24	1,149,245
13. Gas	—	0	3	8,900	3	8,900
14. Manufacturing industries	28	445,800	1,202	2,079,229	395	62,192
15. Spinning	1	20,000	6	21,730	(—)1	(—)52,520
16. Weaving	—	0	27	7,405	9	(—)5,445
17. Chemical	9	130,800	147	450,015	39	(—)251,556
18. Dyeing	—	0	9	1,601	5	116
19. Paper	—	0	14	2,205	10	(—)4,045
20. Machine & tool	7	95,000	526	687,157	213	83,032

Kind of Business	Issue of Corporation Bonds		Total		Increase or Decrease (—) as Compared with the Previous Year	
	No. of Companies	Amount	No. of Companies	Amount	No. of Companies	Amount
21. Shipbuilding & dockyards	—	0	10	142,630	2	131,030
22. Ceramic	—	0	24	6,805	(—)8	(—)25,245
23. Metal	10	190,000	240	672,545	55	149,611
24. Brewing	—	0	9	4,350	6	2,870
25. Foodstuff	1	10,000	43	31,179	11	18,727
26. Silk	—	0	4	1,800	3	700
27. Timber	—	0	12	1,890	1	(—) 2,790
28. Miscellaneous	—	0	131	47,915	50	17,707
29. Fisheries	2	20,000	11	23,738	3	(—)11,612
30. Agriculture & forestry	—	0	28	30,190	16	23,180
31. Commerce	—	0	492	373,974	242	294,277
32. Miscellaneous	9	222,240	194	337,478	56	(—)338,483
33. Total	12	1,384,140	2,271	5,308,405	831	1,331,992

Note: These figures are compiled by the Bank of Japan of the surest proposed schemes for capital issues, each of which is over ¥100,000, in Japan proper, Chosen, Taiwan and Karafuto, excluding refunding, issues abroad and bank bonds.

INDEX NUMBERS OF INDUSTRIAL PRODUCTION

(Compiled by the Ministry of Commerce and Industry)

(Base—The average of 1931, 1932, 1933=100)

Year	1933	1934	1935	1936	1937	1938	1939
Total average of manufacturing & mining industries	112.5	127.4	141.0	150.2	169.7	172.0	180.4
Average of manufacturing industries	113.3	129.1	143.3	151.9	172.4	173.6	182.6
Cotton yarn	109.7	122.9	126.0	127.7	140.4	106.7	96.0
Raw silk	95.7	99.1	100.9	91.1	102.6	90.9	78.8
Silk yarn	103.2	101.7	97.6	83.1	75.6	68.9	95.5
Woolen yarn	113.3	105.7	108.0	114.0	118.8	98.1	117.7
Cotton tissues	113.1	127.4	131.7	125.0	131.3	97.0	96.9
Silk tissues	109.1	118.3	112.2	88.1	100.9	89.8	107.7
Rayon tissues	113.8	143.3	203.9	294.3	311.6	380.2	216.3
Woolen tissues	102.7	91.8	101.1	80.6	56.9	44.8	77.5
Pig iron	125.0	151.5	165.2	173.6	119.7	—	—
Steel	124.5	156.0	181.9	210.0	248.7	—	—
Machine and tools	121.9	159.5	187.7	214.2	252.6	—	—
Cement	118.3	118.5	132.1	129.4	143.2	131.0	120.4
Sheet glass	177.4	128.6	134.5	145.9	176.0	130.5	103.3
Sulphate of ammonium	107.0	120.3	144.1	190.4	201.7	219.5	208.8
Lime nitrogen	131.4	117.4	171.6	170.2	242.3	226.8	178.0
Superphosphate of lime	110.8	105.5	125.1	141.6	161.6	126.1	144.4
Bleaching powder	127.6	140.9	161.0	169.8	199.2	183.7	180.5
Soda ash	128.8	163.8	196.5	213.2	229.5	240.7	292.5
Caustic soda	143.9	222.0	287.3	354.6	458.2	593.6	569.9
Rayon	134.5	205.0	299.0	389.5	483.0	297.3	340.2
Paper	106.0	116.9	126.3	134.1	156.3	142.9	148.2
Wheat flour	104.1	101.5	116.5	100.8	97.4	118.5	115.7
Sugar	104.5	100.2	112.9	97.5	100.6	97.4	67.4
Electricity	113.0	125.4	137.5	150.6	165.7	179.5	—
Gas	—	100.4	104.0	109.8	151.2	132.1	144.4

RATE OF PROFIT AND DIVIDEND OF COMPANIES IN 1936—1939

(The Mitsubishi Economic Research Institute Figures)

Kind of Business	1936		1937		1938		1939	
	Profit	Dividend	Profit	Dividend	Profit	Dividend	Profit	Dividend
Ordinary banks	(A) 12.1	6.7	12.9	6.7	13.1	6.9	13.6	6.9
Savings banks	(B) 12.2	6.8	13.0	6.7	13.1	6.8	—	—
Trust	(A) 25.6	7.7	22.3	7.6	23.2	7.6	26.8	7.6
Bourses	(B) 26.0	8.7	22.1	7.6	23.2	7.6	—	—
Warehousing	(A) 18.1	5.7	21.7	5.9	18.4	6.3	20.6	6.5
Private railways	(B) 18.5	5.7	17.3	6.0	19.7	6.3	—	—
Shipping	(A) 9.2	7.4	13.7	9.8	8.9	6.8	6.6	5.1
Transportation	(B) 8.6	7.1	10.3	7.6	7.0	5.6	—	—
Foreign trade	(A) 3.6	2.2	1.8	2.4	5.6	2.9	7.3	4.3
Department stores	(B) 4.3	2.3	5.0	2.6	6.3	3.6	—	—
Silk tissues	(A) 7.4	6.1	7.2	6.3	7.2	6.4	8.3	6.9
Cotton spinning	(B) 7.5	6.2	7.5	6.3	7.7	6.8	—	—
Cotton tissues	(A) 7.7	4.0	18.0	5.1	16.1	5.8	18.1	6.8
Woolen	(B) 9.9	4.1	22.9	5.6	17.4	6.2	—	—
Raw silk	(A) 9.8	6.1	12.4	7.7	10.8	6.9	13.4	7.0
Hemp	(B) 11.4	6.9	13.4	3.0	12.2	7.2	—	—
Cement	(A) 11.5	14.3	21.0	12.3	17.2	13.5	19.3	13.7
Bricks	(B) 13.8	10.8	16.5	12.6	18.6	14.1	—	—
Glass	(A) 12.8	8.3	13.1	7.9	13.1	8.3	16.5	8.9
Medicine	(B) 14.2	8.2	13.1	8.2	12.4	8.5	—	—
Industrial Chemical	(A) 6.4	3.4	9.6	6.5	7.8	5.8	12.1	7.2
Dyestuff	(B) 6.9	3.4	6.2	5.6	9.7	6.8	—	—
Paint	(A) 20.1	14.5	23.0	14.9	19.4	15.1	18.8	14.3
Oil	(B) 19.6	13.9	20.3	14.1	18.7	13.7	—	—
Rayon yarn	(A) 8.9	6.5	12.5	8.4	13.4	8.8	12.0	8.9
Paper	(B) 11.4	6.8	13.4	8.8	13.4	8.9	—	—
Fertilizer	(A) 15.4	9.6	16.9	11.3	14.0	9.4	16.8	9.4
Other chemical industries	(B) 16.4	9.7	13.8	9.4	13.9	9.4	—	—
Gas	(Year)	6.3	6.0	4.8	—	—	—	—
Electricity	(A) 9.6	6.8	12.4	9.2	17.8	9.8	19.8	9.9
Water supply	(B) 10.7	7.3	16.1	9.4	17.2	10.0	—	—
Telephone	(A) 10.0	7.6	9.4	7.1	8.8	6.9	9.2	7.4
Post office	(B) 8.9	6.7	9.0	6.9	9.1	7.0	—	—
Transportation	(A) 10.8	7.2	12.2	8.3	16.2	9.6	15.5	10.4
Foreign trade	(B) 12.1	8.3	13.3	8.4	13.1	8.5	—	—
Department stores	(A) 23.4	17.0	22.9	14.0	22.3	13.9	20.3	13.9
Silk tissues	(B) 19.6	13.7	21.2	14.0	21.3	13.9	—	—
Cotton spinning	(A) 19.9	10.3	21.7	9.7	18.4	9.8	22.6	8.9
Cotton tissues	(B) 18.7	3.7	18.2	8.8	18.3	8.8	—	—
Woolen	(A) 12.1	8.9	12.6	8.1	14.7	10.0	15.3	10.5
Raw silk	(B) 10.2	7.1	13.5	9.9	15.7	10.9	—	—
Hemp	(A) 23.8	12.6	28.1	12.3	21.4	10.5	25.5	12.4
Cement	(B) 24.9	12.0	20.9	12.0	21.0	12.1	—	—
Bricks	(A) 13.3	8.2	15.6	8.4	16.7	8.4	18.2	9.3
Glass	(B) 16.7	10.3	15.6	10.6	17.5	8.7	—	—
Medicine	(A) 13.8	9.7	21.0	16.6	12.5	9.4	14.7	9.8
Industrial Chemical	(B) 14.6	8.6	14.0	9.3	13.2	9.9	—	—
Dyestuff	(A) 14.1	11.5	15.6	11.0	13.8	11.0	13.9	11.1
Paint	(B) 14.9	11.0	14.4	10.5	13.7	11.0	—	—
Oil	(A) 12.4	8.9	16.6	9.8	15.1	9.8	16.0	9.9
Rayon yarn	(B) 14.7	9.5	15.3	9.6	15.9	9.9	—	—
Paper	(A) 13.4	9.5	11.7	8.3	13.4	9.8	13.6	10.3
Fertilizer	(B) 12.8	9.2	12.8	9.6	13.0	10.0	—	—
Other chemical industries	(A) 17.3	9.4	20.9	10.1	18.4	11.1	20.7	11.0
Gas	(B) 14.7	9.5	16.5	9.8	20.1	10.9	—	—

	1936		1937		1938		1939	
	Profit	Dividend	Profit	Dividend	Profit	Dividend	Profit	Dividend
Electric machinery	(A) 20.1	9.8	18.1	9.5	19.6	10.5	22.3	10.8
	(B) 20.6	11.5	19.7	11.8	20.6	10.7	—	—
Shipbuilding	(A) 10.1	5.5	12.2	6.0	13.2	7.1	14.9	7.3
	(B) 11.0	6.1	10.2	5.8	13.8	7.3	—	—
Rolling stock	(A) 17.0	9.4	14.8	9.0	18.3	8.4	20.4	8.3
	(B) 18.0	9.3	17.6	10.3	20.5	9.0	—	—
Other machine manufacturing	(A) 25.0	10.5	18.4	10.5	16.4	8.6	16.9	9.6
	(B) 17.6	9.7	18.0	9.2	15.6	8.7	—	—
Steel	(A) 15.9	7.8	20.0	7.7	23.9	7.7	20.7	8.0
	(B) 15.9	7.5	21.8	7.6	23.2	7.9	—	—
Other metallic industries	(A) 18.1	9.2	17.7	8.7	16.3	8.7	18.7	9.3
	(B) 19.7	10.0	16.4	8.9	18.2	9.3	—	—
Beer	(A) 20.4	11.5	21.1	11.5	18.7	11.5	17.2	11.5
	(B) 19.6	11.5	19.3	11.5	10.0	11.5	—	—
Sugar	(A) 24.6	10.9	26.7	10.9	23.5	11.2	26.5	11.1
	(B) 26.2	11.2	28.0	11.2	24.0	11.0	—	—
Wheat flour	(A) 15.9	10.2	14.9	9.4	14.1	9.9	15.1	10.0
	(B) 15.9	11.1	12.8	9.5	13.9	9.9	—	—
Bread & confectionaries	(A) 13.2	6.6	14.0	6.7	15.3	7.8	14.2	7.4
	(B) 12.8	6.7	15.1	7.3	15.4	8.0	—	—
Mining	(A) 16.3	10.5	16.3	10.2	19.2	11.4	15.1	10.7
	(B) 15.9	9.8	17.5	11.4	17.4	10.7	—	—
Petroleum	(A) 11.2	6.8	15.9	9.6	15.9	7.2	15.1	7.9
	(B) 12.6	7.7	16.4	7.9	16.5	8.0	—	—
Gas	(A) 10.3	9.0	10.1	8.8	10.3	8.9	10.5	8.7
	(B) 10.3	3.8	10.1	8.9	10.4	8.7	—	—
Electric power	(A) 9.2	7.4	8.7	7.5	8.5	7.6	8.6	7.7
	(B) 8.8	7.3	8.3	7.3	8.7	7.5	—	—
Lumber	(A) 5.2	4.2	9.3	5.9	13.4	7.2	18.6	7.4
	(B) 5.7	4.2	10.2	6.1	19.5	7.2	—	—
Fisheries	(A) 15.2	11.0	15.5	11.1	14.4	11.2	14.8	11.2
	(B) 14.1	10.4	13.7	10.6	14.8	11.2	—	—
Land and building	(A) 3.4	2.5	5.0	3.4	3.9	3.2	4.9	3.7
	(B) 3.9	2.8	4.0	3.0	4.4	3.5	—	—
Gum plantation	(A) 7.3	5.3	15.1	10.5	7.0	5.6	9.0	6.4
	(B) 8.8	6.6	12.3	8.9	7.4	5.9	—	—
Life insurance	(Year) 76.2	18.4	38.4	23.2	50.3	29.2	—	—
Insurances for damages	(Year) 25.6	14.5	23.2	26.0	27.6	14.8	—	—

Note: (A) denotes a half-year period, from March to August, (B) the other half, from September to February of the following year. Profit rate means the rate of net profit against paid-up capital. These figures are obtained by averaging several representative companies for each kind of industry.

THE DEVELOPMENT AND TENDENCY OF THE NATIONAL ECONOMY IN 1939-40

Outline The economic status of Japan in 1939, according to the figures for production, domestic and foreign transactions, and personal income tax reports, indicated a decided progressive tendency which was based largely on the huge demand of the Government. But the execution of the plan for the expansion of domestic productive power and a great demand of commodities for the development of the Continent were not less

important factors. For the Government it was a hard task to effect a harmonious distribution of commodities by the consolidation and maintenance of supply, and the material mobilization plan had to be carried on by suppressing the public needs to the utmost. The National General Mobilization Law has affected every class of national economic life, exercising control in all possible ways. In the first place, from the view-

point of monetary circulation, Japan's national economy, supplying a vast sum of emergency funds, even in the third year of the China Affair, underwent transition without hardships. Of course, the liberal scattering of Government funds is regarded an important cause. The value of public bonds issued during 1939 was ¥5,280,000,000, over 89 per cent of which was absorbed, the remainder being held by the Bank of Japan. Nevertheless, the present value of public bonds at the close of the year amounted to ¥21,520,000,000. In addition to the funds demanded by the Government, emergency industries required a large supply of funds. Payment of debentures and stock topped ¥3,800,000,000, and the loans of banking organs for industrial equipment were estimated to have attained at least ¥1,500,000,000.

The source of these required funds must ultimately come from the national savings. Accordingly, the Government sought an appropriation of ¥10,000,000,000 from savings in the fiscal year of 1939-40. The Government's saving campaign proved very successful, for the aggregate sum from merely bank deposits, trust deposits and postal savings during 1939 was calculated to be nearly ¥7,000,000,000, a sharp increase over the ¥4,200,000,000 of the previous year. But, on the other hand, the increase of deposits augmented the purchasing power of the people.

In regard to monetary circulation, the increasing trend towards the inflation of currency caused serious concern. Of course, the inflation was based on the increase of production but the sudden rise in prices must have been a greater cause. Throughout 1939, the industrial production activity underwent a radical change. The sum of about ¥19,500,000,000 was recorded in the domestic industrial production in 1938, according to the figures supplied by factories. The actual records of 1939 is still unobtainable, but upon compiling the various data it is calculated to have reached nearly ¥23,000,000,000. This increase was based principally on the rise in prices, while the increase in quantity over the previous year did not exceed 6 per cent. Further investigation revealed the fact that the increasing trend was restricted to the fields of metallic, machine and electric industries, and the unbalanced state between the

emergency and peacetime industries became more aggravated. Mining was active but its quantitative increase in production did not amount to as much as 4 per cent over the previous year. In agriculture, as a result of the drought the rice crop fell short of the figure of the previous year but somehow the crops of cocoons, wheat, etc. increased. Thus, the farmers saw prospects of considerable increase in their total incomes as a result of the soaring prices.

Furthermore, in comparing the increase in output of the mining and manufacturing industries with the new enterprise capital sunk for the expansion of productive power, the projected funds for enterprises in 1938 amounted to ¥3,980,000,000 (for mining and manufacturing industries, ¥2,890,000,000) and in 1939 to ¥5,206,000,000 (for mining and manufacturing industries ¥3,780,000,000). And the increase in production hardly corresponded with the increase in capital, for some factories were unable to work to full capacity on account of shortage of material and labor.

The total exports of the Empire in 1939 increased by 35.8 per cent and imports, by 10.1 per cent over the previous year, the total sum calculated as ¥7,060,000,000, indicating the prosperity that came on the heels of 1937. The excess of exports over imports in 1938 was ¥60,000,000, but in 1939 it recorded an astounding excess of ¥805,000,000. But this unprecedented rapid stride in export trade is principally due to the yen-bloc trade, which may as well be called internal trade. The trade with third countries showed a little improvement, indicating an increase of exports of 20 per cent and an excess of imports over exports of ¥450,000,000 against ¥623,000,000 of the previous year. Nevertheless, the fact that Japan supplied the demands of the Continent and elsewhere in increased amounts, in spite of the shortage of materials and the wartime stringency, is worthy of special note, although the 1939 trade boom was not attributed so much to the quantity as to the soaring of prices. The average unit price of exports during the first nine months of 1939, according to the Yokohama Specie Bank investigation, in comparison with the corresponding period of the previous year sharply rose by 16 per cent, but the most conspicuous rise of the unit

price must have taken place since the outbreak of the European conflagration in September and the decline in the exchange rate of the yen.

As given above, even from the viewpoint of exports and imports, the limited supply of materials is clearly obvious; furthermore, the sacrifice of civilian everyday needs for military needs was amplified and the general restrictions placed on the supply of civilian needs were further strengthened as a result of problems arising out of controlled distribution. The increase in monetary income caused a sudden rise in buying power and accelerated the rise in prices. Since the spring of 1939 the prices of commodities overseas registered a reactionary jump, especially since the outbreak of the European War so that the prices in this country could not remain unaffected. The relative prices of commodities at the close of 1939 and those of the previous year, indicated a jump of about 15 per cent which did not equal the 33 per cent rise in England (in the United States, 3 per cent). But the prices in England obviously sharply soared at the outbreak of the war. As compared with 1937, the rise in England did not exceed 1 per cent (decline in the United States of 9 per cent), but in Japan a sudden rise of 31 per cent was indicated.

Aimed at intensifying the control to the utmost, the Government issued the Orders for the Suspension of Prices on September 18, which instead of checking the rise, markedly hoisted the prices of commodities, especially the daily necessities. The anxiety among the populace gave rise to stocking-up, indisposition to sell, prevalence of underhanded dealings, and the actual prices soared to a level such as is not expressed in the index of prices. It was affected to a certain degree not only by changes in the overseas situation but also largely by the discontent in distribution due to the defect in control.

A Sudden Increase in the Demand for Man-Power An illuminating light on the demand for man-power is shed by the statistics compiled by the Social Affairs Bureau of the Welfare Ministry on the change in the labor field since the outbreak of the China Affair in July 1937. The first year of the outbreak of the China Affair beginning July 1937 and ending June 1938, witnessed an increase in the number of factory workers by 367,000 to 3,624,000 and an increase

in the number of miners by 57,000 to 395,000, while a decrease of some 24,000 and 145,000 was recorded in the number of transport and communication workers and casual workers respectively. Statistics by the Bank of Japan, with 1926 as basis, give the average index of industrial workers as 99.9 for 1935, 105.5 for 1936, 117.3 for 1937, 129.2 for 1938 and 143.9 for August 1939.

Thus every year has witnessed a steady increase in the general index, but such is the increase in the index for war-time industries that an extremely wide difference between it and that for the peace-time industries is noted. Indices of horsepower of the machinery installed and electric energy consumed registered increases of 27 per cent and 20 per cent respectively. Total production and consumption of raw materials also showed increases of 43 per cent and 57 per cent respectively, but wages recorded the comparatively low rate of increase of 28 per cent, reflecting the tightening up on labor and the scramble for unskilled, juvenile and female workers.

Development of War-time Economy The National General Mobilization Law, approved by the 73rd session of the Imperial Diet, consists of 50 articles. The first three articles are devoted to a definition of national general mobilization and other matters pertaining to it. Seventeen articles cover wartime regulations in connection with national general mobilization and seven articles cover peace-time regulations, the remainder provide for compensation, control, penalties and regulations governing the organization of a national mobilization council. (The full text of the Law is given in Chapter VII) Not only the law for the mobilization of the munition industry, but all other emergency legislation enacted in connection with the China Affair are incorporated in this Law, which is aimed at mobilizing both the material and moral activities of the nation in emergency.

This Law contains comprehensive provisions for regulating the material and man-power resources of the nation in both peace and war. In time of war, it will be invoked to control finance, industries, funds, public services and institutions, prices of commodities and the press, while in time of peace it will be instrumental in carrying out national registration, training of skilled

workers, conservation of natural resources, formulation of various plans, national or mass exercises, research work and subsidizing of various industries. In form, it is a piece of legislation; in reality it is a carte blanche given to the Government by the Diet empowering it to exercise dictatorship in wartime.

Simultaneously with the enforcement of the National General Mobilization Law on May 5, 1938, Imperial Ordinances were promulgated controlling factory workshops and organizing a national mobilization council in accordance with Articles 13 and 50 of the Law respectively. The Imperial Ordinance controlling factory workshops is almost a replica of Article 2 of the Law for Mobilization of the Munition Industry, which was repealed as a result of the enforcement of the National Mobilization Law. The National Mobilization Council is set up as an advisory organ to which major matters in connection with the enactment of the National Mobilization Law will be referred.

Four-Year Plan for the Expansion of Industrial Production In March 1938, attention was paid, in co-operation with the Manchoukuo authorities, to the formulation of a plan for the expansion of industrial production in Japan and Manchoukuo. The plan was mapped out in April, the same year, but in consummating the plan it was found necessary to adjust the relationship between funds and labor, which formed the background of the plan. This required a longer time than expected, and it was not until November 27, that it formally received the Cabinet's approval. The plan is intended to secure a co-ordinated expansion of production in the national defense and key industries in Japan, Manchoukuo and China by 1941 in order to foster the resources of Japan, the stabilizing power in East Asia in view of the situation both at home and abroad and to prepare the ground for Japan's development in the future.

The guiding principles are:

1. The scope of the plan is limited to those major industries which require rapid expansion, paying primary attention to reinforcing the foundation of national defenses and paying consideration to those major goods which are necessary for national life.

2. The plan is aimed at expanding

the production of the key industries in this country in accordance with the basic policy of formulating a co-ordinated plan for Japan, Manchoukuo and China, which shall be executed under their close co-operation.

3. The plan is aimed at dispensing with supplies from third Powers in case of emergency, by securing supplies of and self-sufficiency in the major raw materials in Japan's sphere of influence.

Adjustment of the Relations between Demand and Supply of Goods The Government's price policy, which was necessitated by the Government's efforts to adjust the relations between the demand and supply of goods, first took definite form with a revision of the Anti-Profiteering Regulations in August 1937 complemented with a voluntary adoption of a maximum price system in September, and regulations controlling the prices of commodities in July 1938. The Anti-Profiteering Regulations were promulgated during the World War to check an undue rise in prices of commodities. The maximum price system was first adopted voluntarily by the trade associations and guilds under the control of the Ministry of Commerce and Industry, but was officially enforced in July 1938 on the basis of standard prices to be designated by the Minister of Commerce and Industry. Control of prices was thus further tightened, while separate regulations were promulgated to control major goods, including rice, raw silk, fertilizers and petroleum.

The standard prices, fixed by the Central Price Policy Commission under the Ministry of Commerce and Industry and by the Provincial Price Policy Commissions under the prefectural governments, were steadily applied to all major goods so that the list extends over 3,000 items and limited their prices to the level prevailing before the outbreak of the China Affair. In September 1939, an Imperial Ordinance was issued prohibiting the raising of prices above the level of September 18, in accordance with the provisions of the National General Mobilization Law, excepting raw foodstuffs and articles specially designated by Ordinance. The raising of house rent, charges and salaries above the level of the same date was prohibited for one year by the promulgation of several Ordinances on Oc-

tober 18. The Central Price Policy Commission was abolished, in April 1940, by the Yonai Cabinet and the Price Policy Council was set up in the Cabinet. An ordinance of the Commerce and Industry Ministry under the terms of the Law Concerning Temporary Measures for Export and Import Articles was promulgated in June 1940, prohibiting the production of luxuries and merchandise not of standard specifications and grades from July 7, and their sale from October 7, in order to secure the low price policy. The ration system on the distribution of matches and sugar was inaugurated in June 1940, while the fixed price system was extended to all food-stuffs in August 1940.

Establishment of the Planning Council Following the organization of the Planning Board, the Planning Council was set up, by amalgamating the Natural Resources Council which had been under the control of the Central Economic Council, and the Natural Resources Bureau. The Planning Council is presided over by the Prime Minister, as ex-officio President and is empowered not only to investigate into and deliberate on important matters relating to the expansion and operation of the co-ordinated national resources in both peace and war time as advisory organ to the Premier, but also to make recommendations to the Premier in regard to those matters. The Prime Minister is ex-officio President of the Planning Council and the President of the Planning Board is ex-officio vice-president.

Orthodox Control and Economic Development Liberal commercialism has been the guiding principle of Japan's political and economic activity since the Restoration of 1868. The Manchurian incident, the China Affair and the European War have, however, brought about a change in the political and economic fields of Japan. Liberal commercialism is being steadily replaced by totalitarianism in the political field and by a policy of self-supply and self-sufficiency (state control) in the economic field. Such a change in the national policies has not sprung up overnight. It has followed the development of the international situation, which has taken so many years. The change which has come over the economic field may be divided into two stages, one for the orthodox capitalist economic control and

the other for the reorganization of national economy.

The years 1930 and 1931 were the most difficult for Japan's national economy. In those years, the chronic agricultural panic developed into a regular worldwide panic; the truculent anti-Japanese movement in China threatened to obliterate Japan's trade with China; and the lifting of the gold embargo, carried out by the Government in an effort to co-operate in the international movement for reconstruction of the currency system, served to cause a financial upheaval in this country by abruptly raising the value of the yen. Japan's national economy was thus beset with difficulties on all sides. Apparently taking advantage of Japan's economic difficulties, China resorted to all sorts of provocation against Japan, including violations of her special rights and interests in Manchuria and Inner Mongolia, which form her life line both in national defense and economy. The Liuchiaokou affair on September 18, 1931 precipitated the Manchurian incident, which necessitated the Japanese Government making heavy appropriations toward the expenses involved. Execution of a budget for the relief of the business depression and the budget for the Manchurian incident at one and the same time involved a great difficulty, because increased taxation and flotation of government loans through the ordinary channels were almost out of the question during the business depression. The Government, therefore, re-imposed the gold embargo and enforced a controlled currency system. The ordinary system of bond issues was abandoned in favor of the underwriting of government bonds by the Bank of Japan, which meant that national economy was to be regulated on the basis of state finances. In other words, the Government attempted to enforce control of national economy indirectly through its main financial organ along the lines of an orthodox economic policy. Following, or before the adoption of a controlled currency system, important legislation was enacted, including the law controlling key industries, the amended law governing the operation of the Industrial Association, and the law safeguarding foreign trade. The key industries control law was intended to prevent undue competition among the industrialists with the growing

business depression in the background, while the trade safeguarding law was aimed at securing a barter system with foreign countries in view of an anti-Japanese movement gaining strength abroad.

By enforcing the controlled currency system, namely the underwriting of government bonds, which formed the backbone of the state control of national economy, the Government made funds for popular requirements ample. While stimulating and strengthening economic activities by persisting in a low interest policy, the Government did everything in its power to maintain the balance between the supply of funds and national productive power by adopting open market operations with a view to remedying the oversupply of credit which will often follow the adoption of a controlled currency system. Thanks to these operations, the vicious inflation which had been feared so much failed to appear, while prices of commodities recovered from their panic level to normal. Dormant productive power was brought into activity again, and promotions and extensions were made in the industrial field. The low yen exchange following the re-imposition of the gold embargo, which assumed the role of a protective tariff to Japanese merchandise, led to a development of Japan's export and various heavy industries.

On the other hand, the amount of issue of government bonds was limited within national savings, so that there was enough margin left to supply normal demands for funds. The period of state control of national economy ended in the latter half of 1936 when new business promotions and extensions had been apparently completed for the time being. A sudden change, however, in the international situation, especially the outbreak of the China Affair, ushered in a period of reorganization of the national economy of this country.

In the field of long-term economic funds, a decided increase was registered in the issue of debentures by banking corporations, which is accounted for by wartime financing undertaken on the part of the Japan Industrial Bank under Government instruction. The Bank is authorized to increase its maximum issue of debentures to 1,000,000,000 yen under the Temporary Fund Adjustment Law. As to purely industrial funds, stock sub-

scriptions remarkably exceeded the total of debenture issues, this probably, being mostly due to state financial control, but partly to the fact that the newly-promoted business corporations had to depend more on their capital stock than on debentures owing to the lack of confidence among financiers and also that the electric utility industry refrained from issuing debentures during the transition period following the enactment of the law providing for state control of the generation and transmission of electric power.

During one and half years up to March 1939 from the enactment of the Temporary Fund Adjustment Law, the total of funds raised amounted to about ¥4,770,000,000, of which ¥2,549,000,000 or 53.4 per cent was raised under Article 4 of the Act, which provides for new business promotions and increase of capitalisation and, under Article 8, which provides for increase of capitalization before the capital is fully paid-up.

The forcible economy in consumption, which started with restrictions on the use of gold on December 28, 1937, was steadily tightened.

Those goods whose economy in use has been demanded by the Government are limited to raw materials which are not produced in large quantities in this country or which are mostly imported from abroad. The yen-bloc countries, Manchoukuo and China supply Japan with rape-seed, coal, iron, and steel, but their supply of iron and steel, which are most needed by Japan, is limited for the time being, so that Japan's national economy is dependent upon foreign countries for the supply of its major raw materials. This is the reason why the control of foreign trade plays so important a part in the plan for material mobilization.

Japan's foreign trade since the outbreak of the Manchurian incident shows that trade between Japan and the yen-bloc countries has registered a great increase in Japan's exports, reflecting a vigorous demand for goods in the bloc countries as a sequel to Manchoukuo's economic reconstruction and progress. There has been, at the same time, a gradual increase in the imports into Japan from those countries, testifying to the progress of industries in Manchoukuo and their consequent supplying power.

During the years before 1938, dor-

mant funds resumed activity after the re-imposition of the gold embargo, while frozen debts were gradually redeemed, with the result that advances by banks witnessed a decrease in inverse proportion to an increase in deposits. The money market became slack, paving the way to the absorption of government bonds. With the military rearmament plan announced, making a turning-point, a vigorous demand for funds arose in connection with the expansion of industrial production, leading to an increase both in bank deposits and advances.

The year 1938, however, ushered in a rapid expansion of currency which threatened to outstrip the rate of increase in production. Stimulated by the conflict between Italy and Ethiopia and also by the rearmament plans adopted by various countries, prices of commodities in foreign countries assumed an upward tendency, but elasticity of productive power as well as ample stocks brought pressure to bear upon price quotations, which, therefore, began to drop in the spring of 1937. The market in Japan was about to keep pace with the tendency abroad when hostilities started between Japan and China, placing everything on a war footing. Especially remarkable was the abrupt rise in prices in this country, with the result that the difference in prices between Japan and foreign countries widened with the elapse of time. It was found necessary to warn against obstacles in the way of the smooth operation of

war-time finances, a depression in foreign trade and a growing burden on the national life. The Government launched upon operations for stabilizing prices at the level prevailing before the outbreak of the China Affair, by invoking the Anti-Profitteering Act (on August 3, 1937) by adopting a voluntarily fixed standard price system, by enforcing an officially fixed price system, and then trying to stop the march of the rising tendency beyond the level of September 18, 1939. While pursuing its low price policy, the Government also enforced control on the production, distribution and sales of goods.

Present Stage of Reorganization of National Economy The current economic situation in this country forms a mixture of war-time and construction economy, with preponderating importance attached to the production of producers' goods, while the production and supply of consumers' goods are being limited to designated items. Following the disintegration of the organic constitution of the world economic fabrics and a revolutionary change in the international situation, the vital necessity has been felt in Japan of attaining self-supply and self-sufficiency in major materials and of securing national defenses. Consequently, operations are now in full swing for developing the heavy as well as the light industries to an international level so as to establish, maintain and enhance the living standard of the nation.

CHAPTER XI FOREIGN TRADE

Japan's foreign trade for the last 70 years can be divided into five periods, the first, before the Sino-Japanese War; the second, after the Sino-Japanese War to the outbreak of the Russo-Japanese War; the third, after the Russo-Japanese War to the outbreak of the World War; the fourth, the period following the World War and the fifth, the period after 1937. (For further historical explanations see the Japan Year Book, 1937, pp. 409, 410).

Foreign Trade of Japan in 1939

General Trend of Foreign Trade Japan's foreign trade in 1939 increased greatly despite the many and various economic control measures taken by the Government. The total trade volume of the Japanese Empire, inclusive of the colonial trade with foreign countries, increased by 23.1 per cent over 1938 and amounted to ¥7,060,000,000, thus almost nearing the 1937 mark of ¥7,270,000,000, which is a remarkable advance after the depression of 1938.

Exports in 1939 aggregated ¥3,930,000,000, far exceeding the total of the preceding year and establishing a new record in the history of Japan's foreign trade, while imports gained by 10.2 per cent over 1938 to ¥3,127,000,000, thus almost nearing the 1937 level. The trade balance thus improved from an export excess of ¥60,000,000 in 1938 to one of ¥805,000,000. This striking improvement in the trade balance was certainly an abnormal phenomenon for Japan, where ordinarily an import excess is the rule, and where trade has been placed under various control measures since the outbreak of the China Affair, but it has to be reorganised that the success was largely attributable to a notable expansion of the Empire's exports to the yen bloc, which might be termed quasi-domestic trade.

The extent of this trade with the yen bloc is well testified to by the fact that the balance of Japan's trade with the bloc in 1939 recorded an export excess of ¥1,060,000,000 while the trade with third countries resulted in an import excess amounting to ¥406,000,000, though

trade with third countries did make a noteworthy advance, rising by 20.1 per cent in the case of exports and 6.5 per cent in that of imports; the import excess dwindled by ¥168,000,000. Since the outbreak of the China Affair, import control has been steadily strengthened, with the object of improving the balance of international accounts and facilitating imports of munition materials. Consequently, imports of non-urgent and non-necessary materials as well as raw materials for the manufacture of export articles have been strictly controlled, though the Government has made great efforts for a smooth distribution of supplies for the manufacture of export goods as a positive means of promoting exports and fostering import capacity, but restraints resulting from various control measures have been inevitable.

It should be noted, however, that the remarkable expansion of the trade volume of the Empire in the face of the various handicaps of wartime control certainly emphasizes the strength of Japan's national economy. As long as Japan has to depend on third countries for the supply of her principal raw materials, however, the export promotion policy should be emphasized from the standpoint of maintaining the balance of accounts in trade with third countries. The urgent necessity of developing Continental resources is also being keenly appreciated in this connection.

Japan's Trade with the Yen Bloc and Third Countries Japan's trade with the yen bloc, that is, with Manchoukuo, the Kwantung Leased Territory and China, last year, amounted to ¥1,747,000,000 in exports and ¥683,000,000 in imports, the former gaining by ¥581,000,000 and the latter by ¥119,000,000 over the 1938 figures. The export trade with Manchoukuo expanded parallel with the progress of resources development operations in that State and the resultant increase in the demand for productive and consumption materials. The progress of construction and pacification activities in China served to re-

markably raise the demand in that territory for Japanese goods. The advance of Japan's imports from the yen bloc was a result of a steady increase in the arrivals of beans and bean-cake from Manchoukuo and raw cotton, wool and coal from China.

The trade with third countries last year was divided into ¥1,829,000,000 in exports and ¥2,235,000,000 in imports, the increase over the preceding year amounting to ¥305,000,000 in the former and ¥136,000,000 in the latter. The import excess in trade with third countries declined from ¥575,000,000 in 1938 to ¥406,000,000 last year. This noteworthy expansion of Japan's exports to third countries was partly attributable to an increase in international purchasing power due to worldwide prosperity accompanying the progress of national-defense industrial operations in leading countries after the second half of 1938 and the return of a business boom in the United States, and partly to the sharp gain in export prices caused by a sudden and noticeable rise in the demand for materials in different countries after the outbreak of the European hostilities. Various export promotion measures adopted by the Government also played an important part.

Among major import articles, imports of wheat, wool, sugar and 'others' dwindled sharply on account of import restrictions. On the other hand, imports of raw materials for producing export articles, such as raw cotton, as well as materials needed for productivity expansion operations rose markedly.

Changes in Organization of Trade
As long as import restrictions aim at facilitating imports of munition materials and commodities for emergency requirements within the country's limited importing capacity, it is quite natural that priority should be given to importations of these wartime materials. On the other hand, the stabilization of the domestic supply of raw materials for manufacturing export articles has become an important problem from the standpoint of accelerating and promoting exports as the basis of increasing import capacity. In this connection, the Government has endeavored to cope with the situation by adopting the link system, which deserves special mention for the part it has played in the remarkable results of the trade of 1939.

Japan's imports last year increased in general, except in wholly manufactured articles. The increasing rate of imports of 'manufactures for further use in manufacturing' was the most remarkable. It is also noteworthy that imports of raw materials, which account for more than 48 per cent of the total import trade, rose by 9.1 per cent over 1938. Of those raw materials, imports of raw cotton, heavy oil, iron ore, etc., and hides and leathers, grouped under the list of 'manufactures for further use in manufacturing,' made notable gains. Machinery and tools, included among wholly manufactured goods, also rose conspicuously. This tendency clearly reflects the progress of the productivity expansion measure and the export promotion plan in operation. At the same time, the increase of imports of peas and beans in the foodstuffs group, and coal and oil-cake in the raw materials group, is noted to be indicative of the progress of the Continental resources development activities.

A general advance marked exports last year. The increasing rate was specially noteworthy with exports of raw materials and foodstuffs. The ¥40,000,000 gain in the exports of aquatic products and the ¥39,000,000 rise in tinned and bottled foodstuffs were largely attributable to the outbreak of the European War. On the other hand, wheat flour, which had gained in exports in 1938 over 1937, receded both in quantity and value because of the Government control over shipments to the yen bloc last year. The biggest gain in exports in the raw materials group was in lumber, due to the increase of shipments to the yen bloc. Exports of other raw materials, however, were generally depressed. Exports of partly manufactured goods rose both in volume and value, principally because of the increase in raw silk, cotton yarns and other fibrous materials. The remarkable expansion in raw silk exports reflects the business boom in the United States, and the phenomenal rise in raw silk export prices.

Exports of wholly manufactured goods, accounting for nearly 60 per cent of the total exports of the nation, recorded an advance amounting to nearly ¥370,000,000. Of these, papers, iron manufactures, machinery and tools, principally catering for the yen bloc, sharply advanced, the increase in these three items alone aggregating more

than ¥100,000,000 or nearly one-third of the total increase of the exports of wholly manufactured goods. Of fibrous industrial manufactures, artificial silk tissues increased most, exports gained both to the yen bloc and to third countries. Exports of cotton tissues slightly fell back as a result of the Government's control over shipments to the yen bloc, but the fact that they dropped by only ¥290,000 clearly shows that exports to third countries made a striking increase, this being attributable partly to various export promotion measures adopted by the Government, including the link system, though this served to reduce the unit export prices of yarns and grey tissues as cotton merchants hastened to make speedy sales in order to quickly get supplies of raw cotton under the link. The quantity of cotton tissues exported last year increased by as much as 260,000,000 square yards while the value made a slight decline; since the outbreak of hostilities in Europe, however, export prices have taken an upward turn again.

Progress of Export Promotion Measures
Since the spring of 1939, the promotion of the export trade as a means of increasing imports of munition materials has become an important item of the wartime trade policy. Originally, export promotion measures were confined largely to a limited field of trade activities, such as for stabilizing the supply of raw materials for manufacturing export goods or for smooth trade financing. As the margin of commodity prices in Japan and in overseas markets steadily widened, however, it became difficult even to prevent the steady decline of exports through the stabilization of raw material supplies. Export promotion, then, came to be studied and discussed as a link in national economic policy, and the price policy has to be examined not only as a means of stabilizing the national living but also from the viewpoint of export trade promotion.

(1) Stabilization of Supply of Raw Materials for Manufacturing Export Goods:

(a) Commodity-classified link system:
This system recognizes imports of raw materials against the exports concerned, mostly fibrous materials and certain miscellaneous goods. Great improvements have been made in the system since it was originally introduced, but various marked defects still exist

as, for instance and as mentioned above, in the case of cotton tissues linked with raw cotton.

(b) Special link system:

This link system, in operation since January 10, 1939, as a substitute for the composite link system, has been applied to 24 items, including beer. This system differs from the commodity-classified link system in that it permits the importation of raw materials necessary for manufacturing or finishing the certain export products concerned in advance of their actual exportations. The basis of the special link system is the value of the export products and import raw materials, whereas the commodity-classified link system is based on the quantity of manufactured products to be exported and raw materials to be imported. The term of obligatory exportation of the products manufactured from imported raw materials is fixed at from six months to one year. Because of various technical difficulties involved in the application of the special link system, the number of articles to which the system is now applied, namely, 24 items, is not likely to be increased.

(c) With the object of further facilitating and stabilizing the supply of raw materials for manufacturing export goods, the Government has given special consideration to raw materials technically difficult to subject to the link system. In this connection, companies specializing in the distribution of raw materials for manufacturing export articles have been established in eight principal cities, including Tokyo, their task being to accelerate the supply and distribution of raw materials to small-sized and medium-sized manufacturers. At present, 34 export articles are handled by these companies, which are control companies financed by public corporations to the extent of about 50 per cent. A steady expansion is predicted for them in the future.

(d) The foreign exchange fund was established by the Government under the charge of the Ministry of Commerce and Industry in July 1938, the object of the fund being to find the necessary finance for the purchase of raw materials to be used in the manufacture of export products. The conditions for getting loans from this fund were loosened on February 3, 1939, to enable small-sized and medium-sized industrialists specializing in the production of export articles to get easier access

to raw materials. As from that day, the interest rate on loans from the fund was reduced from 2.5 per cent to 2.0 per cent, and the loan term was extended from four months to six months.

(2) Trade Financing Operations:

Major trade financing measures adopted during 1939 were the revision of the system for compensating losses on export advances, the revision of the regulations for enforcing the Export Compensation Law, and the adoption of a system for compensating losses on advances to manufacturers of export goods. The system for compensating losses on export advance has been in operation since August 1938, and was revised to cope with the new developments of the trade situation on March 13, last year. The revision expanded the scope of those qualified for utilizing the fund.

(3) Adjustment of Exports to Yen Bloc:

In the second half of 1939, the Government decided to restrict exports to the yen bloc for the reason that sales to yen-bloc markets were little effective for acquiring foreign currencies. The Government had already taken various measures for restricting exports thence, but the restrictions were further strengthened parallel with the enactment of an ordinance fixing prices at the September 18 level, the Government enforcing an ordinance for adjusting exports to Manchoukuo, Kwantung and China as from September 25, 1939. Despite such governmental efforts, however, shipments of Japanese goods to yen-bloc markets steadily increased. In this connection, experts consider it necessary to strengthen restrictions over the consumption of Japanese products in the yen bloc parallel with the similar measures in operation in Japan.

Major Trade Problems in 1939 Parallel with the increasing strains of the international political situation and strengthened trade control measures adopted by foreign countries, the adjustment of trade relations with foreign powers has become further necessary. Toward the end of March, last year, the Anglo-Indian Trade Agreement was concluded favorably toward the British side, at least in so far as cotton tissues were concerned. Because Japanese cotton fabrics compete with British cotton tissues on the Indian market, close attention is being paid to the progress of the third Anglo-Japanese com-

mercial negotiations now under way. The third Japanese-Australian Commercial Agreement was concluded on June 27, 1939. That agreement provided that Japan was to import two-thirds of her total annual imports of wool from Australia and to export to Australia cotton and artificial silk tissues to an amount not exceeding 51,250,000 square yards. The application of the intermediate tariff to Japanese cotton and artificial silk tissues imported by Australia was also provided for in the agreement. Following the outbreak of the European War, the Commonwealth Government of Australia promulgated a wool export control ordinance, but has agreed to license shipments of wool to Japan amounting to about 300,000 bales annually. In the early part of the second half of last year, a Japanese-German Commercial Agreement was concluded to increase the dependency of the two contracting parties on each other for supplies of principal goods. This agreement, however, was nullified in fact as a result of the outbreak of the second European War.

On July 26, 1939, the United States Government suddenly notified to the Japanese Government its intention to abrogate the American-Japanese Treaty of Commerce and Navigation, concluded in 1911. As the reason, the Washington Government stated that the trade relations between the two countries had undergone a substantial change since its conclusion and that the provisions of the treaty had come to require new consideration. The abrogation was given at a six-month notice. In those six months no positive step was taken by either of the two countries for concluding a new treaty to replace the old, and the treaty lapsed on January 25 this year. In its notification, the United States Government stated that the abrogation of the treaty became necessary to allow it to cope with new developments and protect and promote American rights and interests. At the same time, it may be taken that the step was taken as a political gesture on the part of the Washington Government to the American public, for, in view of the extremely favorable balance to the U.S. of trade with Japan, it is quite plain that the abrogation hardly aimed at adjusting trade relations with Japan. Political developments in the United States as well as in the Far East will prove a deciding factor in future com-

mercial dealings between Japan and the United States.

European War and Japan's Foreign Trade In view of the fact that the phenomenal expansion of Japan's export trade at the time of the first World War came in the third year of hostilities and that the present European War, expected to be more or less prolonged, is still in its initial stage, it would be difficult to predict the possible extent of the influence of the present war on Japan's foreign trade. The time is not sufficiently ripe for the advent of a wartime trade boom in this country. The general trend of the export trade during the last five months of last year (the five months directly following the outbreak of the war), however, serves to give an inkling of the situation. In the last half of 1939, while shipments to the belligerents in Europe fell off sharply, a noteworthy increase was noted in exports to British India, the Dutch East Indies, Australia, the United States, Central and South America, etc., different factors accounted for the rise. For example, the increase in exports to the United States was largely attributable to the price advance of raw silk.

In this connection, close attention should be paid to the rise in unit export prices of major export items in the latter half of the year. In December, exports of raw silk totalled 3,569,100 kin or 25 per cent less in quantity than in the corresponding month of 1938, but amounted to ¥70,357,697 in value, or 75 per cent more than in the same month of the previous year. The unit export price rose 133.7 per cent in that one year. The rise in unit prices of the major export items in the last five months of 1939 is shown by Table B, and reflects the general upward tendency of prices in the international market. Figures in that table show that unit export prices of tinned or bottled foodstuffs at the end of last year rose by 79.4 per cent over a year ago, and those of raw silk jumped by as much as 133.7 per cent, those of cotton and rayon tissues, some of Japan's most important export items, also gained markedly. Thus, it is noted that the expansion of Japan's exports after the outbreak of the European War, principally to the non-belligerent countries, failed to make any noteworthy quantitative increase, but was mostly attributable to the gain in unit export prices.

FOREIGN TRADE OF THE EMPIRE

(Unit: ¥1,000)

Year	Exports	Imports	Excess of Imports
1930	1,518,574	1,680,314	161,740
1931	1,179,212	1,319,406	140,193
1932	1,457,296	1,524,521	67,206
1933	1,932,069	2,017,504	85,435
1934	2,258,081	2,400,495	142,414
1935	2,603,152	2,617,910	14,758
1936	2,797,599	2,927,975	130,377
1937	3,318,820	3,954,726	635,905
1938	2,896,770	2,836,334 (Exp. exc.)	60,436
1939	3,932,926	3,127,460 (Exp. exc.)	805,466

Foreign Trade of The Empire by Territories in 1939

(Value in ¥1,000)

	Exports			Imports		
	Total Value	Compared with the previous year	Rate of Increase or Decrease	Total Value	Compared with the previous year	Rate of Increase or Decrease
Japan Proper and Karafuto	3,576,370	886,693	32.9%	2,917,666	254,226	9.5%
Chosen	269,911	100,844	59.6	157,396	24,656	18.5
Taiwan	83,194	46,844	129.7	51,042	12,333	31.8
South Sea Islands	3,451	1,865	111.2	1,357	-87	-6.0
Total	3,932,926	1,036,156	35.8	3,127,460	291,126	10.1

FOREIGN TRADE

Trade with Third Countries
(or other than Kwantung L.T., Manchoukuo and China)

	(In ¥1,000)		
	1937	1938	1939
Exports			
Total value of exports	3,318,820	2,896,770	3,932,926
Japan Proper and Karafuto	3,175,418	2,689,677	3,576,370
Exports to third countries	2,384,160	1,524,137	1,829,267
Chosen	113,098	169,067	269,911
Exports to third countries	16,112	6,170	8,243
Taiwan	29,916	36,350	83,194
Exports to third countries	18,082	9,055	13,233
South Sea Islands	388	1,676	3,451
Total for third countries	2,418,354	1,539,362	1,850,743
Ratio to the total	72.8	53.1	47.6
Imports			
Total value of imports	3,954,726	2,836,334	3,127,460
Japan Proper and Karafuto	3,783,177	2,663,440	2,917,666
Imports from third countries	3,345,271	2,099,235	2,234,694
Chosen	126,052	132,740	157,396
Imports from third countries	46,528	52,307	58,420
Taiwan	44,229	38,709	51,042
Imports from third countries	13,755	11,047	14,049
South Sea Islands	1,268	1,444	1,357
Total from third countries	3,405,554	2,162,589	2,307,163
Ratio to the total	86.1	76.2	73.7
Excess of Imports over Exports in the trade with third countries	987,200	623,227	456,420

YEARLY COMPARISON OF THE VALUE OF EXPORTS
AND IMPORTS

Japan Proper and Karafuto

(In ¥1,000)

Year	Exports	Imports	Total	Excess of Imports over Exports
1900	204,429	287,261	491,691	82,831
1901	252,349	255,816	508,166	3,467
1902	258,303	271,731	530,034	13,428
1903	289,502	317,135	606,637	27,633
1904	319,260	371,360	690,621	52,099
1905	321,533	488,538	810,071	167,004
1906	423,754	418,784	842,539	4,970
				(Export exc.)
1907	432,412	494,467	926,880	62,054
1908	378,245	436,257	814,503	58,011
1909	413,112	394,198	807,311	18,913
				(Export exc.)
1910	458,428	464,233	922,662	5,804
1911	447,433	513,805	961,239	66,371
1912	526,981	618,992	1,145,974	92,010
1913	632,460	729,431	1,361,891	96,971
1914	591,101	595,735	1,186,837	4,634
1915	703,306	532,449	1,240,756	175,857
				(Export exc.)
1916	1,127,468	756,427	1,883,896	371,040
				(Export exc.)
1917	1,603,005	1,035,811	2,638,816	567,139
				(Export exc.)

YEARLY COMPARISON

Year	Exports	Imports	Total	Excess of Imports over Exports
1918	1,962,100	1,668,143	3,630,244	293,956
				(Export exc.)
1919	2,098,872	2,173,459	4,272,332	74,587
1920	1,948,394	2,336,174	4,284,569	387,780
1921	1,252,837	1,614,154	2,866,992	361,317
1922	1,637,451	1,890,308	3,527,760	252,856
1923	1,447,750	1,982,230	3,429,981	534,479
1924	1,807,034	2,453,402	4,260,437	646,367
1925	2,305,589	2,572,657	4,878,247	267,068
1926	2,004,727	2,377,484	4,422,212	332,756
1927	1,992,317	2,179,153	4,171,471	186,836
1928	1,971,955	2,196,314	4,168,270	224,359
1929	2,148,818	2,216,240	4,364,858	67,621
1930	1,469,852	1,546,070	3,015,923	76,218
1931	1,146,981	1,235,675	2,382,656	88,693
1932	1,409,992	1,431,461	2,841,453	21,469
1933	1,861,045	1,917,219	3,778,266	56,174
1934	2,171,924	2,282,601	4,454,526	110,677
1935	2,499,072	2,472,235	4,971,307	26,837
				(Export exc.)
1936	2,692,976	2,763,681	5,456,657	70,705
1937	3,175,418	3,783,177	6,958,595	607,759
1938	2,689,677	2,663,440	5,353,117	26,237
				(Export exc.)
1939	3,576,370	2,917,666	6,494,036	658,704
				(Export exc.)

RATE OF TRADE EXPANSION OF JAPAN PROPER AND
KARAFUTO IN THE PAST 5 YEARS

Year	Export Amount in ¥1,000	Rate of Increase as compared with the Previous Year	Imports Amount in ¥1,000	Rate of Increase as Compared with the Previous Year	Excess of Imports (-) or Exports (+)
1935	2,499,073	15%	2,472,236	9%	(+) 26,837
1936	2,692,976	7.5	2,763,681	11.8	(-) 70,705
1937	3,175,418	17.9	3,783,177	36.9	(-) 607,759
1938	2,689,677	(-) 15.3	2,663,440	(-) 29.5	(+) 26,237
1939	3,576,370	32.2	2,917,666	9.5	(+) 658,704

RATIO OF EXPORTS CLASSIFIED BY CONTINENTS

Japan Proper and Karafuto

(In ¥1,000)

Continents	1938		1939		Ratio to Export of 1938
	Value	Ratio to Total Exports	Value	Ratio to Total Exports	
Asia	1,664,625	61.8%	2,320,265	64.8%	139.3%
Europe	261,037	9.7	238,256	6.6	91.2
North America	440,404	16.3	658,730	18.4	149.5
Central America	29,415	1.0	43,657	1.2	148.4
South America	60,151	2.2	67,111	1.8	111.4
Africa	137,336	5.1	152,909	4.2	111.3
Oceania	96,610	3.5	95,443	2.6	98.7
Total	2,689,677	100.0	3,576,370	100.0	132.5

FOREIGN TRADE

RATIO OF IMPORTS CLASSIFIED BY CONTINENTS

Japan Proper and Karafuto					
(In ¥1,000)					
Continents	1938	Ratio to Total Imports	1939	Ratio to Total Imports	Ratio to Imports of 1938
Asia	1,023,585	38.4%	1,181,001	40.4%	114.4
Europe	376,269	14.1	309,935	10.6	82.3
North America	1,006,565	37.7	1,128,415	38.6	112.1
Central America	7,314	0.2	3,481	0.1	47.5
South America	91,235	3.4	115,730	3.9	126.8
Africa	60,621	2.2	92,788	3.1	153.0
Australia	97,850	3.6	86,317	2.9	88.1
Oceania	97,850	3.6	86,317	2.9	88.1
Total	2,663,440	100.0	2,917,666	100.0	109.5

EXPORTS AND IMPORTS OF JAPAN PROPER AND KARAFUTO BY GROUPS OF COMMODITIES

(In ¥1,000)

Group Number	Merchandise of Exports	1937	1938	1939
I	Plants and animals	4,226	4,131	6,231
II	Grains, flours, starches & seeds	45,963	74,735	78,989
III	Beverages, comestibles & tobacco	203,159	226,842	360,983
IV	Skins, hairs, bones, horns, teeth, tusks, shells etc. & manufactures thereof	21,979	13,405	13,167
V	Oils, fats, waxes & manufactures thereof	75,391	52,330	88,264
VI	Drugs, chemicals, medicines compounds or preparations thereof & explosives	70,149	73,652	107,502
VII	Dyes, pigments, coatings & filling matters	20,531	21,315	37,060
VIII	Yarns, threads, twines, cordages & materials thereof	598,346	474,630	694,867
IX	Tissues & manufactures thereof	1,000,019	731,240	808,151
X	Clothing & accessories thereof	229,912	145,012	168,460
XI	Papers, pulp & paper manufactures	60,389	80,937	120,104
XII	Minerals & manufactures thereof	23,949	24,564	33,534
XIII	Potteries & glass	87,544	66,363	75,679
XIV	Ores & metals	125,422	121,004	139,031
XV	Metal manufactures	98,813	100,113	147,826
XVI	Clocks, watches, scientific instruments, firearms, vessels, vehicles & machinery	227,099	267,237	370,323
XVII	Miscellaneous articles	203,676	170,778	264,051
	Mail-matters	34,375	30,231	50,047
	Re-exported goods	43,877	11,157	12,097
Group Number	Merchandise of Imports	1937	1938	1939
I	Plants & animals	3,194	1,647	2,038
II	Grains, flours, starches & seeds	208,981	177,191	212,446
III	Beverages, comestibles & tobacco	85,115	50,768	50,647
IV	Skins, hairs, bones, horns, teeth, tusks, shells, etc. & manufactures thereof	69,734	39,827	47,669
V	Oils, fats, waxes & manufactures thereof	297,878	326,934	262,518
VI	Drugs, chemicals, medicines compounds or preparations thereof & explosives	251,841	181,768	170,578
VII	Dyes, pigments, coatings & filling matters	30,580	9,351	9,961
VIII	Yarns, threads, twines, cordages & materials thereof	1,208,359	571,657	592,307

BY GROUPS OF COMMODITIES

IX	Tissues & manufactures thereof	17,341	5,632	2,564
X	Clothing & accessories thereof	1,515	319	175
XI	Pulp for paper making, papers, paper manufactures, books & pictures	14,259	48,364	60,249
XII	Minerals & manufactures thereof	126,020	121,137	162,027
XIII	Potteries, glass, & glass manufactures	4,739	4,240	3,633
XIV	Ores & metals	901,131	661,895	848,500
XV	Metal manufactures	12,019	8,430	5,175
XVI	Clocks, watches, scientific instruments, firearms, vehicles, vessels & machinery	243,292	313,362	288,212
XVII	Miscellaneous articles	160,904	123,595	178,524
	Mail-matters	11,274	5,885	7,195
	Hand-baggages of travellers	1,134	494	886
	Re-imported goods	6,857	11,047	12,326

QUANTITY AND VALUE OF EXPORTS AND IMPORTS IN 1939 COMPARED WITH 1938

Japan Proper and Karafuto

EXPORTS

(Value in ¥1,000)

Articles	1938		1939		Increase or Decrease	
	Quantity	Value	Quantity	Value	Quantity	Value
Comestibles		300,214		431,958		131,744
(1) Crude		49,199		105,268		56,069
Rice & paddy 100 kin	138,599	2,265	335,504	5,825	196,905	3,560
Beans & peas ..	646,939	6,972	565,190	8,417	-81,749	1,445
Marine products ..	1,119,680	21,931	1,940,074	61,867	820,394	39,936
Others		18,031		29,159		11,128
(2) Manufactured		251,015		326,690		76,675
Wheat flour 100 kin	4,758,869	60,715	3,449,266	54,190	-1,309,603	6,525
Tea ..	280,002	12,063	391,166	23,461	111,164	11,398
Refined sugar ..	2,267,853	23,654	1,860,848	28,676	-407,005	5,022
Comestibles in tin and bottle ..	2,526,234	92,819	3,037,301	132,037	511,067	39,218
(Tin included)						
Others		61,764		88,326		26,562
Materials						
(1) Raw		105,185		183,382		78,197
Insecticide 100 kin	77,032	6,103	63,723	7,149	-13,309	1,046
Coal Long ton	746,481	10,147	669,131	9,665	-77,350	-481
Wood		46,887		128,157		81,270
Others		42,047		38,410		-3,638
(2) Manufactured		672,232		948,882		276,650
Vegetable oil 100 kin	388,188	8,572	682,178	18,946	293,990	10,370
Raw silk ..	477,471	364,124	386,029	506,844	-91,442	142,720
Cotton yarns ..	315,795	39,355	626,249	71,094	310,454	31,739
Rayon yarns ..	166,606	17,888	277,760	29,349	111,154	11,461
Copper ..	113,456	8,636	142,651	10,122	29,195	1,486
Brass ..	18,741	1,812	11,822	1,089	-6,919	-723
Others		231,849		311,438		79,593
Manufactured goods		1,569,597		1,939,305		369,708
Silk tissues 1,000 sq. yd.	90,652	49,357	59,666	47,395	-30,986	-1,957
Rayon tissues ..	337,122	115,762	309,971	137,360	-27,151	21,598
Cotton tissues ..	2,518,081	404,240	2,445,538	403,948	264,728	-292
Woollen tissues ..	28,071	46,845	26,001	51,821	-1,970	4,976
Knitted goods 1,000 doz.	14,379	40,818	13,796	40,237	-583	-581
Hats, caps & bonnets ..	2,154	11,092	2,196	14,326	42	3,234

FOREIGN TRADE

Articles	1938		1939		Increase or Decrease	
	Quantity	Value	Quantity	Value	Quantity	Value
Buttons 1,000 gross	23,260	9,730	27,902	11,700	4,642	1,970
Paper 100 kin	2,483,851	52,127	3,171,316	77,945	687,465	25,818
Cement "	8,190,534	6,411	11,642,755	11,548	3,452,221	5,137
Potteries		40,477		48,624		8,147
Glass & manufactures		25,886		27,055		1,169
Iron manufactures		52,231		76,256		24,025
Gum tire 100 kin	78,902	7,799	107,984	9,545	29,082	1,746
Machines		156,475		209,340		52,865
Toys		24,991		22,019		-2,972
Others		525,361		750,186		224,825
Miscellaneous articles		31,292		60,718		29,426
Total of foreign produce & manufactures		2,678,520		3,564,245		885,725
Re-exported articles		11,157		12,096		939
Grand total of exports		2,689,677		3,576,341		886,664

IMPORTS

Articles	1938		1939		Increase or Decrease	
	Quantity	Value	Quantity	Value	Quantity	Value
Foodstuffs		199,246		230,729		31,483
(1) Crude produce		157,444		183,782		26,338
Rice & paddy 100 kin	378,275	2,808	729,441	6,288	351,166	3,480
Wheat "	1,104,416	9,557	539,116	4,091	-565,300	-5,466
Beans & peas "	13,884,618	102,076	13,727,013	123,576	-157,605	21,500
Others		43,003		49,827		6,824
(2) Products		41,802		46,947		5,145
Sugar 100 kin	639,858	5,241	13,690	140	-626,168	-5,101
Fresh beef "	120,211	4,414	107,227	4,163	-12,984	-251
Others		32,147		42,644		10,497
Materials		1,295,659		1,414,089		118,430
Oil yielding materials 100 kin	3,167,080	28,790	2,672,233	31,998	-404,847	3,208
Crude rubber "	784,372	51,374	717,202	57,491	-67,170	6,117
Sulphate of ammonium "	4,930,390	31,710	1,372,313	8,240	-3,558,077	-23,470
Phosphorite "	9,402,824	19,281	13,049,847	25,410	3,647,023	6,129
Oil cake "	11,264,409	60,112	15,508,103	103,957	4,243,694	3,845
Raw cotton "	9,378,454	436,835	10,093,418	462,008	714,964	5,173
Hemp & other vegetable fibre "	1,261,597	27,306	1,411,347	38,209	149,750	10,903
Wool- "	881,889	94,426	801,688	72,590	-80,201	-21,836
Coal Long ton	3,682,531	67,217	3,794,710	78,361	112,179	11,144
Wood		28,178		32,325		4,147
Wheat bran 100 kin	2,115,583	8,932	1,752,476	8,412	-363,107	-520
Others		441,498		495,088		53,590
Manufactures for materials		702,009		859,903		157,894
Hides & skins 100 kin	489,384	27,826	507,469	30,574	18,085	2,748
Synthetic-colour "	4,216	2,838	5,751	3,445	1,535	607
Pulp "	2,386,181	41,059	2,834,434	56,538	448,753	15,479
Others		630,286		769,346		139,060
Wholly manufactured articles		447,904		390,655		-57,249
Printing paper 100 kin	55,266	718	263	8	-55,003	-710
Machines		236,354		249,870		13,516
Others		210,832		140,777		-70,055
Miscellaneous articles		7,473		9,993		2,520

CHIEF COMMODITIES

Articles	1938		1939		Increase or Decrease	
	Quantity	Value	Quantity	Value	Quantity	Value
Total of foreign produce & manufactures		2,652,291		2,905,369		253,078
Re-imported articles		11,046		12,325		1,279
Grand total of imports		2,663,337		2,917,694		254,357

Note:—Figures may slightly differ from those in other tables, because this table is compiled by the Finance Ministry, while figures in other tables are based on the report of the Trade Bureau, Ministry of Commerce and Industry. (100 kin=One picul)

VALUE OF CHIEF COMMODITIES EXPORTED TO VARIOUS COUNTRIES

Japan Proper and Karafuto

(In ¥1,000)

Articles	1937			1938			1939		
	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value	Quantity
Raw silk	407,118	864,124	506,845						
U.S.A.	325,225	297,882	437,611						
Great Britain	31,430	26,175	36,920						
France	26,111	24,631	16,180						
Australia	8,132	6,461	9,381						
Switzerland	433	177	1,375						
British India	8,460	1,520	581						
Italy	269	351	214						
Cotton tissues	573,065	404,240	403,946						
Yen Bloc	96,470	79,308	20,872						
China	11,296	23,911	10,908						
Kwantung L.T.	29,426	17,388	5,216						
Manchoukuo	55,748	38,009	4,548						
Third Countries	476,595	324,932	383,274						
British India	63,041	67,876	62,364						
Dutch E. Indies	85,704	39,485	53,156						
Iran	2,231	4,160	17,574						
Kenya Uganda & Tanganyika	23,003	15,882	16,686						
Iraq	10,875	9,796	15,487						
Australia	13,528	15,070	15,118						
French Morocco	10,821	13,788	14,799						
Thai-Land	16,089	14,905	14,163						
Syria	10,614	9,840	11,784						
Union of South Africa	10,214	7,124	10,646						
Hongkong	9,346	4,587	10,527						
U.S.A.	22,139	2,407	10,162						
Chile	7,951	4,289	8,772						
Aden	9,891	6,285	8,550						
Anglo-Egyptian Sudan	12,108	10,162	7,505						
Burma	—	6,313	6,991						
Philippine Is.	12,057	1,963	5,985						
Egypt	10,509	3,346	5,811						
Straits Settlements	12,231	5,053	5,451						
Venezuela	5,401	2,694	4,554						
Honduras	2,222	1,344	3,603						
Ceylon	2,641	3,621	3,578						
Sweden	3,286	2,717	3,537						
Dominica	4,050	1,865	3,251						
Argentina	29,196	13,130	3,177						
Germany	4,048	3,115	3,012						
Mozambique	3,919	2,784	3,003						
Arabia	3,273	3,863	2,981						
New Zealand	3,044	2,493	2,721						
Ecuador	1,901	504	2,523						
Uruguay	4,833	2,028	2,160						
Palestine	2,690	3,045	1,881						
Porto Rico	1,929	102	1,814						
Belgium & Luxemburg	2,269	917	1,799						
Peru	1,347	1,331	1,741						
Norway	1,567	1,149	1,545						
Panama	1,243	968	1,490						
Costa Rica	1,896	1,380	1,251						
Great Britain	4,776	2,677	1,147						
Machines and accessories	109,881	156,475	209,206						
Yen Bloc	85,570	142,116	201,894						
Kwantung L.T.	46,584	75,807	101,015						
Manchoukuo	14,835	30,384	63,896						
China	24,152	35,925	36,982						
Third countries	24,311	14,359	7,312						
British India	6,443	5,794	3,305						
Dutch E. Indies	2,113	1,038	888						
Philippine Is.	1,073	817	375						
Brazil	436	270	276						
Rayon tissues	154,860	115,762	137,358						
Yen Bloc	19,519	44,155	52,002						
Kwantung L.T.	15,612	20,243	25,304						
Manchoukuo	2,574	17,029	22,954						
China	1,334	6,883	3,745						
Third Countries	135,341	71,607	81,356						
British India	32,466	11,627	19,581						
Australia	16,667	17,303	18,375						
Dutch E. Indies	11,490	7,202	9,411						
Union of South Africa	7,168	3,475	4,255						
New Zealand	4,621	3,318	3,487						
Straits Settlements	3,632	2,207	2,690						
Hongkong	7,673	2,150	2,598						

	1937	1938	1939		1937	1938	1939
U.S.A.	1,515	624	1,621	Canada	1,038	1,235	1,230
Thal-Land	3,522	1,509	1,392	Brazil	1,030	576	916
Canada	997	911	807	Philippine Is.	1,431	628	620
Philippine Is.	5,500	2,096	694	Great Britain	1,171	888	613
Uruguay	3,663	1,217	684	Straits Settlements	1,174	307	516
Kenya, Uganda & Tanganyika	1,295	543	672	Holland	542	607	514
Mozambique	1,360	510	647	Cotton yarns	54,906	39,355	71,090
Great Britain	1,537	1,034	586	Yen Bloc	10,782	4,226	10,671
France	205	98	169	Manchoukuo	8,334	3,232	6,671
Germany	398	153	165	Kwantung L.T.	1,423	368	3,999
Holland	248	180	107	China	1,025	626	1
Aquatic products	21,916	21,931	61,935	Third Countries	44,124	35,129	60,419
Yen Bloc	11,398	16,760	50,906	British India	19,846	20,502	28,959
Kwantung L.T.	7,402	9,230	26,294	Dutch E. Indies	13,790	7,419	14,094
China	3,418	6,552	19,260	Hong Kong	3,625	716	5,010
Manchoukuo	578	978	5,352	Philippine Is.	1,761	1,134	1,247
Third Countries	10,518	5,171	11,028	Thal-Land	543	269	790
U.S.A.	3,972	3,370	9,025	Australia	235	372	410
Hawaii	802	710	764	Iron manufactures	54,116	52,231	76,253
Philippine Is.	697	314	198	Yen Bloc	20,545	39,556	61,915
Hong Kong	2,016	134	177	Kwantung L.T.	12,590	22,786	32,027
Wheat flour	30,740	60,715	54,228	Manchoukuo	5,288	10,413	19,135
Yen Bloc	29,478	60,712	54,227	China	2,668	6,357	10,753
Kwantung L.T.	11,669	21,901	24,510	Third Countries	33,571	12,675	14,337
Manchoukuo	2,560	15,748	23,293	Dutch E. Indies	7,774	2,857	4,976
China	15,249	23,063	6,424	British India	6,221	2,728	3,585
Third Countries	1,268	3	1	Philippine Is.	2,262	651	457
Woollen tissues	50,082	46,845	51,821	Thal-Land	1,534	561	453
Yen Bloc	19,526	32,688	33,726	Straits Settlements	2,027	279	390
Manchoukuo	3,800	11,651	18,406	Union of South Africa	845	364	376
Kwantung L.T.	11,903	11,529	11,384	Kenya, Uganda & Tanganyika	877	190	195
China	3,823	9,508	3,936	Australia	493	337	195
Third Countries	30,556	14,156	18,095	Mozambique	516	388	180
British India	9,884	3,460	2,512	Hong Kong	857	105	158
Egypt	4,671	1,458	2,084	Papers	38,708	52,127	77,946
Cement	6,836	6,411	11,549	Yen Bloc	26,685	44,400	69,815
Yen Bloc	437	2,440	8,031	China	6,940	16,149	27,663
Kwantung L.T.	286	904	3,341	Kwantung L.T.	13,814	19,393	26,024
Manchoukuo	13	625	2,757	Manchoukuo	5,931	8,857	16,128
China	128	911	1,923	Third Countries	12,023	7,727	8,131
Third Countries	6,399	3,971	3,528	U.S.A.	1,773	1,407	1,797
Dutch E. Indies	1,046	1,150	1,044	British India	1,613	1,123	1,333
Straits Settlements	877	352	528	Dutch E. Indies	1,830	808	1,241
Kenya, Uganda & Tanganyika	277	149	150	Australia	1,176	787	861
Philippine Is.	102	658	146	Thal-Land	921	572	547
Potteries & porcelains	53,971	40,477	48,624	Hong Kong	1,777	718	535
Yen Bloc	5,721	10,916	17,687	Great Britain	802	541	454
Manchoukuo	2,222	3,821	6,516	Germany	372	529	294
Kwantung L.T.	2,353	4,643	5,597	Philippine Is.	404	328	208
China	1,146	2,453	5,574	Straits Settlements	564	101	125
Third Countries	48,251	29,560	30,936	Timber	35,412	46,887	128,647
U.S.A.	19,460	8,696	11,115	Yen Bloc	10,609	33,306	114,951
Dutch E. Indies	3,109	2,714	2,992	Kwantung L.T.	6,122	15,168	45,699
British India	2,240	2,580	2,553	China	2,951	13,839	42,935
Australia	2,599	2,915	2,264	Manchoukuo	1,536	4,299	26,317
Union of South Africa	1,259	1,009	1,318	Third Countries	24,803	13,580	13,696

	1937	1938	1939		1937	1938	1939
Great Britain	11,141	4,962	4,728	Union of South Africa	3,180	2,579	3,172
British India	1,533	1,242	1,382	Great Britain	5,967	3,203	2,748
Dutch E. Indies	1,687	1,636	949	U.S.A.	6,849	1,462	2,001
Holland	660	418	639	British India	4,560	2,366	1,732
Union of South Africa	1,169	534	402	Mozambique	1,083	969	1,030
Australia	383	355	254	Kenya, Uganda & Tanganyika	1,026	713	912
U.S.A.	622	159	230	Straits Settlements	1,401	695	627
Hong Kong	472	44	113	Egypt	1,030	272	178
Belgium	781	333	111	Australia	140	175	144
Straits Settlements	626	206	104	Hong Kong	426	82	118
Comestibles in tin and bottle	86,905	92,810	132,009	Rayon yarns	44,803	17,888	29,348
Yen Bloc	5,959	19,573	37,597	Yen Bloc	5,956	8,159	4,901
Kwantung L.T.	3,902	7,228	14,962	China	4,629	7,487	4,370
China	854	9,865	11,755	Kwantung L.T.	1,328	672	531
Manchoukuo	1,202	2,480	10,880	Third Countries	38,847	9,729	24,447
Third Countries	80,946	73,246	94,412	British India	23,154	4,550	14,163
Great Britain	29,122	30,832	40,991	Mexico	6,018	1,150	2,069
U.S.A.	21,940	12,212	31,991	Australia	518	550	1,201
Belgium	3,903	2,337	3,080	Refined sugar	18,577	23,654	28,677
Australia	2,489	2,464	2,534	Yen Bloc	17,783	23,650	28,677
France	2,722	1,675	1,732	China	8,298	7,309	15,446
Holland	1,635	1,072	1,661	Kwantung L.T.	7,770	13,081	9,371
Hawaii	1,755	1,747	1,643	Manchoukuo	1,715	3,259	3,860
Germany	673	495	338	Third Countries	794	4	—
Hong Kong	173	169	124	Glass & mfrs.	33,572	25,886	27,055
Silk tissues	72,286	49,352	47,397	Yen Bloc	3,711	5,470	7,822
Yen Bloc	3,300	6,198	13,283	China	1,161	2,015	2,935
Manchoukuo	393	1,494	6,356	Manchoukuo	1,370	1,820	2,518
Kwantung L.T.	2,839	4,049	4,914	Kwantung L.T.	1,180	1,635	2,369
China	68	655	2,012	Third Countries	29,861	20,416	19,233
Third Countries	68,980	43,154	34,114	British India	7,215	5,492	4,991
Great Britain	9,518	9,023	7,541	Dutch E. Indies	3,436	2,967	2,473
U.S.A.	11,531	8,282	7,413	U.S.A.	4,543	1,857	2,471
British India	13,838	7,896	5,416	Australia	1,412	1,367	880
France	1,673	1,515	2,710	Philippine Is.	1,991	1,130	732
Egypt	3,158	1,772	1,704	Union of South Africa	1,070	663	687
Australia	2,664	1,923	1,457	Great Britain	890	963	445
Germany	1,464	1,449	1,078	Straits Settlements	1,337	260	412
Union of South Africa	3,531	1,454	1,069	Thal-Land	763	279	372
Straits Settlements	4,597	1,122	656	Mozambique	287	208	252
Dutch E. Indies	1,148	627	383	French Indo-China	234	120	147
New Zealand	410	400	364	New Zealand	446	462	112
Holland	390	369	328	Kenya, Uganda & Tanganyika	258	129	102
Belgium	349	360	314	Tea	23,181	12,063	23,463
Hong Kong	701	330	258	Yen Bloc	478	1,356	2,716
Argentina	1,882	620	207	Kwantung L.T.	313	489	2,716
Canada	222	174	188	Manchoukuo	143	391	—
Knitted goods	60,713	40,818	40,237	China	22	476	—
Yen Bloc	5,588	6,339	5,209	Third Countries	22,703	10,707	20,747
Manchoukuo	3,363	3,441	3,469	U.S.A.	7,750	4,316	7,742
Kwantung L.T.	2,018	2,332	1,563	Canada	1,226	641	1,375
China	207	566	177	British India	862	599	322
Third Countries	55,124	34,479	35,027	Hawaii	62	74	101
Dutch E. Indies	7,602	6,086	6,340	Toys	42,295	24,991	22,020
Philippine Is.	5,015	4,024	3,732	Yen Bloc	1,200	1,322	1,784

	1937	1938	1939		1937	1938	1939
Manchoukuo	436	671	872	Dutch E. Indies	693	397	419
Kwantung L.T.	426	381	464	Union of South			
China	339	270	449	Africa	768	401	390
Third Countries	41,095	23,668	20,236	Great Britain	1,603	429	345
U.S.A.	16,521	6,093	7,068	Australia	311	221	217
Great Britain	7,036	5,504	2,979	Mozambique	263	142	143
Australia	2,276	2,187	1,738	Clothing and ac-			
British India	2,787	1,715	1,402	cessories	15,535	10,167	11,707
Canada	1,669	1,262	897	Yen Bloc	641	698	1,151
Dutch E. Indies	1,132	500	804	Manchoukuo	212	254	669
Holland	844	879	755	China	106	121	482
Union of South				Kwantung L.T.	321	323	—
Africa	1,067	638	600	Third Countries	14,894	9,469	10,550
Brazil	378	331	432	U.S.A.	3,132	1,369	3,369
Philippine Is.	567	314	320	British India	4,048	3,515	2,560
Straits Settle-				Great Britain	827	762	529
ments	631	135	214	Australia	558	460	490
Belgium	440	289	204	Buttons	13,737	9,730	11,701
Egypt	366	178	182	Yen Bloc	864	1,107	1,503
Argentina	562	406	104	China	318	380	801
New Zealand	551	434	103	Manchoukuo	393	507	525
Lamps &				Kwantung L.T.	153	220	178
accessories	21,950	14,748	17,745	Third Countries	12,873	8,622	10,197
Yen Bloc	3,028	5,753	8,596	Great Britain	3,047	1,837	1,930
Kwantung L.T.	1,916	2,949	4,018	Holland	710	522	930
China	520	1,613	2,546	British India	1,432	808	820
Manchoukuo	592	1,191	2,032	U.S.A.	575	343	739
Third Countries	18,922	8,995	9,149	Australia	669	516	723
U.S.A.	4,238	1,737	3,167	Dutch E. Indies	653	482	514
Dutch E. Indies	1,801	811	1,028	Argentina	620	506	469
British India	1,584	718	864	Belgium	680	445	413
Great Britain	2,895	1,453	662	Germany	353	457	350
Canada	666	383	390	Canada	116	133	189
Australia	565	345	291	Brazil	271	96	118
Straits				Cotton towels	8,935	6,961	9,835
Settlements	597	57	113	Yen Bloc	709	894	667
Soap	5,531	7,837	17,413	Kwantung L.T.	321	357	667
Yen Bloc	3,727	7,302	16,989	Manchoukuo	344	442	—
Manchoukuo	2,141	3,713	7,924	China	44	95	—
China	432	1,500	5,169	Third Countries	8,226	6,067	9,168
Kwantung L.T.	1,154	2,090	3,896	Union of South			
Third Countries	1,804	535	424	Africa	872	985	1,273
Straits				Australia	904	861	957
Settlements	317	96	122	Thal-Land	311	409	469
Vegetable oils	23,662	8,572	17,254	Dutch E. Indies	593	288	362
Yen Bloc	543	936	278	Straits Settle-			
Kwantung L.T.	310	431	278	ments	387	100	152
China	159	411	—	Hong Kong	221	40	100
Manchoukuo	74	94	—	Coal	9,927	10,147	9,665
Third Countries	23,119	7,636	16,976	Yen Bloc	363	2,610	5,417
U.S.A.	18,956	5,638	9,879	China	290	2,514	5,417
Germany	966	376	670	Manchoukuo	72	96	0
Great Britain	639	219	610	Third Countries	9,564	7,537	4,248
Hats and caps	26,337	11,092	14,327	Hong-Kong	3,564	3,216	2,013
Yen Bloc	3,730	2,593	5,466	Straits Settle-			
Manchoukuo	1,192	973	2,785	ments	3,388	1,948	1,690
Kwantung L.T.	655	820	1,350	French Indo-			
China	1,884	801	1,331	China	80	235	250
Third Countries	22,607	8,498	8,860	Rubber tyres	12,983	7,799	9,562
U.S.A.	8,479	3,081	4,421	Yen Bloc	6,632	5,427	5,648
British India	1,736	536	643	Kwantung L.T.	3,449	2,853	2,649

	1937	1938	1939		1937	1938	1939
Manchoukuo	1,052	1,323	2,021	Fish and whale			
China	2,132	1,251	978	oils	15,414	7,027	5,802
Third Countries	6,351	2,372	3,913	Yen Bloc	844	663	479
British India	1,099	767	1,172	China	248	43	314
Dutch E. Indies	1,503	403	488	Kwantung L.T.	562	578	165
Beer	5,986	10,019	8,602	Manchoukuo	34	42	—
Yen Bloc	3,232	8,204	6,608	Third Countries	14,570	6,364	5,323
China	944	6,034	5,148	U.S.A.	1,450	1,886	2,998
Kwantung L.T.	1,980	1,646	1,096	Great Britain	1,531	1,116	771
Manchoukuo	308	525	364	Germany	6,314	1,857	272
Third Countries	2,454	1,815	1,994	Australia	254	141	139
British India	753	639	787	Platts for hat			
Hawaii	397	380	320	making	7,876	5,901	5,666
Dutch E. Indies	126	62	119	U.S.A.	4,780	3,640	3,743
Beans	9,330	6,972	8,419	France	643	679	335
Germany	1,700	1,808	3,150	Great Britain	526	402	135
Great Britain	4,739	2,706	2,797	Belgium	95	96	119
Isinglass	6,761	6,201	8,144	Menthol	6,116	4,381	5,313
Yen Bloc	420	645	1,278	U.S.A.	3,276	2,688	2,650
Kwantung L.T.	216	264	626	British India	656	387	981
China	145	185	485	Great Britain	161	218	351
Manchoukuo	59	196	167	Germany	479	289	235
Third Countries	6,341	5,556	6,866	France	544	373	152
U.S.A.	1,236	1,152	1,536	Canada	95	65	105
Great Britain	898	574	1,297	Brushes	6,916	4,078	5,167
Germany	1,060	1,201	1,123	Yen Bloc	499	813	1,410
France	875	601	628	China	119	200	723
Australia	188	295	444	Manchoukuo	232	412	687
Dutch E. Indies	533	285	417	Kwantung L.T.	148	201	—
Straits				Third Countries	6,418	3,265	3,757
Settlements	286	104	130	U.S.A.	2,715	830	1,028
Cotton Blankets	8,092	6,321	7,731	Great Britain	731	497	347
Yen Bloc	1,275	3,568	3,716	Holland	243	207	281
Manchoukuo	821	2,547	2,731	Dutch E. Indies	244	228	277
Kwantung L.T.	235	957	930	British India	327	192	274
China	219	64	58	Matches	2,103	3,304	4,616
Third Countries	6,817	2,753	4,012	Yen Bloc	432	2,691	3,065
Thal-Land	951	502	745	China	9	2,053	2,434
Dutch E. Indies	356	270	273	Kwantung L.T.	423	638	630
Philippine Is.	251	95	158	Third Countries	1,671	613	1,551
Canea, Uganda				Hong Kong	574	64	186
& Tanganyika	391	163	135	Silk handkerchief	5,638	2,738	2,940
British India	1,610	40	126	British India	834	359	744
Insecticide	7,693	6,103	7,149	U.S.A.	1,704	667	664
U.S.A.	6,879	5,275	6,247	Great Britain	899	569	403
Great Britain	57	80	189	Canada	148	101	143
Camphor	4,774	3,723	5,868	Peppermint oil	2,975	2,168	2,584
U.S.A.	1,490	1,040	1,989	Germany	1,133	981	963
British India	1,447	1,405	1,923	Great Britain	297	131	713
France	269	252	244	France	876	808	461
Great Britain	116	45	223	Umbrellas	3,714	1,463	1,675
Australia	154	135	157	Yen Bloc	168	247	415
Rice & paddy	2,306	2,265	5,826	Manchoukuo	51	102	260
Yen Bloc	601	936	1,764	Kwantung L.T.	95	129	126
Kwantung L.T.	282	453	1,764	China	22	16	29
China	156	285	—	Third Countries	3,546	1,316	1,260
Manchoukuo	163	198	—	Union of South			
Third Countries	1,705	1,329	4,062	Africa	233	131	192
Canada	694	736	617	Waste cotton and			
Hawaii	797	368	423	silk	6,238	2,897	1,132
U.S.A.	89	102	205	Italy	1,567	735	116

	1937	1938	1939		1937	1938	1939
Yellow copper	5,899	1,812	1,089	Manchoukuo	164	340	150
Yen Bloc	2,343	1,652	749	Third Countries	3,556	160	340
Kwantung L.T.	666	1,222	439	British India	1,365	142	302
China	1,513	83	159				

VALUE OF CHIEF COMMODITIES IMPORTED FROM VARIOUS COUNTRIES

Japan Proper and Karafuto

(In ¥1,000)

	1937	1938	1939		1937	1938	1939
Cotton & ginned cotton	851,163	436,835	462,007	Finland	9,497	3,339	5,776
Yen Bloc	23,648	71,792	46,810	Sweden	26,993	6,276	4,191
China	23,610	71,790	46,809	Canada	12,619	5,046	2,034
Manchoukuo	38	2	1	Hemp, jute & Manila hemp	40,995	27,306	38,266
Third Countries	827,515	365,043	415,197	Yen Bloc	6,400	8,703	20,502
U.S.A.	306,388	166,414	146,640	Manchoukuo	1,273	5,587	11,303
British India	363,635	113,331	120,997	China	5,127	3,118	9,139
Egypt	58,759	27,529	37,093	Third Countries	34,594	18,602	17,764
Kenya, Uganda & Tanganyika	21,529	5,218	19,144	Philippine Is.	23,224	11,887	10,550
Dutch E. Indies	1,173	452	359	British India	8,344	3,768	5,760
Beans	92,547	102,176	123,576	Dutch E. Indies	1,279	399	264
Yen Bloc	88,777	101,744	122,956	Lumber	64,817	28,178	32,326
Manchoukuo	84,708	98,641	119,829	Yen Bloc	1,486	1,590	1,381
China	3,635	2,184	2,515	Manchoukuo	660	1,294	783
Kwantung L.T.	435	918	612	China	826	289	598
Third Countries	3,770	432	620	Kwantung L.T.	1	8	—
Dutch E. Indies	220	53	116	Third Countries	63,331	26,588	30,944
British India	3,234	72	105	Philippine Is.	11,260	6,695	10,306
Coal	59,224	67,217	78,364	U.S.A.	30,077	9,770	9,448
Yen Bloc	46,297	55,059	64,963	Canada	11,517	3,803	5,171
China	16,279	26,877	48,553	British Borneo	3,197	1,980	2,159
Manchoukuo	29,958	27,951	16,393	Dutch E. Indies	2,477	2,282	1,793
Kwantung L.T.	60	231	16	Thailand	3,102	1,236	1,083
Third Countries	12,927	12,159	13,400	Seeds for oil making	43,612	28,790	31,982
French				Yen Bloc	33,306	24,065	27,832
Indo-China	12,832	12,108	13,306	Manchoukuo	19,206	17,069	25,409
Wool	298,407	94,426	72,590	China	14,093	6,903	2,249
Yen Bloc	908	5,809	12,802	Kwantung L.T.	7	33	113
China	382	3,327	11,163	Third Countries	10,306	4,725	4,150
Manchoukuo	527	2,478	1,639	British India	2,459	161	1,256
Third Countries	297,498	88,617	59,788	Dutch E. Indies	5,062	2,268	1,208
Australia	118,196	64,882	51,428	Hides & skins	44,571	27,826	30,573
New Zealand	42,822	8,272	4,351	Yen Bloc	11,307	4,672	13,497
Union of South Africa	82,763	4,266	1,599	China	10,070	3,083	13,248
Argentina	17,713	5,946	686	Manchoukuo	1,039	1,564	249
Great Britain	1,073	677	618	Third Countries	33,265	23,154	17,077
India rubber & gutta percha	99,218	51,374	57,490	U.S.A.	9,396	10,654	8,668
Straits Settlements	41,566	25,184	18,999	Australia	5,023	1,265	2,316
Dutch E. Indies	2,775	12,080	16,178	Argentina	5,871	6,883	1,877
French				France	835	378	340
Indo-China	8,371	1,364	405	Phosphorite	30,810	19,281	25,412
Pulp for rayon	116,720	42,132	56,537	U.S.A.	7,760	4,725	7,370
U.S.A.	49,181	15,111	18,767	Egypt	10,022	5,879	5,968
Norway	17,072	5,400	9,387	Straits Settlements		4,186	4,148
				Oil cakes	45,310	60,112	104,639
				Yen Bloc	42,675	59,958	104,639

	1937	1938	1939		1937	1938	1939
Manchoukuo	29,662	49,946	83,686	Dutch E. Indies	17,724	5,189	132
Kwantung L.T.	6,870	8,056	15,359	Fats	1,949	431	117
China	6,143	1,957	5,594		1937	1938	1939
Third Countries	2,635	154	0	Australia	1,147	301	117
Wheat bran	10,653	8,932	8,412	Woolen tissues	9,292	2,724	63
Yen Bloc	10,653	8,932	8,412	Italy	12	26	44
China	4,038	2,033	4,204	Great Britain	8,971	2,613	3
Manchoukuo	6,004	6,678	4,046	Cotton tissues	793	236	48
Kwantung L.T.	610	221	162	Yen Bloc	2	0	44
Sulphate of ammonium, crude	20,191	31,710	8,240	China	2	0	44
Yen Bloc	9,272	13,139	8,122	Third Countries	791	236	4
Kwantung L.T.	7,315	12,298	7,438	Great Britain	624	177	3
Manchoukuo	1,957	841	684	Printing paper	9,171	718	8
Third Countries	10,919	18,571	118	Germany	282	87	4
Great Britain	171	—	118	Canada	6,658	360	—
Rice & paddy	4,033	2,808	6,286	Norway	657	173	—
Yen Bloc	0	—	2,974				
China	0	—	2,974				
Third Countries	4,033	2,808	3,312				
Thailand	3,757	2,800	3,189				
British India	68	2	124				
Meats	6,878	4,414	4,162				
Yen Bloc	4,738	2,428	3,225				
China	3,958	1,654	2,889				
Manchoukuo	379	472	216				
Kwantung L.T.	400	303	120				
Third Countries	2,140	1,985	937				
Wheat	29,604	9,557	4,090				
Yen Bloc	2,139	2,633	2,603				
China	178	442	2,601				
Manchoukuo	1,961	2,191	2				
Third Countries	27,465	6,924	1,487				
Australia	15,623	4,008	230				
Synthetic colors	16,928	2,838	3,507				
Germany	12,313	1,711	1,873				
Sweden	2,227	477	694				
U.S.A.	1,932	355	538				
France	418	261	353				
Nitrate of soda, crude	3,630	2,558	2,865				
Chile	3,032	2,272	2,554				
U.S.A.	438	18	310				
Caustic soda, soda ash and natural soda	6,534	1,973	2,246				
Yen Bloc	186	210	673				
China	177	0	486				
Manchoukuo	9	210	187				
Third Countries	6,348	1,763	1,573				
Electric motors & transformers	1,841	2,766	2,184				
U.S.A.	980	1,860	1,764				
Germany	694	715	253				
Sweden	125	59	106				
Leather	7,520	1,875	1,695				
U.S.A.	1,061	175	142				
British India	3,436	1,088	136				
Watches & parts	5,645	2,893	562				
Switzerland	4,319	2,448	517				
Sugar	18,806	5,241	140				

Important Foreign Trade Countries

Great Britain Early in the Meiji Era Great Britain, China, the United States and France were the most important countries for Japan's export trade. In the import trade Great Britain, China, France and the United States were the principal countries, in that order. With a rapid gain in the export of raw silk in 1879, the importance of export countries was changed to the United States, China, France and Great Britain. As a result of the development of the so-called new order in East Asia in recent years, the largest buyers of Japanese goods in 1939 came to be the United States, Manchoukuo, China, British India, Netherlands East Indies and Great Britain in the order named. A change came over the precedence in import countries in 1893 and British India became the largest exporting country to Japan, being followed by Great Britain, the United States and China in that order. This was due to the rapid growth of the Japanese spinning industry, for which Indian cotton was needed. But in 1939 British India became the fourth, biggest sellers being the United States, Manchoukuo, China, British India, Germany and Canada in the order named. Great Britain occupies the 16th place. When British India is included, however, she stands next to the U.S.A. both in buying Japanese commodities and in selling her goods to Japan among third Powers.

The U.S.A. America's economic condition and her financial and tariff policy have a direct bearing on Japan's export trade and domestic economy, for Japan's trade with the United States is far in excess of that with any other country. The close Japan-American trade relations trace back to the visit of Commodore

Matthew Perry to Japan in the 8th year of Kaōi, 1853. In the early stage the trade volume was less than that of Great Britain and France, but in 1879 Japan's exports to that country gained to more than ¥10,000,000, and America became Japan's largest customer, a position she has since retained. In 1904 Japan's exports to America reached the ¥100,000,000 mark; in 1915 they amounted to ¥204,000,000, in 1919 to ¥828,000,000, and the record amount was ¥1,006,000,000 in 1925. In the following year the amount went off to ¥860,000,000, but this, as compared with the exports of ¥4,000,000 in 1874, was an increase by 215 times and was 40 per cent of Japan's total trade volume. Raw silk, silk textiles, refined tea, straw-braid, fancy mats and porcelain have been the principal exports from the very beginning. Imports from America increased in consonance with exports. In 1874 the value of imports was just over ¥1,000,000, but by 1905 this had advanced to ¥100,000,000, and in 1920 the amount set an all-time record of ¥873,000,000. The 1926 figure of ¥680,000,000 was 680 times the 1874 trade volume and was 26 per cent of Japan's total import value of that year. Imports from America consist of raw cotton, kerosene oil, wheat, machinery and iron. The most unique feature of the Japan-American trade in the past 68 years was that the trade balance was mostly in favor of Japan up to 1931. But a change came in 1932 and since that year the trade relations have shown a continuous unfavorable balance to Japan. In 1939 the total volume of Japan-American trade comprised 25.3 per cent of the total of Japan's foreign trade in that year.

China It is only natural that Japan, with its close proximity to China, should look to that country with its population of 400,000,000 persons and rich in natural resources as a market for its products and manufactures as well as for supplies of materials for its industries. The friction between this uncontrollable demand of Japan and the growing racial consciousness of the Chinese, however, brought about various political differences, and finally led to the Sino-Japanese War of 1894, the Manchurian Incident of 1931 and the Shanghai Affair of 1932. Boycotts of Japanese goods have been frequent.

Notwithstanding these political obstacles, the trade between the two

countries steadily progressed and in 1925 the trade total reached the record amount of ¥701,000,000 including ¥486,000,000 in exports and ¥215,000,000 in imports, as viewed from the Japanese side. China thus became the second largest market for Japanese goods, the development of China as an important market for Japanese goods, as achieved by that time, may be illustrated by the following table:

CHINA'S SHARE IN JAPAN'S FOREIGN TRADE

	Proportion of Exports to China to Total Exports	Proportion of Imports from China to Total Imports
1894	8.0	9.9
1908	16.0	11.7
1912	21.8	8.9
1916	17.1	14.4
1921	22.9	11.9
1926	20.6	10.1

A strong anti-Japanese sentiment began to sweep China about this time and trade began to fall off until it reached its climax after the northern expedition of the Nationalist armies in 1930. An illustration of these changes may be obtained from the following table:—

	Exports to China (In yen)	Imports from China
1926	421,861,000	239,410,000
1927	334,183,000	226,034,000
1928	373,141,000	234,556,000
1929	346,652,000	209,975,000
1930	260,825,000	161,666,000
1931	143,876,000	103,749,000

Even in 1930 when the northern expedition ended in success for the Nanking Government and the movement of the Chinese for their racial resuscitation was at its zenith, Asia still held an important position as a market for Japan's principal manufactures, chiefly cotton goods, consuming 42.6 per cent of Japan's total exports of this kind. In this consumption, China and the Kwantung Leased Territory and Hong Kong shared 24.7 per cent. Furthermore, almost all the remainder consumed in other parts of Asia was handled by Chinese traders.

The Manchurian Incident, 1931, enabled Japan to get the lion's share in the foreign trade of Manchoukuo, about 71 per cent in the imports of the new State during 1935 and 51 per cent in

the exports during the same year, but on the other hand, combined with the Shanghai Affair, it intensified the anti-Japanese movement in China. Increases in China's tariffs on Japanese goods were also effected in rapid succession, thus dealing a great blow to Japan's trade with China and at the same time furnishing a chance for the United States, Great Britain and Germany to recover their commercial influence of former years in that country. But the trade relation is improving since 1936 with the increase of Japanese influence in that country as a consequence of the China Affair. In 1939 it regained a normal status, indicating a rapid progress of the new order in East Asia.

TRADE WITH CHINA AFTER THE MANCHURIAN INCIDENT

	(In ¥1,000)		
	Export	Import	Balance
1932	129,478	77,175	52,303
1933	108,253	113,357	5,104*
1934	117,062	119,573	2,511*
1935	148,788	138,817	14,971
1936	159,690	154,837	4,853
1937	179,251	143,636	35,615
1938	312,900	164,611	148,289
1939	455,479	215,662	239,817

Note: The figures with asterisk under the heading of "Balance" denote excess of import while others denote excess of export.

For details see the chapter on China.

AMOUNT OF EXPORTS TO VARIOUS COUNTRIES

	(In ¥1,000)				
	1935	1936	1937	1938	1939
Yen Bloc	575,102	657,715	791,259	1,156,540	1,747,103
Kwantung L.T.	300,269	347,165	395,916	536,317	755,943
Manchoukuo	126,045	150,859	216,092	316,322	535,681
China	148,788	159,691	179,251	312,900	455,479
Third Countries			2,384,159	1,524,137	1,829,267
U.S.A.	535,515	594,251	639,428	425,123	641,509
British India	275,637	259,108	299,367	188,040	210,995
Dutch East Indies	143,041	129,495	200,051	104,045	137,802
Great Britain	119,458	147,309	168,297	134,988	132,085
Australia	74,793	68,763	72,080	69,388	72,101
Union of South Africa	32,769	41,534	53,749	35,291	46,802
Hong Kong	49,731	58,445	49,650	16,754	30,578
Thai-Land	40,258	43,028	49,382	39,269	26,024
France	42,467	43,475	47,208	36,814	25,934
Germany	26,766	35,054	43,261	33,015	24,991
Philippine Islands	48,058	51,840	60,348	32,599	24,744
Iraq	22,073	19,019	23,644	17,082	24,344
Kenya, Uganda and Tanganyika	25,083	30,602	40,122	22,504	22,874
Burma	—	—	—	16,302	21,555
French Morocco	18,813	20,512	18,263	18,727	20,593
Straits Settlements	48,536	58,770	67,433	20,696	20,426
Iran	—	—	2,630	4,632	19,324
Canada	7,977	14,553	20,036	15,244	17,202
Syria	12,559	13,078	19,250	12,539	15,987
Egypt	53,800	40,907	32,772	13,997	15,666
Brazil	5,925	8,840	17,305	10,388	15,609
Ceylon	11,887	13,840	18,656	14,620	14,544
Chile	6,647	7,426	10,742	6,129	14,010
New Zealand	11,304	16,740	19,358	14,808	12,277
Holland	—	—	18,440	11,474	11,706
Mozambique	10,752	10,860	16,055	9,830	10,665
Belgium and Luxemburg	15,393	16,230	20,650	10,151	10,476
Aden	13,208	13,851	14,177	8,534	10,002
Sweden	6,784	8,821	11,545	8,277	9,314
Anglo-Egyptian Sudan	13,034	11,915	15,811	11,895	8,923
Hawaii	7,242	9,299	11,155	9,774	8,627

FOREIGN TRADE

	1935	1936	1937	1938	1939
Belgian Congo	1,720	7,649	16,474	6,927	8,593
Argentina	28,603	22,712	42,481	19,607	8,152
Panama	6,150	9,546	10,248	6,227	8,103
Venezuela	3,565	7,814	9,139	5,480	7,984
Mexico	5,464	7,190	14,622	5,317	7,940
Curacao	—	—	5,527	5,425	7,624
Peru	6,961	6,256	6,344	5,760	6,084
Italy	6,988	4,468	7,111	3,256	5,719
Honduras	—	—	3,203	1,783	4,916
Norway	4,482	6,172	8,901	4,561	4,845
Dominica	—	—	5,602	2,325	3,945
Uruguay	5,676	7,891	10,106	3,988	3,771
Arabia	—	—	4,827	4,979	3,748
Palestina	8,400	5,377	5,745	3,087	3,514
Paraguay	—	—	4,665	1,837	3,454
Switzerland	—	—	2,149	1,200	3,197
Ecuador	—	—	—	1,023	3,171
Nigeria	4,737	7,011	14,683	4,084	2,955
Cameroons	—	—	5,662	1,637	2,837
Bolivia	—	—	2,550	3,874	2,492
Costa Rica	—	—	2,911	2,134	2,054
Gold Coast	—	—	6,766	2,121	2,026
Porto Rico	—	—	2,554	363	2,018
British Malay	—	—	3,866	2,181	2,004
French Indo-China	4,020	—	4,624	3,182	1,981
Barren Islands	—	—	1,897	1,812	1,954
Trinidad and Tobaco	—	—	1,684	1,362	1,731
Denmark	1,359	—	1,899	1,361	1,711
French Africa	—	—	—	1,387	1,619
Finland	—	—	6,001	3,684	1,585
Gibraltar	—	—	2,257	1,842	1,488
Cuba	5,047	—	2,016	1,347	1,370
Portugal	1,062	—	1,519	1,225	1,252
Dutch Guiana	—	—	904	1,131	1,244
Jamaica	—	—	1,675	920	1,177
Eritrea	—	—	6	1,402	1,105
Angola	—	—	1,985	1,027	1,060
Marta	—	—	1,490	1,463	1,056
Rhodesia	—	—	697	641	994
British Borneo	—	—	1,041	950	959
New Guiana	—	—	1,321	700	936

AMOUNT OF IMPORTS FROM VARIOUS COUNTRIES

(In ¥1,000)

	1935	1936	1937	1938	1939
Yen Bloc	350,339	394,253	437,905	564,206	682,973
Manchoukuo	191,005	205,567	249,071	339,271	405,561
China	133,817	154,838	143,636	164,612	215,662
Kwantung L.T.	25,517	33,848	45,198	60,323	61,750
Third Countries	—	—	3,345,272	2,099,234	2,234,693
U.S.A.	809,644	847,490	1,269,642	915,300	1,002,384
British India	305,646	372,009	449,486	172,231	182,263
Germany	120,817	115,500	176,363	171,170	141,003
Canada	52,531	73,179	104,692	91,260	126,022
Brazil	4,006	47,352	62,810	46,174	74,662
Dutch East Indies	78,186	113,546	153,450	88,249	71,629
Australia	—	—	165,252	82,875	71,026
British Malaya	28,495	39,125	47,795	46,801	69,006
Egypt	51,304	45,737	74,118	36,315	50,312

TRADE BY COUNTRIES

	1935	1936	1937	1938	1939
Philippine Islands	23,948	36,266	45,194	35,630	49,117
Straits Settlements	40,647	41,174	67,796	54,167	46,833
French Indo-China	15,011	20,155	27,012	20,301	26,651
Sweden	23,074	23,109	49,277	24,069	26,277
Great Britain	82,160	72,942	105,772	63,137	24,426
Norway	19,940	17,853	24,033	15,719	21,869
Kenya, Uganda and Tanganyika	2,955	20,865	24,155	6,020	19,699
Belgium and Luxemburg	24,562	16,019	41,059	15,441	19,028
Switzerland	13,455	14,000	19,239	30,198	16,656
Austria	4,409	4,263	9,104	10,271	15,309
Burma	—	—	—	8,185	15,065
France	19,798	19,898	27,885	13,506	14,264
Argentina	16,370	29,989	42,018	24,356	11,860
British Borneo	—	—	18,776	13,832	11,354
Chile	4,472	9,953	14,719	11,152	10,230
Union of South Africa	4,762	22,561	88,852	7,807	8,249
Italy	5,831	3,766	4,416	5,843	7,062
Peru	11,414	13,000	6,277	1,975	6,956
Iran	—	—	1,589	369	6,587
Finland	5,053	6,576	9,643	3,472	5,828
Thal-Land	5,458	8,753	13,571	4,951	5,536
New Zealand	6,363	21,973	48,633	10,210	5,896
Ceylon	—	—	4,077	2,297	4,194
Eritrea	—	—	1,879	2,270	3,995
Ecuador	—	—	1,725	539	3,938
Society Islands	3,279	3,444	3,239	859	3,809
Iraq	1,258	2,882	9,028	6,114	3,691
Uruguay	4,494	9,528	33,926	4,158	3,898
Spain	4,548	2,147	2,432	614	2,890
New Caledonia	—	—	947	952	2,883
Anglo-Egyptian Sudan	—	—	5,858	435	2,780
Gilbert and Ellis	—	—	3,053	1,981	2,746
Italian Somaliland	2,357	2,879	2,608	3,216	2,841
Denmark	—	—	1,449	1,232	2,339
Aden	—	—	1,357	547	2,292
Paraguay	—	—	163	17	2,218
Greece	—	—	603	1,096	2,106
Turkey	—	—	2,818	3,712	2,018
Bolivia	—	—	—	425	1,968

TRADE BY COUNTRIES

MANCHOUKUO

(Value in ¥1,000)

	Quantities			Value	
	1937	1938	1939	1937	1939
From Japan	—	—	—	—	—
Machinery and parts	—	—	—	14,835	63,896
Lumber	—	—	—	1,536	4,299
Wheat flour (100 kin)	231,900	1,198,597	1,460,485	2,560	15,748
Rayon tissues	—	—	—	—	—
(1,000 sq. yards)	7,188	17,029	33,378	2,574	17,029
Iron manufactures	—	—	—	5,288	10,413
Woollen tissues	—	—	—	—	—
(1,000 sq. yards)	2,609	6,115	6,446	3,800	11,651
Paper (100 kin)	262,960	371,068	579,730	5,931	8,857
Scientific machinery	—	—	—	3,751	4,927
	—	—	—	—	10,963

FOREIGN TRADE

	Quantities			Value		
	1937	1938	1939	1937	1938	1939
Comestibles in tin and bottle (100 kin)	51,080	110,881	302,054	1,202	2,480	10,880
Soap	—	—	—	2,141	3,713	7,924
Cotton yarns (100 kin)	82,727	32,569	48,832	8,334	3,232	6,671
Potteries	—	—	—	2,222	3,821	6,516
Silk tissues (1,000 sq. yards)	322	1,690	4,833	393	1,494	6,356
Vegetables and fruits	—	—	—	1,157	1,823	6,214
Aquatic products (100 kin)	59,114	66,663	144,360	578	978	5,352
Cotton tissues (1,000 sq. yards)	212,208	135,157	7,689	55,748	38,009	4,551
Refined sugar (100 kin)	216,087	293,775	236,879	1,715	3,259	3,860
Knitted goods (1,000 dozens)	634	643	348	3,363	3,441	3,409
Saké	11,809	16,971	24,617	1,246	1,994	2,998
Tollet goods (koku)	—	—	—	790	1,830	2,972
Wooden goods	—	—	—	1,015	1,580	2,888
Hats & caps (1,000 dozens)	212	167	286	1,192	973	2,785
Cement (100 kin)	3,711	572,580	2,247,144	13	625	2,758
Cotton blanket (100 kin)	12,055	35,277	21,574	821	2,547	2,731
Glass & glass manufactures	—	—	—	1,370	1,820	2,518
Dyes (100 kin)	19,753	30,279	28,888	565	1,578	2,200
Plants and Animals	—	—	—	47	174	2,120
Lamps and parts thereof	—	—	—	592	1,191	2,032
Rubber tires (100 kin)	11,861	12,149	34,850	1,052	1,323	2,021
Books and journals	—	—	—	911	1,433	1,805
Electrical wires (100 kin)	12,118	20,400	44,796	936	2,124	1,345
Drugs	—	—	—	402	851	1,228
Total including others	—	—	—	216,092	316,323	535,681
To Japan						
Beans and peas (100 kin)	11,229,037	13,498,756	13,383,770	84,708	98,641	119,829
Oil cake (100 kin)	5,810,438	9,445,028	12,570,361	29,662	49,946	83,866
Oil-yielding seeds (100 kin)	1,809,472	1,659,893	2,049,646	19,206	17,069	25,469
Paper and paper manufactures	—	—	—	69	6,480	16,425
Coal (1,000 gr. tons)	2,241	1,440	752	29,958	27,951	16,393
Hemp, jute, etc. (100 kin)	60,945	170,171	187,880	1,273	5,587	11,363
Chemicals	—	—	—	4,511	5,782	6,763
Wheat bran (100 kin)	1,528,111	1,538,458	784,206	6,004	6,678	4,046
Waste fibres (100 kin)	14,962	18,501	26,689	182	689	2,786
Wool (100 kin)	2,969	21,458	17,407	527	2,478	1,639
Animal hair (100 kin)	2,806	5,124	743	1,502	1,264	1,559
Total including others	—	—	—	249,071	339,271	405,561

KWANTUNG LEASED TERRITORY

From Japan						
Machinery and parts	—	—	—	46,584	75,807	101,015
Lumber	—	—	—	6,122	15,168	45,699
Aquatic products (100 kin)	674,339	542,082	844,444	7,402	9,230	26,291
Papers (100 kin)	846,708	1,004,831	1,061,328	13,814	19,393	26,024
Rayon tissues (1,000 sq. yards)	39,334	49,553	32,012	15,612	20,243	25,304
Wheat flour (100 kin)	1,047,577	1,679,180	1,554,432	11,669	21,901	24,510
Iron manufactures	—	—	—	12,590	22,786	32,027
Scientific machinery	—	—	—	9,041	18,808	18,521

TRADE BY COUNTRIES

	Quantities			Value		
	1937	1938	1939	1937	1938	1939
Electrical wires (100 kin)	132,664	141,808	127,325	10,112	13,636	14,766
Comestibles in tin and bottle (100 kin)	151,884	205,560	371,974	3,902	7,228	14,962
Vegetables and fruits (100 kin)	—	—	—	3,950	5,451	11,861
Woollen tissues (1,000 sq. yards)	7,262	5,530	3,580	11,903	11,529	11,384
Refined sugar (100 kin)	1,001,814	1,271,668	937,464	7,770	13,081	9,371
Copper (100 kin)	113,431	300,968	84,887	8,309	2,701	6,009
Potteries	—	—	—	2,353	4,643	5,597
Cotton tissues (1,000 sq. yards)	117,609	58,328	15,079	29,426	17,389	5,215
Silk tissues (1,000 sq. yards)	1,853	2,907	3,254	2,839	4,049	4,914
Lamps and parts	—	—	—	1,916	2,949	4,018
Cotton yarns (100 kin)	12,772	2,811	27,925	1,423	368	3,999
Soap	—	—	—	1,154	2,090	3,896
Cement (100 kin)	220,465	763,186	3,143,213	286	904	3,341
Saké (koku)	25,503	28,456	24,882	2,575	3,026	2,961
Rubber tires (100 kin)	31,801	28,489	21,573	3,449	2,853	2,649
Wooden goods	—	—	—	1,746	2,764	2,599
Glass & glass manufactures	—	—	—	1,180	1,635	2,369
Drugs	—	—	—	1,242	1,587	1,582
Knitted goods (dozen)	481,725	489,626	225,710	2,018	2,332	1,563
Hats & caps (1,000 dozens)	110	101	115	655	820	1,350
Beer (koku)	52,680	41,481	26,398	1,980	1,646	1,096
Total including others	—	—	—	395,916	536,317	755,943
To Japan						
Oil cake (100 kin)	1,276,743	1,382,337	2,129,413	6,870	8,056	15,359
Chemicals	—	—	—	6,701	14,897	9,917
Salt (100 kin)	7,671,933	5,250,455	5,899,246	6,902	7,241	7,563
Sulphate of ammonium, crude (100 kin)	1,256,909	1,968,443	1,248,234	7,315	12,298	7,438
Potteries	—	—	—	726	1,277	1,315
Total including others	—	—	—	45,198	60,323	61,750
CHINA						
From Japan						
Lumber	—	—	—	2,951	13,839	42,935
Machinery and parts	—	—	—	24,152	35,925	36,982
Paper (100 kin)	302,009	729,946	1,143,786	6,940	16,149	27,663
Aquatic products (100 kin)	280,479	368,832	792,483	3,418	6,552	19,260
Refined sugar (100 kin)	1,159,358	701,882	986,505	8,298	7,309	15,446
Comestibles in tin and bottle (100 kin)	31,027	348,322	309,965	854	9,865	11,755
Vegetables and fruits	—	—	—	1,103	2,814	10,924
Cotton tissues (1,000 sq. yards)	44,100	110,644	22,933	11,296	23,911	10,909
Iron manufactures	—	—	—	2,668	6,357	10,753
Scientific machinery	—	—	—	1,870	4,224	10,148
Dyes (100 kin)	21,979	37,763	123,728	1,240	2,218	9,205
Wheat flour (100 kin)	1,283,384	1,880,771	436,610	15,249	23,063	6,424
Potteries	—	—	—	1,146	2,453	5,574
Coal (gram ton)	34,820	164,086	363,039	290	2,514	5,417
Soap	—	—	—	432	1,500	5,169
Beer (100 kin)	23,523	148,811	106,865	944	6,034	5,148
Rayon (100 kin)	41,113	64,305	29,706	4,629	7,487	4,370

FOREIGN TRADE

	Quantities		Value			
	1937	1938	1939	1937	1938	1939
Woollen tissues (1,000 sq. yards)	2,780	5,547	1,236	3,823	9,508	3,936
Saké (koku)	19,785	81,574	29,246	1,980	8,730	3,773
Rayon tissues (1,000 sq. yards)	5,164	20,861	7,282	1,334	6,883	3,745
Electric wires (100 kin)	37,597	38,436	39,283	2,267	3,599	3,725
Glass & glass manufactures	—	—	—	1,161	2,015	2,935
Lamps and parts	—	—	—	520	1,613	2,546
Matches (100 kin)	339	102,453	112,162	9	2,053	2,434
Silk tissues (1,000 sq. yards)	51	600	1,549	68	655	2,013
Cement (100 kin)	220,827	1,260,996	2,087,911	138	911	1,923
Wooden goods	—	—	—	250	786	1,826
Drugs	—	—	—	502	1,154	1,770
Toilet goods	—	—	—	57	666	1,700
Copper (100 kin)	36,502	6,586	15,222	2,457	575	1,482
Hats & caps (1,000 dozens)	351	114	140	1,884	801	1,331
Total including others	—	—	—	179,251	312,900	455,479
To Japan						
Coal (1,000 gram ton)	1,287	1,621	2,434	16,279	26,877	48,553
Cotton ginned (100 kin)	400,824	1,432,414	1,081,058	23,610	71,790	46,809
Hides & skins (100 kin)	161,814	50,832	170,571	10,070	3,083	13,248
Wool (100 kin)	2,984	44,000	185,452	382	3,327	11,163
Hemp and vegetables fibres (100 kin)	215,738	117,648	266,255	5,127	3,116	9,137
Salt (100 kin)	6,613,104	8,407,199	7,150,410	4,615	8,395	8,180
Waste fibres (100 kin)	86,235	146,418	141,796	2,654	3,211	6,799
Oil cake (100 kin)	1,293,534	394,739	895,414	6,143	1,957	5,594
Wheat bran (100 kin)	1,022,376	529,332	937,961	4,038	2,033	4,204
Rice and unhulled rice (100 kin)	3	—	244,187	0	—	2,974
Beef (100 kin)	109,780	40,072	71,563	3,958	1,654	2,889
Wheat (100 kin)	25,202	53,665	279,577	178	442	2,601
Beans and peas (100 kin)	441,354	221,372	189,914	3,635	2,184	2,515
Chemicals	—	—	—	1,500	814	2,255
Oil-yielding seeds (100 kin)	1,884,510	846,651	126,605	14,093	6,963	2,249
Animals hair (100 kin)	13,656	4,666	881	4,871	1,774	2,226
Cocoons (100 kin)	2,314	7,224	7,057	261	1,703	1,930
Animal bone (100 kin)	276,344	134,396	257,231	1,192	793	1,671
Total including others	—	—	—	143,636	164,612	215,662

HONG KONG

From Japan						
Cotton tissues (1,000 sq. yards)	84,657	23,091	56,850	9,436	4,586	10,527
Cotton yarns (100 kin)	31,259	7,739	73,501	3,625	716	5,010
Rayon tissues (1,000 sq. yards)	27,253	8,704	9,323	7,673	2,150	2,598
Coal (gram. ton)	384,306	247,106	137,710	3,564	3,216	2,013
Total including others	—	—	—	49,650	10,754	30,578
To Japan						
Total	—	—	—	5,332	1,308	983

STRAITS SETTLEMENTS

From Japan						
Cotton tissues (1,000 sq. yards)	51,785	26,294	29,561	12,231	5,053	5,451
Rayon tissues (1,000 sq. yards)	11,258	7,775	7,749	3,632	2,207	2,690

TRADE BY COUNTRIES

	Quantities		Value			
	1937	1938	1939	1937	1938	1939
Coal (gram ton)	322,181	151,449	137,279	3,388	1,948	1,690
Total including others	—	—	—	67,433	20,696	20,426
To Japan						
India rubber (100 kin)	433,938	386,422	232,980	41,566	25,184	18,999
Phosphorite (100 kin)	1,738,087	1,574,747	1,461,220	4,186	4,148	3,965
Total including others	—	—	—	67,796	54,167	46,833

BRITISH INDIA

From Japan						
Cotton tissues (1,000 sq. yards)	331,191	469,880	475,977	63,041	67,879	62,364
Cotton yarns (100 kin)	110,657	141,201	214,935	19,846	20,502	28,959
Rayon tissues (1,000 sq. yards)	94,854	32,448	49,843	32,466	11,627	19,581
Rayon yarns (100 kin)	231,858	42,802	147,089	23,154	4,274	14,163
Silk tissues (1,000 sq. yards)	25,707	17,755	8,560	13,838	7,896	5,416
Glass & glass manufactures	—	—	—	7,215	5,492	4,991
Iron manufactures	—	—	—	6,221	2,728	3,585
Machinery and their manufactures	—	—	—	6,443	5,794	3,305
Jewelry for personal adornment	—	—	—	4,048	3,515	2,566
Potteries	—	—	—	4,240	2,580	2,553
Woollen tissues (1,000 sq. yards)	8,554	3,479	2,897	9,884	3,460	2,512
Camphor (100 kin)	7,207	7,460	8,363	1,447	1,405	1,923
Knitted goods (1,000 dozens)	2,311	1,314	980	4,560	2,366	1,732
Toys	—	—	—	2,784	1,715	1,402
Lumber	—	—	—	1,533	1,242	1,382
Papers (100 kin)	198,445	177,366	154,399	1,613	1,123	1,333
Rubber tires (100 kin)	12,590	8,591	12,323	1,099	767	1,172
Total including others	—	—	—	299,367	188,040	210,995
To Japan						
Cotton & ginned cotton (100 kin)	7,016,238	3,096,085	3,389,319	303,635	113,331	120,997
Hemp & other vegetable fibres (100 kin)	449,591	202,476	252,307	8,344	3,769	5,766
Oil-yielding seeds (100 kin)	178,289	11,852	94,669	2,459	161	1,256
Total including others	—	—	—	449,486	172,231	182,263

PHILIPPINE ISLANDS

From Japan						
Cotton tissues (1,000 sq. yards)	44,174	32,677	37,040	12,057	6,053	5,985
Knitted goods (1,000 dozens)	1,076	1,595	1,576	5,015	4,024	3,732
Cotton yarns (100 kin)	17,925	13,147	15,487	1,761	1,134	1,247
Total including others	—	—	—	60,348	32,599	24,744
To Japan						
Hemp & other vegetable fibres (100 kin)	967,854	647,689	621,033	23,224	11,889	10,550
Lumber	—	—	—	11,260	6,695	10,366
Total including others	—	—	—	45,194	35,630	49,117

FOREIGN TRADE

DUTCH EAST INDIES

	Quantities		Value			
	1937	1938	1939	1937	1938	1939
From Japan						
Cotton tissues						
(1,000 sq. yards)	434,392	206,436	368,674	85,703	31,486	53,156
Cotton yarns (100 kin)	92,138	66,296	144,191	13,790	7,419	14,094
Rayon tissues						
(1,000 sq. yards)	46,780	26,688	32,052	11,490	7,202	9,411
Knitted goods						
(1,000 dozens)	2,694	2,190	2,317	7,602	6,086	6,349
Iron manufactures	—	—	—	7,774	2,857	4,976
Potteries	—	—	—	3,109	2,714	2,992
Glass and glass manufactures	—	—	—	3,436	2,676	2,473
Paper (100 kin)	83,312	30,414	55,328	1,830	808	1,241
Cement (100 kin)	1,408,005	1,480,284	1,300,734	1,046	1,150	1,044
Lamps and parts	—	—	—	1,801	811	1,028
Total including others	—	—	—	200,051	104,045	137,802
To Japan						
India rubber (100 kin)	276,419	181,653	199,859	25,775	12,080	16,178
Lumber	—	—	—	2,477	2,282	1,793
Oil-yielding seeds						
(100 kin)	613,692	287,294	188,962	5,062	2,268	1,208
Total including others	—	—	—	153,450	88,249	71,629

GREAT BRITAIN

From Japan						
Comestibles in tin and bottle (100 kin)	654,349	923,153	853,416	29,122	40,832	40,991
Raw silk (100 kin)	34,674	33,609	27,303	31,430	26,175	36,920
Silk tissues						
(1,000 sq. yards)	13,491	15,286	10,598	9,518	9,023	7,541
Lumber	—	—	—	12,141	4,962	4,728
Toys	—	—	—	7,036	5,504	2,979
Beans and peas (100 kin)	293,605	205,523	169,168	4,739	2,706	2,797
Knitted goods						
(1,000 dozens)	2,066	1,200	992	5,967	3,203	2,738
Buttons (1,000 gross)	7,573	3,860	4,349	3,047	1,837	1,930
Agar-agar (100 kin)	2,112	1,221	3,315	533	285	1,297
Cotton tissues						
(1,000 sq. yards)	24,155	16,587	7,453	4,775	2,677	1,147
Total including others	—	—	—	168,297	134,988	132,085
To Japan						
Total	—	—	—	105,772	63,157	24,426

FRANCE

From Japan						
Raw silk (100 kin)	30,262	31,308	13,942	26,111	24,631	10,180
Silk tissues						
(1,000 sq. yards)	2,612	3,169	4,600	1,673	1,515	2,716
Comestibles in tin and bottle (100 kin)	60,919	46,988	38,786	2,722	1,675	1,732
Total including others	—	—	—	47,208	36,814	25,934
To Japan						
Total	—	—	—	27,885	13,506	14,264

TRADE BY COUNTRIES

GERMANY

	Quantities		Value			
	1937	1938	1939	1937	1938	1939
From Japan						
Beans & peas (100 kin)	152,503	190,171	232,975	1,700	1,808	3,150
Cotton tissues						
(1,000 sq. yards)	20,269	20,003	21,009	4,048	3,115	3,012
Agar-agar (100 kin)	3,949	4,483	3,174	1,060	1,201	1,123
Silk tissues						
(1,000 sq. yards)	2,614	2,268	1,335	1,464	1,449	1,078
Total including others	—	—	—	43,261	33,015	24,991
To Japan						
Synthetic colors (100 kin)	27,014	2,250	2,648	12,313	1,711	1,873
Total including others	—	—	—	176,363	171,170	141,003

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From Japan						
Raw silk (100 kin)	379,977	393,274	331,524	325,225	297,882	437,611
Comestibles in tin and bottle (100 kin)	322,326	161,192	483,666	21,940	12,212	31,991
Potteries	—	—	—	19,460	8,696	11,115
Cotton tissues						
(1,000 sq. yards)	123,776	16,115	71,547	22,138	2,407	10,162
Vegetable oil (100 kin)	667,739	273,978	394,271	18,956	5,638	9,679
Aquatic products						
(100 kin)	156,806	103,434	125,776	3,972	3,370	9,025
Tea (100 kin)	126,728	92,152	111,339	7,750	4,316	7,742
Silk tissues						
(1,000 sq. yards)	27,444	23,702	13,215	11,531	8,282	7,413
Toys	—	—	—	16,521	6,093	7,068
Insecticide (100 kin)	131,739	66,419	55,348	6,879	5,275	6,247
Hats & caps (1,000 dozens)	1,666	639	560	8,979	3,081	4,421
Platts for hat making						
(1,000 bundle)	15,204	10,681	9,700	4,780	3,640	3,743
Jewelry for personal adornment	—	—	—	3,132	1,369	3,360
Lamps and accessories	—	—	—	4,238	1,737	3,167
Fish and whale oil						
(100 kin)	33,866	41,125	29,534	1,486	1,886	2,998
Menthol (100 kin)	3,632	2,382	2,356	3,271	2,688	2,650
Glass & glass manufactures	—	—	—	4,543	1,857	2,471
Knitted goods						
(1,000 dozens)	3,087	745	1,161	6,849	1,462	2,001
Camphor (100 kin)	6,735	5,624	8,693	1,490	1,040	1,989
Papers (100 kin)	16,734	8,418	9,079	1,773	1,497	1,797
Rayon tissues						
(1,000 sq. yards)	4,839	1,647	4,404	1,512	624	1,621
Isinglass (100 kin)	5,061	4,465	3,979	1,236	1,152	1,536
Brush	—	—	—	2,715	830	1,028
Total including others	—	—	—	634,428	425,123	641,509
To Japan						
Cotton and ginned cotton (100 kin)	4,223,964	3,248,976	2,872,822	306,388	166,414	146,640
Pulp for fibres (100 kin)	3,185,610	872,310	834,968	49,181	15,111	18,767
Lumber	—	—	—	30,077	9,770	9,448
Hides & skins (100 kin)	112,301	201,113	151,646	9,396	10,954	8,668
Phosphorite (100 kin)	4,290,491	2,438,450	4,733,387	7,760	4,725	7,370
Electric motors and transformers (100 kin)	2,683	5,097	3,654	980	1,869	1,764
Total including others	—	—	—	1,269,542	915,300	1,002,384

	CANADA					
	Quantities		Value			
	1937	1938	1939	1937	1938	1939
From Japan						
Tea (100 kin)	24,912	14,622	19,748	1,226	641	1,375
Potteries	—	—	—	2,038	1,235	1,230
Total including others	—	—	—	20,036	15,244	17,202
To Japan						
Lumber	—	—	—	11,517	3,803	5,171
Pulp for fibres (100 kin)	879,390	284,278	155,902	12,619	5,046	2,034
Total including others	—	—	—	104,692	91,260	126,022

	EGYPT					
	Quantities		Value			
	1937	1938	1939	1937	1938	1939
From Japan						
Cotton tissues (1,000 sq. yards)	49,687	21,417	37,338	10,510	2,347	5,811
Woollen tissues (1,000 sq. yards)	2,823	950	1,439	4,671	1,458	2,084
Silk tissues (1,000 sq. yards)	5,774	3,391	2,229	3,158	1,772	1,704
Total including others	—	—	—	32,772	13,997	15,666
To Japan						
Seed cotton and ginned cotton (100 kin)	670,390	404,720	577,779	58,759	27,529	37,093
Phosphorite (100 kin)	5,447,085	3,391,839	3,421,141	10,022	5,879	5,966
Total including others	—	—	—	74,118	36,315	50,312

	UNION OF SOUTH AFRICA					
	Quantities		Value			
	1937	1938	1939	1937	1938	1939
From Japan						
Cotton tissues (1,000 sq. yards)	32,811	26,169	44,335	10,214	7,124	10,646
Rayon tissues (1,000 sq. yards)	16,903	8,603	9,847	7,168	3,475	4,225
Knitted goods (1,000 dozens)	729	564	626	3,180	2,579	3,172
Potteries	—	—	—	1,259	1,009	1,318
Cotton towels (1,000 dozens)	300	285	396	872	985	1,273
Silk tissues (1,000 sq. yards)	4,958	1,994	1,151	3,531	1,454	1,069
Total including others	—	—	—	53,749	35,291	46,802
To Japan						
Wool (100 kin)	559,015	39,666	14,372	82,763	4,266	1,599
Total including others	—	—	—	88,852	7,807	9,249

	AUSTRALIA					
	Quantities		Value			
	1937	1938	1939	1937	1938	1939
From Japan						
Rayon tissues (1,000 sq. yards)	42,344	40,657	44,038	16,667	17,303	18,375
Cotton tissues (1,000 sq. yards)	52,569	64,394	73,725	13,527	15,070	15,118
Raw silk (100 kin)	8,630	7,840	7,287	8,132	6,461	9,381
Comestibles in tin and bottle (100 kin)	55,142	46,775	45,398	2,489	2,464	2,534
Potteries	—	—	—	2,599	2,915	2,264
Toys	—	—	—	2,276	2,187	1,738
Silk tissues (1,000 sq. yards)	3,228	2,404	1,553	2,664	1,923	1,457

	Quantities			Value		
	1937	1938	1939	1937	1938	1939
Rayon yarns (100 kin)	4,743	5,478	10,373	518	550	1,201
Total including others	—	—	—	72,080	69,388	72,101
To Japan						
Wool (100 kin)	737,195	591,136	512,149	42,822	64,882	51,428
Hides and skins (100 kin)	73,128	42,551	46,622	5,023	2,265	2,316
Total including others	—	—	—	165,252	82,875	71,026

FOREIGN TRADE DURING THE FIRST HALF OF 1940

According to the report of the Finance Ministry the export trade for the first half of this year aggregated ¥2,018,980,000 and imports ¥1,856,729,000, with a favorable balance of ¥162,251,000. The figures indicate a gain of ¥403,446,000 or 25 per cent and ¥266,577,000 or 17 per cent in comparison with the corresponding period of 1939. The favorable balance is more than six times the corresponding figure for a year ago, showing an amazing improvement.

Marked advance was witnessed in exports to the yen-bloc area despite various stumbling blocks, including limitation on export to these areas applied to various kinds of goods. Exports of lumber, rayon yarns, pottery and machinery continued to quicken its upward pace. As to the outgoing shipments to

the non-yen bloc area, considerable briskness was made in cotton textiles, raw silk, silk textiles, woolen textiles, canned or bottled provisions, and rayon yarns.

According to the foreign trade experts, however, the jumping export business is interpreted as being attributable to the advanced prices.

Gain in quantity are far the less remarkable. Shipments of raw silk, for instance, suffered a drastic reduction of 31 per cent from a year ago, but made an appreciable increase of 16 per cent in value. The tendency is being solely attributed to the fact that the raw silk prices have been kept in the neighborhood of ¥1,736 this year as against ¥1,032 per picul last year, a striking advance of 67 per cent.

VALUE OF FOREIGN TRADE OF THE EMPIRE DURING THE FIRST HALF OF 1940

(Including trade of overseas territories)

	(In ¥1,000)		
	Exports	Imports	Excess of Exports
Jan.-June, 1940	2,018,980	1,856,729	162,250
Increase over the same term of the previous year	403,450	266,577	25,372

Divided into the Yen Bloc and Third Countries

	(In ¥1,000)	
	1939 (First Half)	1940 (First Half)
Total of exports	1,615,524	2,018,980
Manchoukuo, Kwantung L.T. and China	881,513	1,162,250
Third countries	734,011	856,730
Total of imports	1,590,152	1,856,729
Manchoukuo, Kwantung L.T. and China	428,696	496,914
Third countries	1,161,456	1,359,815
Total excess of (+) exports or (-) imports	(+) 25,372	(+) 162,251
Manchoukuo, Kwantung L.T. and China	(+) 452,817	(+) 665,336
Third countries	(-) 427,445	(-) 503,085

VALUE OF FOREIGN TRADE OF JAPAN PROPER AND KARAFUTO

(In the same period)

	(In ¥1,000)	Increase as	
		Compared with the	Same Term of the
	Total from	Amount	Percentage
	January to	Previous Year	
	June		
Exports	1,862,258	407,853	28
Imports	1,712,730	234,350	16
Excess of Imports (—) or Exports (+)	(+) 149,528	(—) 23,975	

EXPORTS OF CHIEF COMMODITIES

(Japan Proper and Karafuto)

	(In ¥1,000)	Increase or Decrease	
		as compared with	the Previous Year
	1940, from January to June	Amount	Percentage
Cotton tissues	200,988	18,006	9
Raw silk:			
Value	193,618	26,997	16
Quantity	11,149,500kin	(—) 5,007,300 kin	(—) 31
Rayon tissues	66,318	4,169	7
Machineries	122,213	20,166	20
Comestibles in tin and bottle	42,061	88	1
Silk tissues	21,716	2,291	12
Knitted goods	19,917	1,301	6
Woollen tissues	21,728	(—) 6,271	(—) 23
Potteries and porcelains	31,172	11,455	58
Cotton yarns	26,264	(—) 4,201	(—) 14
Toys	9,198	(—) 138	(—) 1
Rayon yarns	32,810	21,399	188
Lumber	72,319	27,704	62
Others	1,002,956	285,025	40
Total	1,863,189	407,784	28

CUSTOMS DUTIES

(In regard to the historical survey and yearly revisions prior to 1937 the readers are referred to the Japan Year Book, 1939-40, pp. 384-387).

Amendments during 1937 A. Abolition of additional duties on Australian commodities imposed under the Law concerning Adjustment of Trade and Safeguarding of Commerce.

In consequence of the Trade Arrangement concluded between the Japanese and Australian Governments, ad valorem duties of 50% imposed, from June 25, 1936 onward, on certain categories of Australian commodities were abolished as from January 1, 1937.

B. Imperial Ordinance No. 130 of

1937 concerning the Exemption of Import Duty on Iron was put into operation as from April 15, 1937. It should, however, be noted that said Ordinance was abrogated by Law No. 57 of 1937 having nearly the same contents as the aforesaid Ordinance. The provisions of Law No. 57 are summarized as follows:

(a) Iron shall be exempted from the import duty up to June 30, 1939.

(b) In cases where the Government deems it necessary, the period mentioned above may be shortened by specifying articles by means of Imperial Ordinance.

C. The preferential tariffs for Kwantung Leased Territory have been amend-

ed by Law No. 58 of 1937 as follows:

(a) Hardened oil, made in Kwantung L. T. of soy bean produced in the province, has been exempted from the import duty.

(b) Ammonium nitrate produced in Kwantung L.T. has been exempted from the import duty.

D. The following amendments have been made by Law No. 55 of 1937 in the Customs Tariff Law and the import tariff annexed to the Law:

(a) Mineral oils for fuel imported by the Government have been exempted from the import duty.

(b) Articles of Government monopoly or materials to be used for the manufacture of alcohol imported by the Government, and aircraft, or motors or propellers for aircraft imported with Government permission in accordance with the provisions of Ordinance have been exempted from the import duty.

(c) Import duties on materials to be used for the manufacture of cellulose pulp may be exempted or refunded in whole or in part in accordance with the provisions of Ordinance.

(d) Mineral oils manufactured from coal or oil shale have been exempted from the import duty. On other mineral oils the following duties have been imposed according to the specific gravity at 15°C.:

1. Crude oil and heavy oil:

	Per kiloliter (in yen)
(1) Exceeding 0.934	6.75
(2) Exceeding 0.904	10.30
(3) Exceeding 0.860	18.00
(4) Other	23.40

Note: Those containing more than 40% by volume of distillates to 215° C. by the distillation are subject to an additional duty at the rate of 30 sen per kiloliter for every additional 1%.

2. Other (including those containing animal and vegetable oils or fats, soap, alcohol, etc.):

	Per kiloliter (in yen)
(1) Not exceeding 0.8017	46.20
(2) Not exceeding 0.8498	41.00
(3) Other:	
Having melting point up to 15°C.	71.20
Other	
(Per 100 kilograms)..	8.30

(e) Coal gas has been included in the

Import Tariff and exempted from the import duty.

(f) "Pulp for paper making" included in Group XI of the Import Tariff has been changed to "Cellulose pulp."

(g) Of the printing paper other than art paper, paper weighing not more than 58 grams per square meter (excluding that colored in the paste) has been exempted from the import duty.

(h) Bearing balls given in Group XV of the Import Tariff have been eliminated.

(i) Ad valorem duties on automobiles have been increased to 70%.

(j) On parts of automobiles (excluding motive machinery) the following duties have been imposed:—

1. Chassis:

	Per 100 kin (in yen)
(1) Not exceeding 250 centimeters in wheel base	154.15
(2) Other	44.42
2. Frames, wheels, front springs and rear springs..	14.17
3. Engine hoods, fuel-tanks, running boards (including those with aprons) and bumpers	24.61
4. Front axles (including those with wheel hubs), mufflers, and rims for tyres	30.26
5. Rear axles (including those with wheel hubs), press worked steel panels for bodies, front doors and rear doors	41.30
6. Transmissions, steering wheels, steering gears, and instrument panels (exclud- ing those with instruments)	63.99
7. Universal joints and shock absorbers	86.08
8. Differential gears and pinions	92.92
9. Transmission gears	138.30
10. Other	60% ad valorem duty

(k) On internal combustion engines for automobiles duties have been imposed at the rate of 48 yen per 100 kin, and on those for cycles a 35% ad valorem duty has been imposed.

(l) Of parts of machinery (not otherwise provided for), on card clothing combined with leather the duty has been imposed at the rate of 120 yen per 100 kin, and on others at the rate of 60.6 yen per 100 kin. On bearings ad valorem

duty of 30% has been imposed; on bearing balls at the rate of 37 yen per 100 kin, and on others ad valorem duty of 30%.

(m) On cassava-root the duty has been imposed at the rate of 1.65 yen per 100 kin.

(n) Ad valorem duties of 5% have been imposed on denatured molasses.

Of the above amendments, those coming under B, C, and D were effected as from August 11, 1937.

E. Amendment of the Law relating to Specific Duties in Import Tariff (Law No. 4 of 1932).

(a) By Law No. 56 of 1937, the following articles have been provided for in the list annexed to Law No. 4 of 1932, and have been exempted from the application of the specific duties of 135%:

Sugar (excluding sugar under No. 11 Dutch standard), rock candy sugar, cube sugar, loaf sugar, and similar sugar, caustic soda (excluding the refined), cotton yarns (excluding special cotton yarns, otherwise provided for), woollen yarns, mixed yarns of cotton and wool, artificial silk (excluding that made from acetyl-cellulose), cellulose pulp, packing paper and match paper (excluding tissue paper), copper (excluding twisted wires and pipes and tubes coated with base metals), lead (ingots, slabs and tubes), tin (ingots, slabs, and foils), zinc (excluding wires, tubes, plates and sheets nickelled, and other plates and sheets not exceeding 0.17 millimeters in thickness), brass and bronze, parts of automobiles (excluding motive machinery), internal combustion engines for automobiles, and card clothing, reeds of metal and bearing balls of parts of machinery (not otherwise provided for).

(b) The following amendments have been made in the list annexed to Law No. 4 of 1932:

1. Of mineral oils:

Those manufactured from coal or oil shale have been eliminated from the list.

2. Of printing paper other than art paper:

(1) Paper weighing not more than 58 grams per square meter has been eliminated from the list.

(2) Paper (excluding that colored in the paste and that weighing not more than 58 grams per square meter has newly been provided for in the list.

These amendments were effected as from August 11, 1937, except those for

sugar and fourteen other articles which were put into operation as from October 1 of the same year.

Amendments during 1938 A. The following amendments have been made in the Customs Tariff Law and the Import Tariff annexed to the Law by Law No. 83 of 1938:

(a) Hatter's fur has newly been provided for in Article 9, clause 1 of the Customs Tariff Law, and import duties on materials to be used for the manufacture of this article may be exempted or refunded in whole or in part.

(b) The ad valorem duty of 50% has been imposed on cash-registers, calculating machines, and the like, and parts thereof.

(c) Import duties on wood have been amended as follows:

Of Abies (todomatsu, etc.), Picea (ezomatsu, spruce, etc.), Pinus (benimatsu, etc.) and Larix (karamatsu, etc.):

(1) Pinus (benimatsu, etc.) has been exempted from the import duty.

(2) Others:

On those not exceeding 200 millimeters in thickness the duty has been imposed at the rate of 6 yen per cubic meter, and on others, including logs and cants, at the rate of 3.64 yen per cubic meter.

B. The following amendments have been made in Imperial Ordinance No. 238 of 1921 by Imperial Ordinance No. 201 of 1938:

(a) As Abies (benimatsu, etc.) has been exempted from the import duty in the Import Tariff annexed to the Customs Tariff Law, it has been eliminated from the articles mentioned in Imperial Ordinance No. 238 of 1921.

(b) Rabbit and hare furs, materials for hatter's furs, have been exempted from the ad valorem duty of 40%.

The above amendments were effected as from April 1, 1938.

Amendments during 1939 A. Amendments have been made by Law No. 7 of 1939 in the provisions of law No. 57 of 1937, whereby the period in which iron will be exempted from the import duty was extended for two years, namely, up to June 30, 1941. The amendments were effected as from March 16, 1939.

B. Amendments have been made by Law No. 8 of 1939 in Law No. 51 of 1925, whereby nitro-naphthaline has been provided for in the Supplementary Table A annexed to Law No. 51 of 1925, and this article produced in Kwantung L.T. has been exempted from the im-

port duty. The amendments were effected as from March 16, 1939.

C. Amendments have been made by Law No. 56 of 1939 in the import tariff annexed to the Customs Tariff Law, whereby the following articles have been exempted from the import duties:

Millet (*Panicum millaceum* and *Panicum Crus galli* var. *Fruementaceum*), green beans, sesame seed, seeds of perilla ocimoides, seed of *Aleurites cordata*, castor oil in can, barrel or jar, and wood oil obtained from the seeds of *Aleurites cordata*.

The amendments were effected as from July 10, 1939.

D. In consequence of the amendments made by Law No. 57 of 1939 in

Law No. 4 of 1932, beans and cotton seed oil have been exempted from the application of the specific duties of 135%. The amendments were effected as from April 1, 1939.

It should be noted that the articles, the import duties on which were thus amended by Law No. 56 and No. 57 are the important products in Manchoukuo and China, and consequently, the exemption from or the reduction of the import duties was first made on the side of Japan for the purpose of adjustment of the trade between Japan and these countries. (The Customs Tariff Law and the table of Import Tariff are given in the Appendix.)

CHAPTER XII

INSURANCE

General Survey

Marine Insurance Comes First. In Japan, as in most maritime countries, marine insurance preceded life insurance, but the margin of time separating the two was much narrower in Japan, for there was a difference of two years only. Following the Restoration in 1868, the feudal lords or daimyo were dispossessed of their domains, but the Meiji Government undertook to compensate them for the lands confiscated. The condition of Government finance, however, did not permit of the payment of large sums of cash to the daimyo and pension bonds were issued to them instead. Hachisuka, Ikeda, Date and other powerful and rich lords searched for an outlet for their energies and surplus funds and, deciding on insurance, advanced a plan to form a marine and fire insurance business after the British system. A company was incorporated in Tokyo in January 1879, with Eiichi Shibusawa as the person most intimately concerned with the consummation of the plan, and Yataro Iwasaki, the founder of the Mitsubishi interest, as his able lieutenant. The initial capital was ¥650,000. Marquis Hachisuka was president and Shibusawa and Iwasaki advisers.

Life Insurance Follows. The late Tai-
zo Abe was the originator of life insurance in Japan. Two years after the introduction of marine insurance he founded the Meiji Life Insurance Com-

pany in September 1881, with a capital of ¥150,000. The promoters of this company were mostly graduates of the Kelo Gijuku (present Kelo University). In 1888 the Teikoku Life Insurance Company was founded, and the Nippon Life Insurance Company was incorporated in Osaka in the following year. Zenjiro Yasuda was the founder of the Meiji Fire Insurance Company, the first of the kind in Japan.

The Present Status. The home insurance business at present consists of 13 kinds, namely, life, life annuities, military conscription, accident, marine, fire including forest fire, transportation, automobile, burglary, glass, fidelity, engine and boiler and air insurance. Conscription insurance is interesting as it cannot be considered as pure insurance. The idea is to provide relief to the parents of young men who are called up to serve their time in the army. The insurance is taken out at any time from birth to 15 years of age, then, when the boy is conscripted at 20 years of age, the sum contracted for is paid to his parents. In case the boy is not called upon to serve his time in the army the premium only is repaid, and the assured persons who are enrolled in the army and participate in the forfeited and accrued interest of those not called up together with that of those who have died before being conscripted. It is 40 years since the business was first commenced and four companies engage in it.

INSURANCE COMPANIES

(Compiled by the Ministry of Commerce and Industry)

Business Year	Number of Concerns	Paid-up Capital and Funds (In ¥1,000 and 1,000 contracts)	Liability Reserves at End of Year	Contracts in Force at End of Year	
				No.	Amount
1930-31	92	123,229	1,519,352	23,097	27,490,657
1931-32	91	122,170	1,637,178	22,693	27,649,633
1932-33	89	122,570	1,831,610	23,123	29,427,346
1933-34	84	150,925	1,985,929	25,443	33,108,786
1934-35	84	151,275	2,350,077	26,480	34,902,161
1935-36	83	150,273	2,442,402	28,599	37,480,869
1936-37	81	149,335	2,788,621	30,882	39,877,588
1937-38	81	149,735	3,093,085	31,917	43,170,731
1938-39	80	144,435	3,504,383	37,792	50,124,438

INSURANCE COMPANIES BY KINDS

1934-1939

(Amount in yen)

Kind of Insurance	Business Year	Number of Companies	Capital or Fund		Reserve Fund		
			Authorized	Paid-up	Liability & Current	Others	
Accident:	1934-35				1,045,697	61,589,100	
	1935-36				1,167,232	65,156,500	
	1936-37				1,289,332	71,707,000	
	1937-38				1,397,569	83,300,100	
	1938-39				1,506,235	90,782,437	
Fire:	1934-35				116,393,087	76,173,940	
	1935-36				121,867,964	80,393,011	
	1936-37				130,542,194	87,911,669	
	1937-38				139,004,327	95,814,154	
	1938-39				147,934,234	103,105,120	
Marine:	1934-35				80,132,896	72,028,475	
	1935-36				82,256,323	75,960,050	
	1936-37				87,131,618	82,933,553	
	1937-38				95,933,136	90,448,180	
	1938-39				106,272,740	97,209,143	
Transportation:	1934-35				2,176,179	71,174,239	
	1935-36				2,207,836	75,006,785	
	1936-37				2,403,721	82,177,828	
	1937-38				2,707,573	89,365,455	
	1938-39				2,970,210	95,770,918	
Fidelity:	1934-35				93,000	18,514,800	
	1935-36				94,000	23,568,500	
	1936-37				112,400	25,159,000	
	1937-38				137,800	26,431,100	
	1938-39				138,000	27,228,200	
Engine & Boiler:	1934-35	1934-35	51	329,900,000	128,762,500	44,096	63,560
	1935-36					53,363	66,585
	1936-37					65,662	68,655
	1937-38					71,960	72,055
	1938-39					80,187	76,605
Automobile:	1934-35	1935-36	49	323,500,000	126,110,000	2,530,498	53,404,800
	1935-36	1936-37	48	323,000,000	126,772,500	3,002,076	57,226,800
	1936-37					3,195,539	60,919,500
	1937-38					3,434,369	72,220,900
	1938-39					4,621,379	84,554,737
Burglary:	1934-35	1937-38	48	323,000,000	126,772,500	242,784	42,291,000
	1935-36	1938-39	47	322,400,000	126,622,500	259,932	44,906,000
	1936-37					265,598	48,691,000
	1937-38					261,799	58,542,000
	1938-39					248,237	62,990,500
Glass:	1934-35					62,398	34,385,000
	1935-36					57,091	36,590,000
	1936-37					72,185	39,560,000
	1937-38					72,805	43,160,000
	1938-39					72,571	46,445,000

INSURANCE

Kind of Insurance	Business Year	Number of Companies	Capital or Fund		Reserve Fund		
			Authorized	Paid-up	Liability & Current	Others	
Air:	1937-38				106,500	28,786,000	
	1938-39				1,082,288	89,296,661	
Life:	1934-35	1934-35	33	45,800,000	22,512,500	1,798,822,750	146,785,642
	1935-36	1935-36	33	45,750,000	22,462,500	2,004,828,537	169,450,016
	1936-37	1936-37	34	45,700,000	22,412,500	2,255,641,100	192,540,062
	1937-38	1937-38	33	46,050,000	22,962,500	2,480,308,044	218,246,750
	1938-39	1938-39	33	37,150,000	17,812,500	2,795,566,245	235,352,693
Conscription	1934-35				201,530,031	6,126,596	
	1935-36				226,582,775	7,748,113	
	1936-37				307,867,211	9,374,577	
	1937-38				369,609,679	11,781,641	
	1938-39				443,855,622	66,849,158	
Life Annuity:	1934-35				14,551	—	
	1935-36				25,511	—	
	1936-37				34,194	—	
	1937-38				39,157	—	
	1938-39				35,413	—	
Kind of Insurance	Business Year	Conditions of Business Earnings			Total		
		Premiums	Interest	Others			
Accident:	1934-35	855,662	—	49,505	905,167		
	1935-36	1,043,317	—	76,915	1,120,232		
	1936-37	1,038,688	—	51,050	1,089,738		
	1937-38	1,041,747	—	90,040	1,131,787		
	1938-39	1,197,365	—	77,074	1,274,439		
Fire:	1934-35	96,531,623	7,967,747	21,669,574	126,168,944		
	1935-36	100,063,769	8,036,951	22,484,902	130,585,622		
	1936-37	101,790,013	8,288,298	22,747,727	132,826,038		
	1937-38	108,963,127	8,776,802	24,226,522	141,966,451		
	1938-39	123,052,916	9,500,810	29,600,711	162,154,437		
Marine:	1934-35	33,155,472	15,100,000	9,193,843	57,449,315		
	1935-36	34,768,345	16,186,182	7,484,636	58,439,163		
	1936-37	36,865,247	17,048,146	7,099,840	61,013,233		
	1937-38	45,628,323	17,961,332	6,292,636	69,882,291		
	1938-39	55,599,075	23,537,924	8,513,881	87,650,880		
Transportation:	1934-35	1,170,622	—	41,704	1,212,326		
	1935-36	1,303,614	—	41,368	1,344,982		
	1936-37	1,412,688	484	24,791	1,437,963		
	1937-38	1,561,817	527	37,505	1,599,849		
	1938-39	2,052,159	591	44,627	2,097,377		
Fidelity:	1934-35	86,218	—	4,592	90,810		
	1935-36	99,712	—	4,162	103,874		
	1936-37	106,875	—	5,778	112,653		
	1937-38	119,186	—	6,175	125,361		
	1938-39	119,420	—	5,519	124,939		

BUSINESSS CONDITIONS

Kind of Insurance	Business Year	Conditions of Business Earnings			Total
		Premiums	Interest	Others	
Engine & Boiler:	1934-35	88,116	10,107	10,680	108,903
	1935-36	99,458	10,952	8,480	118,890
	1936-37	114,608	13,506	42,654	170,768
	1937-38	125,768	11,865	14,039	151,672
	1938-39	141,619	11,303	6,607	159,529
Automobile:	1934-35	1,984,624	5,791	24,221	2,014,636
	1935-36	2,675,503	60	35,198	2,710,761
	1936-37	3,030,928	—	35,416	3,066,344
	1937-38	3,446,369	—	38,084	3,484,453
	1938-39	3,408,750	—	56,205	3,464,961
Burglary:	1934-35	60,119	—	3,031	63,150
	1935-36	73,219	—	1,303	74,522
	1936-37	65,215	—	2,149	67,364
	1937-38	46,088	—	2,412	48,500
	1938-39	54,984	—	1,876	56,860
Glass:	1934-35	11,825	—	877	12,702
	1935-36	12,925	—	1,371	14,296
	1936-37	11,295	—	1,480	12,775
	1937-38	15,906	—	2,058	17,964
	1938-39	18,580	—	2,701	21,281
Air:	1937-38	10,250	—	—	10,250
	1938-39	303,643	—	58	303,701
Life:	1934-35	419,803,582	101,842,188	31,067,876	553,713,646
	1935-36	449,716,033	110,642,695	27,523,541	587,864,269
	1936-37	519,508,056	120,886,258	40,677,759	681,072,073
	1937-38	594,410,101	136,185,764	39,875,260	770,471,125
	1938-39	700,901,524	151,816,801	40,186,330	892,904,655
Conscription:	1934-35	30,471,839	12,283,255	8,145,974	50,851,068
	1935-36	34,503,310	14,379,890	7,205,263	56,088,463
	1936-37	41,712,449	15,772,258	6,229,088	63,713,795
	1937-38	49,779,269	18,399,985	6,831,729	75,010,983
	1938-39	22,594,861	22,594,861	11,188,418	56,378,140
Life Annuity:	1934-35	14,140	—	—	14,140
	1935-36	13,626	—	—	13,626
	1936-37	12,646	—	—	12,646
	1937-38	9,173	—	—	9,173
	1938-39	5,000	—	—	5,000
Kind of Insurance	Business Year	Conditions of Business Expenses			Total
		Claims Paid	Payment by Contract Other than Claims	Business Expenses	
Accident:	1934-35	547,659	80,880	337,063	1,030,061
	1935-36	613,722	28,527	391,090	1,062,813
	1936-37	596,722	76,218	370,327	1,066,051
	1937-38	566,156	53,599	371,145	1,028,821
	1938-39	577,623	38,423	411,936	1,035,981

INSURANCE

Kind of Insurance	Business Year	Conditions of Business Expenses				Total
		Claims Paid	Payment by Contract Other than Claims	Business Expenses	Others	
Fire:	1934-35	41,534,912	11,834,873	57,592,514	5,862,325	116,824,624
	1935-36	32,184,327	13,709,218	61,210,976	5,999,436	113,103,957
	1936-37	30,073,003	14,276,932	63,721,188	6,334,542	114,405,665
	1937-38	25,944,771	15,592,563	69,082,276	7,426,040	118,045,590
	1938-39	30,441,257	16,821,796	78,896,218	11,429,680	137,588,951
Marine:	1934-35	24,243,554	2,360,659	7,497,025	5,596,146	39,697,384
	1935-36	23,137,480	2,676,831	8,497,886	5,841,181	40,153,378
	1936-37	20,402,964	2,538,977	8,852,945	7,031,607	38,826,493
	1937-38	21,576,081	3,785,595	10,241,525	11,074,666	46,677,867
	1938-39	30,367,256	2,948,279	12,774,359	18,189,245	64,279,139
Transportation:	1934-35	336,789	118,777	241,623	8,572	705,761
	1935-36	254,156	121,637	279,620	4,958	660,371
	1936-37	180,859	142,133	303,106	31,830	657,928
	1937-38	254,329	165,385	331,166	8,893	760,773
	1938-39	351,733	220,547	444,291	22,259	1,038,830
Fidelity:	1934-35	21,600	976	26,256	128	48,960
	1935-36	28,382	1,100	29,601	173	59,256
	1936-37	25,091	4,837	34,583	194	64,705
	1937-38	15,062	8,053	38,750	577	62,442
	1938-39	21,529	9,113	37,306	208	68,156
Engine & Boiler:	1934-35	—	390	80,905	5,720	87,015
	1935-36	—	735	84,428	7,446	92,609
	1936-37	525	530	90,057	42,960	134,072
	1937-38	1,550	1,174	100,193	18,112	121,029
	1938-39	557	2,259	109,224	10,344	122,384
Automobile:	1934-35	877,095	293,041	554,454	20,751	1,745,341
	1935-36	983,425	393,349	781,127	59,058	2,216,959
	1936-37	1,076,888	473,007	876,753	50,505	2,477,153
	1937-38	1,376,661	551,583	1,007,451	13,394	2,949,089
	1938-39	1,376,803	535,651	1,057,832	12,051	2,989,337
Burglary:	1934-35	18,176	1,299	24,185	169	43,829
	1935-36	29,814	2,737	28,952	1,685	63,138
	1936-37	17,988	4,721	23,579	3,332	49,620
	1937-38	14,007	11,938	14,862	593	41,400
	1938-39	17,320	4,954	19,371	523	42,168
Glass:	1934-35	5,139	561	2,929	15	8,644
	1935-36	5,111	929	4,076	40	10,156
	1936-37	6,430	493	3,441	39	10,403
	1937-38	6,217	1,611	4,584	22	12,434
	1938-39	7,986	2,072	5,242	28	15,328
Air:	1937-38	21,901	31	1,109	2	23,243
	1938-39	174,972	1,243	18,642	9,144	204,001
Life:	1934-35	139,890,791	91,552,425	96,970,690	27,910,235	356,324,141
	1935-36	143,817,994	68,480,705	102,427,574	30,667,198	345,393,471
	1936-37	167,531,843	71,344,489	108,933,815	38,718,528	386,528,675
	1937-38	192,705,499	75,855,960	122,001,416	40,212,825	430,775,700
	1938-39	243,313,700	80,860,924	136,431,903	60,575,600	521,182,129

BUSINESSS CONDITIONS

Kind of Insurance	Business Year	Claims Total	Payment by Business Others		Total	
			Contract Other than Claims	Expenses		
Conscription:	1934-35	2,283,129	6,684,205	13,547,886	5,028,983	27,544,203
	1935-36	2,802,208	7,024,635	13,409,799	6,985,700	30,221,712
	1936-37	4,058,583	7,826,972	15,945,841	4,515,734	32,347,130
	1937-38	4,262,315	7,700,177	17,713,749	6,426,046	36,102,287
	1938-39	6,482,120	7,838,941	22,340,422	14,874,626	51,536,109
Life Annuity:	1934-35	1,432	28	—	—	1,460
	1935-36	3,480	—	—	—	3,480
	1936-37	4,476	—	—	—	4,476
	1937-38	6,391	—	—	—	6,391
	1938-39	5,309	—	—	—	5,309
Conditions of Business						
Kind of Insurance	Business Year	New Contracts		Contracts in Force at the End of Business Year		
		Number	Amount	Number	Amount	
Accident:	1934-35	186,198	204,813,000	174,057	160,728,000	
	1935-36	178,675	243,433,000	162,173	182,989,000	
	1936-37	165,477	263,794,000	134,696	179,284,000	
	1937-38	141,686	276,290,000	119,073	194,971,000	
	1938-39	161,587	306,490,000	133,745	217,008,000	
Fire:	1934-35	20,856,048	28,678,717,000	17,064,927	21,321,758,000	
	1935-36	21,314,830	29,742,490,000	18,023,182	22,223,679,000	
	1936-37	21,301,471	30,041,467,000	18,305,746	22,286,504,000	
	1937-38	21,378,750	31,860,709,000	18,042,103	22,790,755,000	
	1938-39	25,580,648	35,667,513,000	21,831,149	26,054,153,000	
Marine:	1934-35	5,983,524	9,676,112,000	975,081	2,056,947,000	
	1935-36	6,470,590	10,543,046,000	1,088,088	2,079,711,000	
	1936-37	6,838,623	10,906,507,000	1,270,885	2,387,322,000	
	1937-38	6,793,531	13,326,855,000	1,284,529	2,865,262,000	
	1938-39	7,182,396	14,434,316,000	1,599,168	3,447,604,000	
Transportation:	1934-35	1,921,886	6,067,066,000	96,020	295,399,000	
	1935-36	2,068,014	6,688,453,000	99,010	347,746,000	
	1936-37	2,228,642	7,506,516,000	119,224	438,599,000	
	1937-38	2,484,973	7,774,507,000	116,442	476,016,000	
	1938-39	3,571,411	9,104,245,000	99,853	586,365,000	
Fidelity:	1934-35	4,123	6,734,000	3,883	6,124,000	
	1935-36	4,416	7,385,000	4,285	7,126,000	
	1936-37	4,323	8,545,000	4,125	7,855,000	
	1937-38	4,671	9,404,000	4,371	8,478,000	
	1938-39	5,054	10,912,000	4,775	8,620,000	
Engine & Boiler:	1934-35	1,302	4,455,000	1,288	4,313,000	
	1935-36	1,534	4,770,000	1,502	4,713,000	
	1936-37	1,848	5,643,000	1,786	5,353,000	
	1937-38	2,091	6,135,000	2,060	6,064,000	
	1938-39	2,576	7,883,000	2,307	7,011,000	

INSURANCE

Kind of Insurance	Business Year	New Contracts		Contracts in Force at the End of Business Year	
		Number	Amount	Number	Amount
Automobile:	1934-35	100,792	95,712,000	60,474	63,088,000
	1935-36	271,115	128,996,000	184,896	85,428,000
	1936-37	164,382	142,758,000	120,243	98,440,000
	1937-38	179,741	153,713,000	138,996	110,464,000
	1938-39	201,062	165,408,000	151,846	122,226,000
Burglary:	1934-35	4,596	12,100,000	3,829	9,537,000
	1935-36	5,588	15,793,000	4,852	13,518,000
	1936-37	7,421	22,580,000	6,412	19,262,000
	1937-38	3,546	9,572,000	2,761	6,348,000
	1938-39	4,982	12,078,000	3,869	8,654,000
Glass:	1934-35	397	199,000	391	192,000
	1935-36	471	236,000	443	219,000
	1936-37	509	225,000	472	213,000
	1937-38	546	750,000	501	280,000
	1938-39	574	353,000	538	330,000
Air:	1937-38	25	328,000	15	253,000
	1938-39	1,863	15,516,000	1,579	11,451,000
Life:	1934-35	1,286,437	2,144,302,000	6,702,346	10,049,122,000
	1935-36	1,429,087	2,443,231,000	7,486,937	11,495,614,000
	1936-37	1,627,357	2,800,491,000	9,170,139	13,247,858,000
	1937-38	1,802,630	3,169,452,000	10,232,485	15,309,734,000
	1938-39	2,209,986	3,893,526,000	11,669,164	17,977,765,000
Conscription:	1934-35	317,963	249,392,000	1,398,454	934,593,000
	1935-36	311,961	233,551,000	1,544,160	1,040,126,000
	1936-37	346,947	262,159,000	1,749,053	1,207,198,000
	1937-38	381,495	300,690,000	1,974,551	1,397,038,000
	1938-39	500,589	426,377,000	2,294,454	1,683,246,000
Life Annuity:	1934-35	4	1,663	5	2,095
	1935-36	5	1,385	10	3,450
	1936-37	2	1,661	12	5,141
	1937-38	4	811	14	5,068
	1938-39	1	593	14	5,309

Note: Business year covers the period from April 1 to March 31 of the following year. Most companies have several kinds of insurance and accordingly capital is not given here separately.

FOREIGN INSURANCE COMPANIES IN JAPAN
(Compiled by the Ministry of Commerce and Industry)
(Amount in yen)

Business Year	Number of Companies	Deposits with the Govt.	Pre-miums Received	Claims Paid	Business Conditions New		Contracts in Force at the End of Business Year	
					No.	Amount	No.	Amount
					1932-33	3	31,708,560	12,256,409
1933-34	3	30,750,399	10,629,538	4,994,645	2,177	11,260,000	34,822	189,614,000
1934-35	3	30,013,250	9,367,042	4,863,891	1,919	8,960,000	31,253	162,849,000
1935-36	3	29,775,751	8,174,748	3,934,567	1,407	7,594,000	38,371	145,743,000
1936-37	3	27,832,074	7,430,965	5,590,660	1,189	5,882,000	25,840	129,688,000
1937-38	3	26,672,700	6,492,107	4,541,053	850	4,745,000	23,748	117,318,000

INVESTMENTS

Fire Insurance

Business Year	Num-ber of Com-panies	Deposits with the Govt.	Pre-miums Received	Claims Paid	Business Conditions New Contracts		Contracts in Force at the End of Business Year	
					No.	Amount	No.	Amount
1932-33	20	5,126,901	4,438,087	2,519,249	201,824	1,473,093,000	143,650	918,122,000
1933-34	26	4,978,522	5,164,637	1,944,304	291,280	1,648,619,000	197,789	1,009,439,000
1934-35	26	5,240,905	6,167,260	6,879,393	363,519	2,010,920,000	237,731	1,271,407,000
1935-36	25	6,152,652	7,193,832	3,330,935	499,065	2,251,013,000	325,706	1,434,902,000
1936-37	25	6,317,095	7,081,046	4,104,787	557,341	2,404,350,000	305,216	1,307,478,000
1937-38	26	6,537,485	7,449,305	2,869,413	546,817	2,541,963,000	310,035	1,372,823,000

Marine Insurance

Business Year	Num-ber of Com-panies	Deposits with the Govt.	Pre-miums Received	Claims Paid	Business Conditions New Contracts		Contracts in Force at the End of Business Year	
					No.	Amount	No.	Amount
1932-33	16	3,757,780	1,052,831	575,059	107,901	316,005,000	16,452	46,737,000
1933-34	16	3,740,557	1,474,722	807,466	137,684	386,125,000	20,883	76,146,000
1934-35	16	4,002,939	1,833,343	2,155,218	155,613	467,512,000	22,549	92,191,000
1935-36	17	4,673,264	1,896,593	1,206,433	155,151	463,060,000	17,105	90,711,000
1936-37	17	4,796,107	1,761,142	1,028,326	169,316	445,115,000	22,346	61,183,000
1937-38	17	4,947,405	2,341,266	1,178,579	180,616	570,128,000	15,610	51,038,000

Automobile Insurance

Business Year	Num-ber of Com-panies	Deposits with the Govt.	Pre-miums Received	Claims Paid	Business Conditions New Contracts		Contracts in Force at the End of Business Year	
					No.	Amount	No.	Amount
1934-35	3	701,638	63,905	19,782	644	24,438,000	571	19,926,000
1935-36	3	877,952	80,502	29,844	753	27,488,000	580	21,461,000
1936-37	3	997,628	76,125	18,443	719	25,399,000	572	19,206,000
1937-38	3	1,333,508	74,975	21,372	646	23,724,000	561	18,996,000

INVESTMENTS OF HOME INSURANCE COMPANIES

(The Insurance Year Book by the Ministry of Commerce and Industry)

(Amount in ¥1,000)

Advances

Year	Num-ber of Com-panies	Mort-gages on Real Estate	Mort-gages on Factories, etc.	Mort-gages on Vessels	Loans on Securi-ties	Loans on Com-panies' Policies	Loans to Public Bodies	Other	Total
1935-36	82	70,819	83,037	10,152	112,583	257,602	109,071	7,338	650,602
1936-37	81	66,838	84,331	11,092	109,876	280,644	131,262	4,667	688,710
1937-38	81	69,714	83,703	14,641	155,124	307,969	156,621	4,008	791,781
1938-39	81	65,933	75,081	12,931	156,325	324,535	168,834	12,682	814,509
1939-40	—	58,512	72,194	9,263	226,241	323,685	164,253	18,699	872,639

Securities

	Government Bonds	Local Government Bonds	Debentures	Shares	Foreign Bonds, etc.	Total	Deposits with Banks	Grand Total
1934-35	177,674	101,904	564,989	594,279	49,529	1,488,375	340,372	2,401,133
1935-36	218,694	87,537	600,732	696,931	53,850	1,657,744	360,320	2,668,660
1936-37	238,291	88,375	667,748	887,565	56,412	1,938,391	350,743	2,977,844
1937-38	293,412	79,564	676,828	1,081,530	86,381	2,217,714	321,780	3,331,275
1938-39	409,126	80,220	699,517	1,257,292	108,960	2,534,524	347,053	3,696,087
1939-40	611,209	78,160	780,418	1,453,209	140,643	3,063,638	382,178	4,318,455

Note: Figures for 1938-39 and 1939-40 are estimates.

IMPORTANT INSURANCE COMPANIES

	Est'd.		Est'd.
Alkoku Life	1896	Nippon Movables Fire	1898
Chiyoda Fire	1913	Nissan Fire and Marine	1911
Chiyoda Life	1904	Nisshin Life	1907
Daido Life	1902	Nomura Life	1895
Dai-ichi Conscripton	1898	Osaka Marine and Fire	1883
Dai-ichi Life	1902	Showa Life	1931
Fuji Life	1909	Sumitomo Life	1907
Fukoku Conscripton	1923	Taihei Fire and Marine	1919
Fukuju Life	1908	Taihei Life	1909
Fukutoku Life	1912	Taisho Life	1913
Fuso Marine and Fire	1917	Taisho Marine and Fire	1918
Japan Physicians' Mutual Relief	1919	Taiyo Life	1896
Jinju Life	1894	Teikoku Fire	1912
Katakura Life	1921	Teikoku Life	1888
Kobe Marine and Fire	1907	Teikoku Marine and Fire	1893
Kyodo Fire	1906	Tokiwa Life	1913
Meiji Fire	1891	Toho Fire	1911
Meiji Life	1893	Tokyo Fire	1887
Mitsubishi Marine and Fire	1919	Tokyo Marine and Fire	1878
Mitsui Life	1914	Tokyo Movables Fire	1917
Nikka Life	1914	Tomei Fire and Insurance	1907
Nippon Conscripton	1911	Toyoko Fire	1920
Nippon Danai Life	1934	Yasuda Life	1894
Nippon Fire	1892	Yokohama Fire and Marine	1897
Nippon Life	1889	Yurin Life	1894
Nippon Marine	1896		

Post Office Life Insurance and Annuities

Post Office Life Insurance With a view to promoting the welfare of the middle and lower classes of the community, the Post Office Life Insurance Law (Law No. 42) and the Post Office Life Insurance Special Account Law (Law No. 43) were promulgated on July 8, 1916, the former being put into effect on October 1 and the latter on August 20 of the same year. The main features of the life insurance schemes may be summarized as follows:

1. This insurance is the work of the Government and is to be dealt with at the post offices.

2. The amount of insurance for a person will be from ¥50 up to ¥700.

3. The insured need not be subjected to any physical examination.

4. If the insured die within one and a half years from the conclusion of the insurance contract by some causes other than the calamities or the infectious diseases specified in law, a portion of the amount insured will not be paid.

5. This insurance is divided into Whole Life, Endowment and Infantile. Endowment policies are divided into four kinds of the terms of 15 years, 20 years, 30 years and 40 years. Infantile policies are, at present, either 15 years or 20 years endowment.

6. The age of a person to be newly

insured must be between 1 and 60 years.

7. The Mortality Table constituting a basis for the computation of premium was compiled by adding 20% to the Male Mortality-Rates of the Japanese Population Table No. 2 published in 1912 by the Government Statistics Bureau. The rate of interest assumed is 3½% per annum.

8. The premiums are to be paid monthly. Reduced premiums are prescribed for the cases in which monthly premiums are paid in a lump sum in advance.

9. The period within which premiums should be paid is fixed at one month, and two months' grace is allowed.

10. Within one year after the lapse of the policy, it may be revived.

11. When, after the conclusion of the contract, the insured either loses one or both of his limbs or becomes blind of both eyes, future premiums need not be paid.

Whenever a policy has been in force for a period of thirty years and the insured person has reached the age of 70, the policy holder concerned may propose to have his future premiums paid up.

12. When, after the lapse of five years from the conclusion of the contract, the payment of the insured sum or the repayment of the paid-in premium is made, the beneficiary shall receive an additional sum as a dividend.

13. A loan may, on the application of the policy-holder, be granted within the limits of the amount which is to be paid back on the cancellation of the insurance contract, provided, however, that such loan shall not exceed 50/100 of the amount of insurance.

14. In order to maintain and promote the health of the insured, 230 Health Consultation Stations have been established so far in pursuance of the Health Consultation Service Regulation, 1922, in the principal cities.

15. Beneficiaries or policy-holders are required to ask the judgment of the Post Office Life Insurance Committee of Inquiry prior to legal action against the Government for their contracts.

Post Office Life Annuities While the history of the Post Office Life Annuities may be traced to as far back as 1897, the authorities concerned thought it wise to introduce Post Office Life Insurance first and see how this would work. In 1926, changed social conditions and with the maturing of the first Post

Office Life Insurance Endowment Policies gave favorable indications that the Annuity business would be successful, and a bill was introduced into and approved by the Diet in March.

The main features of the system which came into operation on October 1 of the same year may be summarized as follows:—

1. The annuity business is to be administered on the same system as that of the Post Office Life Insurance.

2. Annuities that may be purchased are divided into:

(1) Immediate Life Annuities.

(2) Deferred Life Annuities.

(a) Annuities commencing at the age of 50.

(b) Annuities commencing at the age of 55.

(c) Annuities commencing at the age of 60.

(d) Annuities commencing at the age of 65.

3. Post Office Life Annuities may be purchased either with or without provision for the return of the purchase money, and purchasers must select one of these two plans when they make their application.

4. The ages of persons entitled to become annuitants under this system must fall, in the case of Immediate Life Annuities between 40 and 80 inclusive and in the case of Deferred Life Annuities between 12 and 60 both inclusive.

5. The premium rates are calculated on the mortality rates by deducting 20 per cent for males and 30 per cent for females from the general mortality rate of the Japanese population.

The rate of interest allowed in the calculation of the value of annuities under the instalment payment plan is 3.5 per cent. And under the single payment plan, the rate shall be determined, from time to time, by the Minister of Communications upon the basis of the current market price of public bonds. The rate is fixed at 3.7 per cent for the present.

The reserves to be maintained against policies are worked out by the net premium method.

6. The maximum annuity that can be purchased on the life of any one person is ¥2,400, and the minimum is ¥120 under the instalment premium plan or ¥12 under the single premium plan.

7. Premiums are payable either in a single sum or by instalments; in the

latter case, the premium payment is divided into four periods, namely, 10 year payment, 15 year payment, 20 year payment and ordinary payment, and the premium may also be paid yearly, half yearly or quarterly. All premiums are payable at any post office designated by the purchaser or at his residence to the collector.

8. In the case of an Immediate Annuity, the payment of annuity will begin on the date of application and continue until the death of the annuitant. In the case of a Deferred Annuity, the payment of annuity will begin on the date the annuitant reaches a specified age and continue until the death of the annuitant.

9. Annuitants are given the right, subject to certain conditions, to claim changes in their contracts.

10. Should events stipulated as reasons for the return of purchase money actually occur, such return is to be made according to prescribed conditions.

11. Provided a contract reserves the right for the purchaser or the annuitant to claim refund of premiums paid, such person may avail himself of a cash loan of not more than 50% of the premiums paid, provided that the sum is not less than ₹20 per contract or, if the proceeds are to be applied to the payment of the premium, a sum equal to one year's premiums.

12. Annuitants or purchasers are requested, before bringing a civil action against the Government in respect of their contracts, to submit their cases to the Post Office Life Insurance Committee of Inquiry.

13. A special account is established for the management of this business.

Improvements in 1939 I. Guaranteed Period System.

(A) A Guaranteed Life Annuities plan is newly added to the kinds of the old system. According to the contract of the new Guaranteed Life Annuities, the annuity shall be paid to the annuitant, as usual, as long as he lives and when he dies after the annuity began within the period specifically fixed as the guaranteed period of annuity the same amount of annuity shall be paid, during the last of the guaranteed period, to the bereaved who is given with the right of receiving the annuity continuously, or in case the annuitant dies before the annuity begins or at the cancellation of contract the purchase money shall be returned to the policy-holder

with the additional sum of compound interest at the rate of 2 per cent per annum. The new policy will protect the right of the policy-holder much further than in the cases of the old policies. The widows or the disabled men above 20 years of age may specially be benefited by the new plan.

(B) Kinds of the New Policy.

There are two kinds of the Guaranteed Life Annuities; one is Guaranteed Immediate Life Annuities, the guaranteed period of which begins on the date on which the contract becomes effective and continues either for the following 15 years or 20 years or 30 years; the other is Guaranteed Deferred Life Annuities, the guaranteed period begins on the date of the commencement of annuity and continues for the following 20 years, provided that the year of age in which annuity begins is fixed either at 50 or 55 or 65.

(C) Eligible Years of Age.

The years of age eligible for contracting Guaranteed Immediate Life Annuities are from 40 to 75 both inclusive in the case of the guaranteed period the duration of which extends over 15 years or 20 years, and widows or certain disabled men of the age from 20 to 40 only are eligible to such annuities in the case of the guaranteed period the duration of which extends over 30 years.

The years of age eligible for contracting Guaranteed Deferred Life Annuities are from 12 to 60, both inclusive.

(D) Amount to be Returned.

The return of the purchase money may be claimed only before the date of the commencement of annuity. The return shall be made as follows:

a. At the death of the annuitant the total amount of the purchase money may be returned with the additional sum of compound interest at the rate of 2 per cent per annum.

b. In the case of the surrender of or change in contract the same amount or 90 per cent of the amount mentioned in (a) above may be returned.

II. Special Returns of the Purchase Money to the Bereaved Family of the Annuitant Soldiers or Men Who were Killed or Died at Battles.

According to the provisions of the old Post Office Life Annuities Law annuities were paid regardless of the causes of death, i.e., whether or not the annuitants die either because of wounds or diseases at the time of services in war or emergency or on other

occasions. The new revised law gives a special privilege of receiving the return of the purchase money to the bereaved families of the annuitants who died in battles or in other services for national defence on or after July 7, 1937, as follows:

a. In the Case of the Contract with Provision for the Return of the Purchase Money; 90 per cent of the remaining sum of money, after the deduction of the amount receivable at the death of the annuitant according to the provision for the return of the purchase money, may specially be refunded.

b. In the Case of the Contract without Provision for the Return of the Purchase Money; 80 per cent of the amount of the purchase money may specially be returned. But, in the cases of the Guaranteed Immediate Life Annuity and the Guaranteed Deferred Life Annuity the annuity for which has already begun, 90 per cent of the remaining sum of the purchase money, after the deduction of the unpaid annuities due to the guaranteed period calculated according to the current value, may specially be returned.

III. Payment of Premiums at the Annuitant's Option.

Premiums are payable, as mentioned above, either in a single sum or by instalments. But, in the latter case, the years of payment extend for so long a period that a person may hesitate to enter the contract because of the uncertainty of his capacity of instalments in the coming years, whereas he is able to pay at once the amount corresponding to the instalments for some years, yet, at the same time, the money in hand is short for the single sum payment. To go between the two old ways of paying premiums, therefore, the new revised Law prescribes for a free-time payment of premiums "payable not at call but at any time when he has money," so that the annuitant may be able to pay any sum of money at convenient time on his policy and may at the same time increase the amount of annuity at his option.

Minor Points of Improvement.

(A) On the Restrictions of the Receiver of the Return of the Purchase Money.

The right for the purchaser or the annuitant to claim refund of premiums paid was extended to a person designated as "the receiver of the refund" other than the contractor or the an-

nuitant to whom the right was exclusively reserved according to the old law.

(B) Abrogation of one of the Contracts without Provision for the Return of the Purchase Money.

The contract of the Deferred Life Annuities without Provision for the Return of the Purchase Money has been rarely made, and the new contract of this kind was thought advisable not to be allowed any more.

(C) Refund of Premiums Paid on the Occasion of the Cancellation of Contract by Statute.

The cancellation of contract by statute was effected according to a similar principle with that of the Post Office Life Insurance. But the revised Law prescribes for refunding the total amount of premiums paid even on such occasion, provided that there was no important fault or ill-will on the part of the contractor.

(D) Surrender of the Right of Cancelling a Contract.

The number of the contractors who surrender the right of cancelling a contract for the purpose of protecting the annuitant is considerable. The heart of such action is by no means condemnable in view of the main principle of the life annuity system. And the revised Law recognises such action by a clear statement on the subject.

(E) Refund or Loan from Annuity and the Return of the Purchase Money.

Provided a contract reserves the right for the contractor to claim refund of premiums paid, such person may avail himself of a cash loan of not more than a fixed percentage of the premiums paid. But when the refund of the loan is delayed for many years the result may be detrimental to the benefit of both the annuitant and the Government. The revised Law, therefore, prescribes for refunding the loan by a deduction from the annuity to be paid and the return of the purchase money on the expiration of a fixed period of grace.

(F) Besides, further improvements are contemplated which are to be effected by the revisions in the associated Imperial Ordinance and Departmental Orders, especially by introducing a collective life annuity system on small instalments of premiums to provide for an easier contract for the operatives in factories and mines and lower clerks in commercial companies or shops.

Financial Year	Kind of Annuities	Surrenders			Cancellation of Contracts by Statutes		
		No.	Pre-miums	Amt. of Annuities	No.	Pre-miums	Amt. of Annuities
1937-38:	Immediate Annuities	—	—	—	—	—	—
	Deferred Annuities under the Single Premium Plan	1,072	232,837	54,717	—	—	—
	Deferred Annuities under the Instalment Premium Plan	3,591	116,415	373,215	1,846	58,785	228,159
1938-39:	Immediate Annuities	—	—	—	—	—	—
	Deferred Annuities under the Single Premium Plan	973	212,551	45,242	—	—	—
	Deferred Annuities under the Instalment Premium Plan	2,833	88,317	287,254	1,364	49,428	171,102

Financial Year	Kind of Annuities	Increase(+) or Decrease (-) from other Causes			Contracts In Force at the End of the Financial Year		
		No.	Pre-miums	Amt. of Annuities	No.	Pre-miums	Amt. of Annuities
		(In yen)					
1934-35:	Immediate Annuities	+186	+145,119	+ 10,681	28,473	32,702,495	2,549,518
	Deferred Annuities under the Single Premium Plan	- 79	-119,445	- 19,838	175,651	26,884,877	9,509,400
	Deferred Annuities under the Instalment Premium Plan	-152	-176,762	-342,460	104,101	4,080,244	13,438,320
1935-36:	Immediate Annuities	+159	+117,048	+ 8,430	33,649	37,467,100	2,870,204
	Deferred Annuities under the Single Premium Plan	- 88	-148,081	- 21,859	187,986	30,432,578	10,197,210
	Deferred Annuities under the Instalment Premium Plan	-104	-222,721	-489,983	113,678	4,563,170	14,400,008
1936-37:	Immediate Annuities	+214	+158,711	+ 11,446	41,590	45,871,199	3,426,841
	Deferred Annuities under the Single Premium Plan	-123	-152,189	- 23,784	202,947	36,550,934	11,287,778
	Deferred Annuities under the Instalment Premium Plan	-138	-191,429	-462,428	124,543	5,299,320	15,700,872
1937-38:	Immediate Annuities	+248	+233,075	+ 16,462	48,336	51,717,005	3,788,598
	Deferred Annuities under the Single Premium Plan	-124	-216,153	- 32,094	215,398	40,906,265	11,953,159
	Deferred Annuities under the Instalment Premium Plan	-144	-221,230	-457,541	130,732	5,676,556	16,280,552
1938-39:	Immediate Annuities	+196	+ 75,763	+ 2,578	57,642	59,538,532	4,274,597
	Deferred Annuities under the Single						

Financial Year	Kind of Annuities	Increase(+) or Decrease (-) from other Causes			Contracts In Force at the End of the Financial Year		
		No.	Pre-miums	Amt. of Annuities	No.	Pre-miums	Amt. of Annuities
		(In yen)					
	Premium Plan	-140	-212,991	- 29,570	230,143	46,868,740	12,858,498
	Deferred Annuities under the Instalment Premium Plan	-152	-208,164	-404,368	136,022	6,130,471	16,834,680

Note: Premiums for the Deferred Annuities under the Instalment Premium Plan indicate the amount of yearly payment.

LOANS AND INVESTMENTS OF THE P.O.L.I. FUND

At the end of March, each year

	(In yen)			
	1935	1936	1937	1938
Free lodging houses	409,657	392,888	342,096	116,952
Cheap eating houses	32,608	—	27,249	24,375
Public markets	4,928,921	4,891,584	5,114,616	4,161,926
Services for lowering cost of living	332,281	324,537	308,350	27,573
Medical service work	1,105,803	1,184,925	1,253,298	1,126,084
Maternity hospitals	228,152	210,292	199,355	167,671
Public tuberculosis Sanatoriums	922,710	880,623	827,641	38,525
Labor exchanges	206,314	166,095	151,041	73,467
Public pawn shops	1,231,910	1,055,682	888,106	587,712
Day nurseries	193,680	25,489	1,591	—
Public bath-houses	101,760	48,449	69,166	61,114
Establishment and maintenance of peasant farmers	124,294,493	138,838,315	147,658,067	158,859,424
Local improvement and adjustment of boundaries	1,852,775	1,082,016	1,051,340	43,466
Petty amount industrial fund	127,561	146,926	167,196	141,224
Building schemes and private dwelling-houses	6,303,541	5,874,791	5,029,595	4,166,330
Epidemic hospitals	1,754,615	1,554,199	1,700,892	1,426,019
Sewerage	11,347,278	12,483,759	11,748,167	3,726,603
Garbage equipment	446,484	366,163	265,947	327,927
Cooperative use of farm tools	1,244,861	874,265	650,299	708,161
Primary schools	13,914,558	18,185,328	31,404,025	36,913,541
Young People's schools	76,308	49,148	197,861	329,653
Public hospitals	549,348	889,955	1,010,235	1,818,798
Water-works	8,421,714	18,400,387	23,143,561	27,246,595
Cooperative equipment for aquatic industry	1,179,282	1,552,721	1,059,459	970,718
Adjustment of arable lands	122,369	658,703	658,070	656,866
Office buildings in cities, towns and villages	246,682	935,171	1,529,688	1,665,639
Advance against the insurance policies	107,977,639	120,798,612	136,276,941	146,710,744
Total including others	294,944,061	363,980,582	418,425,108	456,077,762
Investments in Government bonds	140,585,131	161,422,150	205,086,000	257,558,900
Investments against other securities	406,895,647	460,311,791	508,320,000	170,700,404
Deposits at the Deposits Bureau	37,315,003	13,128,503	925,000	6,377,285
Cash on hand	475,000	1,480,600	1,253,000	1,076,713
Grand total including others	881,076,864	1,006,138,063	1,142,178,000	1,298,848,403

Loans and Investments of the P.O.L.I. Fund in 1939

(In ¥1,000)

	At the End of March 1939	At the End of Dec. 1939
Public advances	356,324	375,672
Advance against the insurance policies	148,212	144,819
Investments in Government bonds	315,867	389,630
Investments in Local Government bonds	605,508	674,909
Deposits at the Deposits Bureau	3,131	21,373
Short term investments	32,436	28,967
Cash on hand	1,773	—
Grand total including others	1,463,252	1,645,329

State Live-Stock Insurance

The live-stock insurance business is making steady progress. In March 1930 there were only 6 societies engaged in the live-stock insurance business, and

only 1,304 head were insured for an aggregate amount of ¥127,622. The amount increased to ¥27,423,891 in March 1935 and to ¥54,918,408 in March 1938. The following shows the business results of the last 5 years:

LIVE-STOCK INSURANCE

March of	Insurance Societies	Insured Animals	Insured Amount	Premiums Received (In yen)	Claims Paid
1935	241	367,542	27,423,891	642,961	365,603
1936	248	419,951	32,146,253	767,502	436,071
1937	255	503,959	39,790,494	935,107	582,154
1938	263	502,642	43,340,131	1,021,255	635,733
1939	270	565,279	54,918,408	1,332,571	702,483

Classified Between Horses and Cattle

March of	Insured Number of Animals	Insured Amount	Premiums
1935:			
Cattle	238,990	18,174,512	323,922
Horses	130,602	9,417,976	323,620
1936:			
Cattle	279,693	22,134,347	404,189
Horses	142,601	10,206,922	369,187
1937:			
Cattle	353,595	28,822,938	590,920
Horses	153,501	11,244,365	412,501
1938:			
Cattle	327,768	31,981,159	599,770
Horses	135,132	11,831,260	434,869
1939:			
Cattle	423,909	39,758,807	761,265
Horses	144,597	15,501,809	581,928

State Health Insurance

On March 31, 1936, the number of laborers holding policies in the State Health Insurance was 3,043,934, an increase of 717,240 as compared with the previous year. Of the total, 3,026,650 were compulsorily insured; the number

of contracts under Government control was 2,096,657 as against 947,277 of contracts under the control of 370 health insurance associations.

In 1936-37, the amount paid out to the beneficiaries reached ¥45,882,742 for 10,848,429 cases. For full particulars figures follow:

HEALTH INSURANCE

March of	Total	Persons Insured Compulsorily	Persons Insured Voluntarily	Persons Insured in Continuation Voluntarily
1933	1,720,199	1,684,509	35,530	160
1934	2,001,481	1,965,026	36,333	122
1935	2,328,694	2,306,322	20,247	125
1936	3,043,934	3,026,650	17,098	186
1937	3,451,470	3,446,696	4,652	122

Under Government Control

March of	Total	Persons Insured Compulsorily	Persons Insured Voluntarily	Persons Insured in Continuation Voluntarily
1933	1,122,141	1,117,478	4,503	160
1934	1,294,926	1,290,439	4,365	122
1935	1,503,550	1,497,075	6,350	125
1936	2,096,657	2,092,697	3,774	186
1937	2,346,637	2,341,863	4,652	122

Under Control of Health Insurance Associations

March of	Number of Associations	Total	Persons Insured Compulsorily	Persons Insured Voluntarily	Persons Insured in Continuation Voluntarily
1933	347	598,058	567,031	31,027	—
1934	345	706,555	674,587	31,968	—
1935	349	823,144	809,247	13,897	—
1936	370	947,277	933,953	13,324	—
1937	379	1,104,833	1,104,833	—	—

Premiums Collected and Insured Money Paid Out

During	Total		Under Government Control		Under Control of Health Insurance Associations	
	Premium	Insured Money Paid Out	Premium	Insured Money Paid Out	Premium	Insured Money Paid Out
1932-33	26,119,521	23,764,305	15,177,291	13,648,413	10,942,230	10,115,892
1933-34	29,304,218	26,636,928	17,370,322	15,218,077	11,933,896	11,418,851
1934-35	34,849,101	31,185,992	20,421,257	17,697,443	14,427,844	13,818,780
1935-36	46,588,307	41,633,545	29,119,041	24,814,765	17,469,266	16,818,780
1936-37	54,260,945	45,882,742	33,455,029	26,868,160	20,805,916	19,014,582

STATE FORESTRY FIRE INSURANCE

Contracts in Force

At the End of March	Number	Area (In cho)	Claims (In yen)
1938	5,543	53,585.22	6,137,517.94
1939	19,420	122,398.31	14,360,003.26

Increase of Contracts

In the Fiscal Year	Number	Total Area (In cho)	Claims (In yen)
1937-8	5,543	53,629.67	6,141,695.00
1938-9	15,545	95,082.14	11,088,319.31

In the Fiscal Year	Premiums Received	Claims Paid Out
1937-8	36,040.63	—
1938-9	87,699.78	2,865,833.99

STATE FISHING VESSEL INSURANCE

Year	No. of Vessels Insured	Tonnage (In ton)	Value of Vessels (In yen)	Amount Insured	Premiums Received
1937	594	16,437.55	6,390,216.50	2,968,894.00	79,402.47
1938	4,912	111,822.13	51,249,147.00	20,107,431.00	505,351.83

Year	Re-insurance	Premiums Received for Re-insurance
1937	2,078,225.80	49,895.96
1938	14,075,201.70	322,990.66

Year	Number of Cases	Amount of Damages (In yen)	Claims Paid	Claims Paid for Re-insurance
1937	6	677.76	593.69	415.57
1938	59	307,326.73	129,354.05	90,547.74

Insurance in 1938 and 1939

Since the outbreak of the China Affair in July 1937, life insurance companies have been experiencing difficulties in connection with payments of insurance money to the war dead and a decrease in yields from the operation of their assets. The situation showed no improvement in 1938, but on the contrary witnessed a further aggravation.

In view of the prevailing situation, the Ministry of Commerce and Industry advised the life insurance companies to make another reduction in their dividends to the insured and granted them special facilities to settle their accounts in order to stabilize their business conditions. The companies, on their part, made strenuous efforts to cut down their operating expenses, some of them even starting a new form of life insurance to spread out their costs. Despite difficulties of management the companies succeeded in selling more policies in 1938 than in the previous year. The increase in the number and value of life insurance policies was due to the heavy Government payments and the nation-wide thrift drive in connection with the China Affair. The concentration of life insurance business with the larger companies was further ac-

centuated, to the detriment of the smaller companies, especially severe being the pressure from the Post Office Insurance business, which was authorized by the Government to increase its maximum insurance funds.

The financial year 1938-9 also witnessed amendments of the Insurance Business Law, which not only authorized the Government to exercise stricter control over the insurance business, but also organized new forms of insurance, such as National Health Insurance, Salaried and Salesmen's Insurance and Seamen's Insurance.

Investments in Securities Investments in securities continued to play an important part in the disposition of the assets of the 32 Japanese life insurance companies in 1938, over 80 per cent of the ¥335,000,000 increase in their assets being accounted for in this way. The increase in advances, which had been so prevalent during the past several years, was checked in 1938, partly by the Capital Adjustment Law and partly by the sudden appreciation of real estate, on the security of which the companies had been making large advances. There was, however, no change in the sustained increase in advances with securities as collaterals. The increase in deposits may be primarily due to seasonal factors but partly may be attributed to the in-

creased funds kept on hand by the life insurance companies to meet the increased number of claims for the war dead.

Holdings of Government Bonds In accordance with the request of the Government to the Life Insurance Association for its co-operation in facilitating the absorption of the heavy issues of Government bonds in connection with the China Affair, the life insurance companies, in August 1937, agreed, first, that more than 25 per cent of the increase of their assets during the latter half of 1937 should be assigned to the purchase of Government bonds, and second, that the above percentage of holdings of Government bonds be maintained. Further increases took place in 1938 and 1939 to meet the wishes of the Ministry of Commerce and Industry, the Life Insurance Association on July 8, 1938 deciding, first, that more than one-third of the increase in the assets of its member companies in 1938 be earmarked for the purchase of Government bonds, and second, that those member companies whose holdings of Government bonds did not amount to 10 per cent of their liquid assets should purchase Government bonds to that percentage. As a result of this decision the life insurance companies' holdings of Government bonds witnessed a phenomenal increase in 1938 and 1939.

Revision of the Insurance Business Law The Ministry of Commerce and Industry in November 1937, appointed a commission on the revision of the Insurance Business Law under the chairmanship of the Minister of Commerce and Industry. After careful deliberation the commission submitted recommendations to the Minister of Commerce and Industry in November 1938. In accordance with these recommendations the Ministry drafted a bill amending the Insurance Business Law. On February 21, 1939 the bill was introduced into the 74th session of the Imperial Diet, was approved on March 19, to become effective on April 1 and promulgated in the Official Gazette on March 28 as Law No. 41.

The Insurance Business Law enacted in 1897 remained in force with no more than slight amendments for more than forty years. But with the remarkable developments in the insurance business during that time, it became totally inadequate to meet modern conditions. A wholesale revision of the Act was called

for, especially as it had become necessary that the Government should exercise effective control over the business as well as extend full protection to the policy holders. The most debated points of the revision were the Government's supervision of the insurance business and its right to intervene on the conduct of the business and the custody of the assets of an insurance company; and the amalgamation of insurance companies and transfer of insurance contracts. The Ministry of Commerce and Industry, however, has announced that the Government has no intention of invoking immediately those stipulations in the revised law which will aggravate the business of a life insurance company since it may cause serious inconvenience to the policy holders.

National Health Insurance The National Health Insurance Bill, zealously advocated by the Social Bureau in the Home Office for many years, was introduced into the Diet in 1937. The bill passed the plenary session of the House of Representatives and the committee stage of the House of Peers, but failed to be enacted because of the dissolution of the Diet. In 1938, the bill was again introduced as a social measure into the 73rd session of the Diet by the newly-formed Welfare Ministry, and as drafted by the Government, was passed by both the House of Representatives and the House of Peers. It was promulgated in the Official Gazette on April 1 as Law No. 60 and enacted on July 1 by virtue of Imperial Ordinance No. 433, promulgated on June 21.

The national health insurance system, thus instituted is aimed at maintaining the standard of living of the nation and improving the national physical standard, by paying benefits in cases of diseases, injury, child birth or death, in the spirit of mutual aid.

Salaried and Salesmen's Health Insurance The Salaried and Salesmen's Health Insurance Bill was submitted to the 74th session of the Imperial Diet in March 1939, and approved as drafted by the Government. The law was enforced from April 1, 1940. (See p. 406, the Japan Year Book, 1939-40.)

Seamen's Insurance Seamen's Insurance is not only health insurance but also a scheme of old-age pensions, and disability and life insurance. The Seamen's Insurance Bill was approved by the 74th session of the Diet in 1939.

After one year for preliminary preparations, the bill was enforced from April 1, 1940.

Establishment of Life Insurance Welfare Society On August 22, 1938 the Ministry of Commerce and Industry together with the Welfare Ministry formally communicated to the Life Insurance Association its desire for the establishment and maintenance of a welfare organization by the life insurance companies. Accordingly, the Life Insur-

ance Association, comprising 32 life insurance companies and one conscription insurance company, organized the Life Insurance Welfare Society, a public service corporation, which was chartered by the Ministry of Commerce and Industry and the Welfare Ministry on December 16, 1938. The Society was endowed with half a million yen subscribed by the 33 member companies of the Life Insurance Association. It started social welfare work in 1939.

CHAPTER XIII

AGRICULTURE

Farm Households and Arable Lands

Farm Households Number of farm households totalled 5,519,480 at the end of 1938, which is 40% of the total number of households in Japan proper. Comparison with that of the previous year indicates a decrease of 22,399 or 0.4 per cent.

As classified into those engaged wholly or in part in agriculture, and figure consists of 3,704,316 of the former, and 1,815,164 of the latter.

Farm households cultivating their own lands numbered 1,695,884; the number of tenant-farmers and households cultivating their own lands together with those leased being 1,462,276 and 2,361,320 respectively.

Classified by size of area cultivated, farm-households cultivating less than 0.50 cho number 1,869,752, a decrease of 10,223 from the previous year, those between 0.50 and 0.99 cho, 1,806,751, a decrease of 107,267, between 0.99 and 1.99 cho 1,329,216, an increase of 66,402 over the previous year, and those over 1.99 cho, 513,761, a decrease of 8,304.

Owners of Arable-lands The number of owners of arable-lands totalled 5,089,348 at the end of 1938 decreasing from that of the previous year by 5,262. When classified according to area owned, those who own less than 0.50 cho

number 2,475,141, and those owing from 0.50 cho to under 0.99 cho number 1,307,577. In this way the greater the areas, the less number of owners, and so those owing 50 cho and over are only 3,201 (or 0.1 per cent) in number. In the light of the tendency during the previous 10 years general increase was traceable in the total number, but it turned to decrease in 1938, while by reference to the tendency of number fluctuation according to area owned, those under 3 cho are pursuing a steady upward course, those owning more than 3 cho showing the reverse trend.

Area of Arable-lands Area of arable-lands at the end of 1938 was computed at 6,078,282 cho, occupying 15% of the total area of Japan proper. This figure consists of 3,208,254 cho (53%) of rice-fields and 2,870,028 cho (47%) of up-land-farms. Comparison of these figures with those of the previous year indicates decrease of 9,674 (3%) in the former and decrease of 10,478 cho (0.3%) in the latter.

Classified into those cultivated by owners of lands and those by tenant-farmers, area cultivated by the former was 3,248,301 cho (54%), decrease of 17,744 cho (0.5%), the latter being 2,829,981 cho (46%), decrease of 2,508 cho (0.8%), both as against the figures of the previous year.

FARM HOUSEHOLDS AND ARABLE LANDS IN JAPAN PROPER

(Compiled by the Ministry of Agriculture and Forestry)

FARM HOUSEHOLDS

Year (At the Year End)	1934	1935	1936	1937	1938
Total	5,617,486	5,610,607	5,597,465	5,574,879	5,519,480
Households principally engaged in agriculture	4,144,218	4,164,035	4,176,422	4,180,672	3,704,316
Households partly engaged in agriculture	1,473,268	1,446,572	1,421,043	1,394,207	1,815,164
Classified by the mode of tenure of the lands					
Households cultivating their own lands	1,740,219	1,732,086	1,731,139	1,733,997	1,695,884
Tenant-farmers	1,508,319	1,518,181	1,517,701	1,500,994	1,462,276

Year (At the Year End)	1934	1935	1936	1937	1938
Household cultivating their own lands together with leased land	2,368,948	2,360,340	2,348,625	2,339,888	2,361,320
Classified by the size of agricultural area under operation					
Under 0.5 cho	1,918,507	1,908,642	1,896,357	1,884,575	1,869,752
0.50 cho—0.99 cho	1,921,420	1,919,073	1,914,018	1,905,425	1,896,751
0.99 " —1.99 "	1,250,818	1,254,817	1,262,106	1,262,814	1,329,216
1.99 " —2.99 "	321,088	322,583	320,615	318,182	314,004
2.99 " —4.99 "	129,209	127,920	126,540	125,539	123,302
4.99 cho and over	76,444	77,572	77,829	78,344	76,455

Excluding owners of arable-lands not engaged in cultivation.

OWNERS OF ARABLE-LANDS

Year (At the Year End)	1934	1935	1936	1937	1938
Total	5,096,195	5,147,412	5,150,220	5,141,968	5,089,348
Under 0.50 cho	2,519,322	2,555,398	2,556,630	2,550,259	2,475,141
0.50 cho—0.99 "	1,289,449	1,304,482	1,305,400	1,304,924	1,307,577
0.99 " —2.99 "	900,677	905,956	909,933	909,035	927,548
2.99 " —4.99 "	223,977	221,245	218,851	219,346	221,994
4.99 " —9.99 "	112,681	111,128	110,549	109,799	109,973
9.99 " —49.99 "	46,542	45,788	45,580	45,353	43,914
49.99 cho and over	3,547	3,415	3,277	3,252	3,201

ARABLE LANDS

(In cho)

Year (At the Year End)	1934	1935	1936	1937	1938
Total	6,037,645	6,058,753	6,085,887	6,098,435	6,078,282
Cultivated by owners of the lands	3,199,018	3,220,465	3,253,720	3,266,045	3,248,301
Cultivated by tenant-farmers	2,838,627	2,838,288	2,832,167	2,832,389	2,829,981
Rice-fields	3,218,440	3,219,326	3,217,686	3,217,929	3,208,254
Cultivated by owners of the lands	1,505,964	1,517,113	1,526,760	1,538,051	1,527,149
Cultivated by tenant farmers	1,712,476	1,702,213	1,690,926	1,679,877	1,681,105
Upland-farms	2,819,205	2,839,427	2,868,201	2,880,506	2,870,028
Cultivated by owners of the lands	1,693,054	1,703,352	1,726,960	1,727,994	1,721,152
Cultivated by tenant-farmers	1,126,151	1,136,075	1,141,242	1,152,512	1,148,875

According to a tentative report of the Ministry of Agriculture and Forestry the total area of arable lands in 1939 was 6,078,700 cho, including 3,208,700 cho of rice-fields and 2,870,000 of upland-farms, a slight increase of 500 cho as compared with 1938.

Rise in Land Value

The value of arable lands continued to go up in 1939, the average percentage of rise being 11.9 per cent, unprecedented since the years of the World War. The reasons for the rise are the rise in prices of agricultural products, the reduction of taxes on farm lands because of the revisions in the rates of rent, the decrease of tenant disputes on ac-

count of the emergency, and the increase of incomes of farmers.

PRICES OF MIDDLE CLASS FARM LANDS IN 1939

(In yen per tan)

	Price	Rise over the previous year	Pct. of Rise
Rice field			
National average	576	57	10.9
Lowest (Hokkaido)	109	12	12.3
Highest (Kyushu)	626	47	8.1
Upland farm			
National average	343	39	12.8
Lowest (Hokkaido)	57	7	12.3
Highest (Tokyo)	463	37	8.6

Value of Production

The total value of production by 5,519,480 farm-households in 1938 amounted to ¥4,604,256,890 (¥834 per household) including farms products, minor industries, live stock, cocoons, raw silk and forestry production. (For details of the last three items see following chapters.)

PRODUCTION BY FARMERS IN 1938

(In yen)

Rice	2,172,706,876
Barley and Wheat	405,193,966
Vegetables	287,803,120
Fruits	115,103,371
Sweet potatoes	100,012,464
Other agricultural products	345,217,171
Live-stock production	300,526,477
Cocoons	346,034,764
Wood and bamboo	531,659,181
Total	4,604,256,890

1939 Production According to a tentative report published by the Ministry of Agriculture and Forestry at the end of March 1940, the total value of agricultural production in 1939 (excluding live-stock and wood and bamboo) amounted to ¥5,614,000,000, an increase of ¥1,842,000,000 or 48.8 per cent over the previous year, as detailed below:

INCREASE IN THE VALUE OF PRODUCTION IN 1939 OVER 1938

(In millions of yen)

Crop	1938		1939		Increase	
	Amount	Percentage	Amount	Percentage	Amount	Percentage
Rice	2,173	2.764	701	32.3		
Barley and Wheat	405	604	199	49.1		
Cocoons	346	883	537	155.2		
Others	848	1,253	405	47.8		
Total	3,772	5,614	1,842	48.8		

Note: "Others" does not include live-stock and wood and bamboo given in the preceding table.

VALUE OF PRODUCTION BY FARMERS IN JAPAN PROPER

(as compared with that of factories)

(Compiled by the Ministry of Agriculture and Forestry)

Year	Production by Farmers		Production in Factories	
	Amount (In ¥1,000)	Index No.	Amount (In ¥1,000)	Index No.
1930	2,787,856	56	5,962,810	86
1931	2,373,369	47	5,174,579	75
1932	2,750,221	55	5,982,469	86
1933	3,390,178	68	7,871,364	114
1934	3,120,826	62	9,390,060	136
1935	3,589,188	71	10,836,894	156
1936	4,125,096	82	12,257,588	177
1937	4,670,066	93	16,356,176	237
1938	4,876,674	97	19,667,219	284

Note: Production by farmers includes forestry and fishery products.

Rice Statistics

Supply and Demand of Rice The

supply and demand of rice in Japan proper for the past 10 years were as follows:

SUPPLY

(In koku)

Rice Year	Brought over from the Previous Year	Production of the Year Before	Imports including those from Territories	Total
1930	7,027,557	59,557,694	8,602,411	75,187,662
1931	5,719,241	66,875,535	11,521,639	84,116,415
1932	9,140,247	55,215,263	11,603,648	75,959,158
1933	8,907,430	60,390,098	12,747,714	82,045,242

Rice Year	Brought over from the Previous Year	Production of the Year Before	Imports including those from Territories	Total
1934	9,007,598	70,829,117	14,251,095	94,087,810
1935	16,430,872	51,840,182	13,020,173	81,291,227
1936	9,936,142	57,456,976	14,204,449	81,597,567
1937	8,006,500	67,339,699	11,879,389	87,225,588
1938	7,511,728	66,319,764	15,271,388	89,102,880
1939	8,493,300	65,869,092	9,780,412	84,142,804

DEMAND

	Exports including those to Territories	Carried forward to Next Year	Consumption	Total Population in Japan Proper	Per Capita Consumption
1930	558,367	5,719,241	68,910,054	64,051,000	1.076
1931	1,997,925	9,140,247	72,978,243	64,993,000	1.123
1932	677,652	8,907,430	66,374,076	65,904,000	1.007
1933	623,747	9,007,598	72,413,897	66,920,000	1.082
1934	936,785	16,430,872	76,720,153	68,805,000	1.131
1935	802,257	9,936,142	70,552,828	69,757,000	1.026
1936	557,048	8,006,500	73,034,019	70,763,000	1.047
1937	647,642	7,511,728	79,066,218	71,787,000	1.117
1938	587,185	8,493,300	80,022,395	72,827,000	1.115
1939	761,511	4,061,353	79,319,940	72,827,000	1.089

The rice year begins with November and ends with October of the following year, and hence the production of the year 1930 represents the crop in the autumn of 1929.

RICE CONDITIONS IN CHOSEN

Year	Production in the Previous Year	Exports to Japan Proper (In 1,000 koku)	Consumption
1931	19,183	8,409	10,537
1932	15,873	7,569	8,392
1933	16,346	7,972	8,508
1934	18,192	9,425	8,710
1935	16,554	8,856	8,134
1936	17,884	9,460	8,508
1937	19,410	7,161	12,579
1938	26,797	10,702	15,787
1939	24,139	6,051	17,647

RICE CONDITIONS IN TAIWAN

Year	Production in the previous Year	Exports to Japan Proper (In 1,000 koku)	Consumption
1931	7,516	2,656	4,874
1932	8,072	3,338	4,676
1933	8,666	4,118	4,782
1934	9,088	5,045	4,270
1935	9,122	4,491	4,201
1936	9,558	4,787	4,634
1937	9,233	4,841	4,590
1938	9,816	4,800	4,832
1939	8,962	4,001	5,093

UTILIZATION OF RICE

According to Purposes, in Japan Proper (From November 1, 1937 to October 31, 1938) (In 1,000 koku)

Used for	Amount used	Percentage
Seeding	844	1.05
The table	69,679	87.07
Saké brewery	3,874	4.84
Making "mochi" (rice cake)	3,754	4.69
Making Japanese sauce etc.	554	0.69
Making Japanese confectionaries and jelly	1,032	1.29
Paste	58	0.07
Others	227	0.28
Total	80,022	100.00

Rice in 1939

Price of Rice The standard price for 1939, or for rice cropped in 1938, was fixed at ¥27.30 minimum and ¥43.00 maximum per koku of unhulled rice in consonance with the rise of prices in general. The actual maximum quotation went up as high as ¥44.10 in December

in the Tokyo Exchange and the average for the year was ¥37.96, a rise of ¥2.19 as compared with the previous year.

The standard prices for the years fixed according to Articles 2 and 3 of the detailed regulation anent the Rice Control Law of 1933 have been as follows:

STANDARD PRICES OF RICE

(In yen, Per koku, Unhulled Rice)

Date of Announcement	Standard Price Minimum	Standard Price Maximum	Price adjusted by the general prices of other Commodities
Nov. 1, 1933	22.70	30.50	25.26
Dec. 19, "	23.30	30.50	24.41
Dec. 21, 1934	24.30	31.50	24.88
Dec. 21, 1935	24.80	33.20	27.23
Dec. 21, 1936	24.90	33.90	29.09
Dec. 23, 1937	27.30	35.40	33.67
Dec. 22, 1938	29.90	35.40	38.26
Aug. 26, 1939	"	38.00	—
Nov. 6, "	"	43.00	—

Rice Crops in 1939 Rice crop in 1939 was the highest next only to the record crop of 70,829,117 koku of 1933 and went over the planned goal of increased harvest, that had been fixed at 67,460,000, by 1,530,000 koku or more than 2.2%.

The 1939 crop reached 68,997,134 koku according to an announcement made by the Agriculture and Forestry Ministry. Compared with crop obtained in the previous year this showed an increase of 3,128,042 or 4.7% and in comparison with the average for the preceding five years it meant an advance of 7,231,991 koku or 11.7%. Farm area covered with rice plants involved 3,192,338 chobu and the national average of crop per tan or 1/10 chobu amounted to 2.161

koku, a koku being equivalent of 5.11902 U.S. bushels.

In western Japan precipitation was wanting around the time for transplanting young rice shoots and water was insufficient, thus either delaying the transplanting work or entirely making it impossible. Furthermore, drought continued afterward with available water growing more and more scarce. In that region the plants died after having been transplanted or else growing very poorly, if at all.

In middle Japan and east of it, however, temperature generally stayed high and sunny days were many, contributing substantially toward blooming and bearing.

As a result, the first estimate of crop taken on September 20 reported 64,679,120 koku for the nation. Though later storms and flooding affected some sections of the country, the nation taken as a whole experienced generally favorable weather. In consequence the second estimate as at the end of October gave a figure with an increase of 601,540 koku or 0.9% over the first one. Weather further continued to be good and after the reaping the actual crop increased moreover by 3,716,747 koku or 5.7% over the last estimate.

The comparison of the last 6 years is as follows:

RICE CROP IN 1934-1939

in Japan Proper

	Area Planted in cho	Rice Crop in koku
1934	3,172,810.6	51,840,182
1935	3,204,178.9	57,456,976
1936	3,206,963.0	67,339,699
1937	3,217,051.5	66,319,764
1938	3,217,051.5	66,319,764
Averages For		
1934-1938	3,204,346.7	61,765,143
1939	3,192,338.0	68,997,134

VALUE OF CEREAL PRODUCTION IN JAPAN PROPER

(Area in cho, Value in yen)

Total	1935	1936	1937	1938
Area	5,051,186	5,082,713	5,095,489	5,116,801
Production (Value)	1,908,806,000	2,226,310,331	2,500,520,303	2,615,554,064
Rice				
Area	3,204,179	3,206,963	3,217,051	3,220,729
Production	1,611,431,932	1,865,268,551	2,071,889,318	2,172,706,376

	1935	1936	1937	1938
Total				
Wheat				
Area	663,868	688,959	724,602	725,101
Production	131,115,603	173,215,048	210,937,714	202,001,262
Oats				
Area	122,297	125,557	122,594	137,371
Production	9,664,987	12,600,640	17,224,780	22,477,540
Barley				
Area	341,948	340,773	330,182	357,609
Production	57,100,667	60,871,161	75,185,874	87,037,171
Rye				
Area	439,714	439,570	429,494	414,812
Production	77,303,560	84,165,931	100,130,993	93,676,993
Other cereals				
Area	279,180	280,891	271,566	263,177
Production	22,189,000	30,189,000	34,151,624	33,654,722

Other Farm Productions

Leguminous Plants Area of leguminous plants in 1938 was 589,167 cho and the production was valued at ¥96,820,990. During the past decade the area planted has been pursuing a slow downward movement. Soya-beans and azuki (red) beans are predominant both in area and production. The area of plantation and the amount of production of these two articles in 1938 were as follows:

	(In cho)	(In koku)	(In yen)
Soya-beans	329,674	2,700,402	51,119,383
Azuki beans	102,997	676,695	16,800,777

Tuber and Root Crops Area cultivated with tuber and root crops in 1938 was 648,074 cho and the value realized from their production was ¥268,116,959 and both showed an increase as compared with preceding years. From the standpoint of area and production, sweet potatoes, 'dalkon' (giant radish), satoimo and potatoes are predominant.

	(In cho)	(In kan)	(In yen)
Sweet potatoes	281,832	1,008,534,280	100,012,464
Dalkon	108,366	640,017,604	53,102,510
Potatoes	161,558	492,816,846	50,967,490

Industrial Crops Area cultivated with industrial crops in 1938 amounted to 305,744 cho and the production was valued at ¥163,455,943.

Chief products are summarized below:

Tobacco	16,689,946 kan	¥52,688,009
Sugar cane	1,781,400,500 kin	13,700,712
Rapeseed	970,561 koku	20,657,416
Rushes	2,527,285 kan	12,053,519
Insecticide flowers	2,549,592 kan	8,214,032

Arum 15,296,744 kan 9,563,757

Vegetables Area under vegetables in 1938 was 215,304 cho and the value of the production was estimated at ¥141,765,285.

Chief products are given below:

	(In kan)	(In yen)
Water-melons	106,415,510	21,684,950
Tsukena	193,194,054	23,273,199
Egg-plants	111,622,847	19,903,347
Cucumbers	74,665,625	13,939,992
Negi (onion)	67,979,896	13,577,076
Pumpkins	83,150,059	12,359,011
Tomatoes	38,208,222	7,745,010

Fruits The production of fruits in 1938 was valued at ¥115,103,371, having increased by ¥22,988,869 as against the figure of the previous year.

Predominant are the following:

	(In kan)	(In yen)
Mandarin oranges	93,238,840	32,891,318
Persimmons	66,297,155	15,179,617
Japanese pears	43,268,583	14,671,363
Apples	49,226,420	22,396,377
Grapes	16,049,165	6,617,632

Tea Tea grown in 1938 was 14,591,264 kan in quantity and ¥29,218,850 in value. Review of the past decade indicates an unbroken rise in production as a whole, while fluctuations in values of production have been brought about by falling-off prices.

Livestock and Poultry (1) Horses. Horses at the end of 1938 numbered 1,431,920, consisting of 816,599 female and 615,321 male. Foals and horses died to the number of 127,516 and 27,218 respectively. The increase in num-

ber during the past decade has been very slow, often tending towards decline.

(2) Cattle. Cattle at the end of 1938 numbered 1,894,261 (female, 1,435,249, male, 459,012). Calves and cattle died numbered 313,994 and 18,219 respectively. The tendency of the past ten years was a steadily increasing one.

(3) Swine. Number of swine at the end of 1938 totalled 1,140,479. During the year, swine died or killed numbered 172,761. The raising of swine has been showing a sharp advance during the past decade, the number at the beginning of the decade being nearly doubled by the close of the same period.

(4) Sheep and Goats. Sheep and goats at the end of 1938 numbered 114,000 and 281,741 respectively, the former increasing as compared with the previous year, and the tendency during the past ten years has been towards increase.

Generally speaking, the raising of sheep and goats is still on quite a small scale in spite of this marked progress.

(5) Fowls. The total number of fowls at the end of 1938 was 48,395,452 (valued at ¥43,241,262). During the past ten years the number has increased by nearly 100 per cent.

Livestock Products (1) Milk. The quantity of milk obtained in 1938 amounted to 1,768,679 koku valued at ¥44,093,769. The number of cows milked was 107,878 at the year end.

(2) Meat and Animals Slaughtered. The number of slaughter-houses at the end of 1938 was 716 and number of animals slaughtered and the quantity of meat obtained were as follows:

Number of Animals Slaughtered

Horses	40,807
Cattle	365,581
Calves	34,967
Swine	1,217,988
Sheep	3,090
Goats	45,826
Total	1,708,250

Quantity of Meat Obtained

Horses	1,536,354
Cattle	18,520,232
Calves	453,975

Swine	16,307,673
Sheep	11,385
Goats	103,178
Total	36,932,797

(3) Dairy and Meat Products. Dairy production in 1938 amounted to 58,768,314 kin valued at ¥34,798,723. Meat products totalled 6,865,295 kin valued at ¥5,167,371.

(4) Eggs. Number of eggs obtained during the year ending June 1938 was as follows:

July 1937—June 1938

	Number	Value
Fowls'	3,471,839,022	¥113,495,566
Ducks'	12,466,623	450,181

Village Societies

Agricultural Associations Agricultural associations are organized by local administrative bodies for the improvement of the agricultural industry. In 1936 there were 11,212 city, town and village agricultural associations, 549 county agricultural associations, 47 prefectural agricultural associations and 1 Imperial Agricultural Association in Japan proper. The Imperial Agricultural Association (Teikoku Nō Kai) is the central organ or the federation of 47 prefectural associations. The membership consisted of 8,426,173 farmers. The total expenditure of these associations amounted to ¥30,860,119.

Co-operative Societies The co-operative societies of this country have developed from the older credit societies. The business of granting credits still forms the most important of the activities of the co-operative societies. There are at present about 15,000 of these societies throughout the country, which have a total membership of over 6,000,000. Of these institutions 13,700 are loan societies which are mostly located in agricultural villages, accommodating their members with industrial and economic funds and accepting deposits from their members and public organizations.

Of the 13,700 loan societies more than 749 are engaged only in supplying loans to members; but their number is gradually decreasing because the Government is, in line with a five-year co-operative expansion program, encouraging them to function as trading, purchasing and utilization associations as well.

VILLAGE CO-OPERATIVE SOCIETIES

Number of Co-operative Societies

(At the year end)

Societies	1923	1924	1925	1926	1927	1928
Credit	1,756	1,511	1,313	1,117	895	749
Trading	311	332	301	300	297	267
Purchasing	332	332	314	301	270	257
Utilization	316	306	298	286	243	238
Trading and purchasing	292	263	258	239	170	187
Trading and utilization	268	264	256	247	201	188
Purchasing and utilization	131	144	152	162	174	174
Trading, purchasing and utilization	490	496	518	492	412	470
Credit and trading	175	166	157	140	71	41
Credit and purchasing	1,370	1,056	760	504	219	136
Credit and utilization	106	96	82	84	75	49
Credit, trading and purchasing	2,718	2,361	1,952	1,560	988	797
Credit, trading and utilization	38	32	33	37	34	12
Credit, purchasing and utilization	286	248	204	160	101	83
Credit, trading, purchasing and utilization	6,062	7,206	8,430	9,831	10,362	11,071
Classified by the organization						
Limited liability	8,363	5,973	4,499	3,062	724	728
Unlimited liability	1,182	971	934	934	830	809
Guaranteed liability	5,106	7,871	9,595	11,464	12,958	13,791
Total	14,651	14,815	15,028	15,460	14,512	15,328

Operation of Co-operative Societies

(At the end of March)

(Amount in yen)

	1924	1925	1926	1927	1928
Number of societies investigated	13,446	13,616	13,864	14,140	13,743
Number of members	5,238,253	5,505,897	5,795,139	6,127,425	6,206,420
Capital					
Amount authorized	319,331,829	326,037,985	334,570,344	342,183,330	343,469,974
Amount paid up	243,968,997	250,856,520	259,996,044	263,540,430	264,759,483
Reserve fund	130,222,170	137,492,777	146,392,752	151,546,260	155,014,265
Loans	293,599,862	271,246,314	255,782,695	249,324,576	237,905,282
Credit societies					
Number of societies investigated	11,617	11,812	12,094	12,437	12,153
Number of members	4,140,448	4,261,000	4,494,000	4,785,662	4,914,655
Deposits	1,179,131,995	1,268,021,000	1,378,319,000	1,514,897,044	1,747,779,533
Advances	1,017,521,313	1,014,445,000	1,033,334,000	1,047,878,130	1,061,119,319
Trading societies					
Number of societies investigated	9,529	10,293	11,057	11,859	11,892
Number of members	3,536,261	3,857,000	4,199,000	4,624,881	4,692,671
Total amount of sales (for the year)	261,398,919	313,210,000	376,746,000	478,316,112	598,880,028
Purchasing societies					
Number of societies investigated	10,721	11,155	11,664	12,116	12,053

	1924	1925	1926	1927	1928
Number of members	3,811,395	4,108,000	4,374,000	4,879,540	4,937,494
Total amount of purchases (for the year)	155,091,976	196,126,000	249,296,000	281,541,238	353,868,062
Utilization societies					
Number of societies investigated	7,158	8,213	9,300	10,484	11,043
Number of members	2,835,943	3,308,000	3,822,000	4,378,065	4,652,454
Total amount of charges for utilization (for the year)	6,816,995	8,054,000	9,465,000	10,948,498	12,540,115

Village Cereal Warehouses At the time of the great crop failure which resulted from the unseasonably cold weather in the Tohoku or North-Eastern District in 1924, the Imperial House granted a large sum of money, in November of that same year, for instituting some permanent system of mutual relief and rehabilitation for the farmers in the district.

Accordingly the Government, in order to comply with the Imperial wishes, decided upon establishing and popularizing 'Go-Kura' or village warehouses for storing cereals against emergencies in those parts. It distributed an ag-

gregate sum of ¥1,636,800 for the 1924 and 1925 financial years to the prefectures in the district, where 1,209 old cereal warehouses were enlarged and renovated and as many as 4,921 new ones established.

A warehouse association has been formed in each village and each farmer-member of the association is required to store his crop of any particular year by the end of December. The aim is to complete full stocks of cereals in about five years. There are many villages where special community farms for the purpose are cultivated either by members themselves or by tenants.

NUMBER OF VILLAGE WAREHOUSES

	Total	Owners		Capacity	
		Public	Federation	For Cereals	For Cocoons
		Bodies		(bales)	(kan)
1924	6,834	6,724	110	23,540,000	4,182,000
1925	7,939	7,779	160	27,992,000	4,107,000
1926	8,513	8,304	209	30,430,000	4,541,000
1927	8,811	8,516	293	31,712,958	4,352,784
1928	9,313	8,943	370	33,512,943	4,534,446

Agriculture in 1928 and 1929

Since the Rice Control Law and the Autonomous Rice Control Law were enacted, the rice market has lost much of its speculative attraction. On the other hand, the autonomous control of rice, systematically enforced by the farming villages and depending on the assistance of the co-operative societies in different parts of the country, has enabled the farmers to free from possible losses as a sequel to fluctuations in the rice price. In consequence, the rice price has remained steady and subject to fewer fluctuations throughout the year and has deprived speculators

of any chance of activity.

The shortly period from July 1927, when the China hostilities broke out, to early in 1928 witnessed some fluctuations in the rice market, which were caused by a shortage of labor, a hitch in the transport system and purchases of rice by the Government for military use. But the Government soon intervened in the problems of marketing, fearing that speculative operations in rice may affect the prices of other commodities and cause social unrest.

A survey of the transactions on the Dojima Rice Exchange, Osaka, the largest and a representative establishment in this country, shows a marked

decrease in the volume of rice transacted in 1938 over that of 1932, the year before the Rice Control Law was enacted. The volume of transactions in 1938 decreased by 49.1 per cent from the previous year and the total amount of

transaction commissions decreased by 45.1 per cent. Compared with 1932, the volume of transactions and the total amount of commissions registered a decrease of 82.6 per cent and 74.6 per cent, respectively.

VOLUME OF TRANSACTIONS AND TOTAL AMOUNT OF TRANSACTION COMMISSIONS ON THE DOJIMA RICE EXCHANGE, OSAKA

(From 1936 to 1938)

	Transactions (In 1,000 koku)	Comparison with Previous Year (In percentage)	Commissions (In yen)	Comparison with Previous Year (In percentage)
1932	81,468.2		953,786	
1936	29,600.2	—	461,341	—
1937	27,839.2	(—) 5.8	454,688	(—) 1.4
1938	14,195.2	(—) 49.1	249,746	(—) 45.1

N.B. Figures marked with (—) denote decreases.

Affected by the steady expansion of the Sino-Japanese hostilities, the rice price in 1937 took a sharp upward turn in concert with an appreciation of other commodities, despite a rich crop. In 1938, however, the low price policy vigorously and systematically pursued by the Government proved a powerful damper on the speculation fever, while the Japan Rice Company, projected by the Government to replace the rice exchanges in this country, caused the exchange members to lose their enthusiasm; thus, 1938 was the duller year for the rice exchanges throughout the country in the past thirty years. The fluctuations on the Dojima Rice Exchange, Osaka, registered only ¥2.45 against ¥5.39 of the previous year; the highest quotation was ¥36.40 per koku in December and the lowest, ¥33.05 per koku in January.

The year 1938 was so uneventful from the view point of fluctuations in the rice price that the average monthly fluctuation was only 83 sen. The greatest fluctuation occurred in April, when ¥1.21 was registered and the smallest, in December with 50 sen. The fluctuations in 1938 remained small because of the effective measure taken by the Government for the control of prices, despite a series of natural disasters which adversely affected the rice crop.

Movement to Ban Polished Rice In the nation-wide campaign for the conservation of rice, the staple food of the people, a movement was started in 1938 to ban polished rice. This was backed by dietitians who claimed that

unpolished rice or even rice 70 or 80 per cent polished is far more nourishing than 100 per cent polished rice. From the economic standpoint it was upheld that 100 per cent polishing would result in an excessive loss of rice. The old movement for using whole rice or rice with embryo buds also gained momentum. The matter was discussed in a Cabinet meeting on August 2, 1938, when Count Arima, the Minister of Agriculture and Forestry, proposed that a movement be encouraged for favoring 70 per cent polished instead of wholly polished rice. The year 1938, however, failed to witness any official decision on the matter.

1939 Cereal Crops—Exclusive of rice, which registered a 0.9% decrease from the previous year as mentioned elsewhere, agricultural production, on the whole, increased remarkably. Wheat crop reached 12,113,058 koku, an increase of 35%, barley 7,764,690 koku, an increase of 22.7% and naked barley, 6,729,696 koku, an increase of 31.6%. Moreover, owing to the simultaneous boom of prices of agricultural products, the income from productions suddenly increased.

The drought in Western Japan, which accounts for the decreased rice crop in Japan proper, together with the 40% decrease in the rice crop of Chosen gave rise to an important problem of rice shortage. Hence, it has been decided by virtue of the operation of the National General Mobilization Law to make the consumption of 70% polished rice coercive, to enforce restrictions on fer-

mented-rice and the compulsory purchasing system and to import foreign rice. In accordance with the Rice and Grain Distribution Control Bill, which was passed by the 74th session of the Diet, the Japan Rice and Grain Company was established on October 1.

With a view to enhance the maintenance of the agricultural productive power during this war period, the Government promulgated and exercised a plan aimed to increase the 1939 production rice by 4,000,000 koku, wheat by 1,500,000 koku, cocoons by 18,500,000 kan sweet potatoes by 19,000,000 kan, and potatoes by 23,000,000 kan. Of course, some parts of this plan was not fully accomplished, but considerable results were attained.

Moreover, in August a plan for 1940 has been decided upon to increase the domestic and foreign production, by which in comparison with the 1939 crop the domestic rice production is to be increased by 3,600,000 koku, colling for a crop of 71,000,000 koku; and an increase of 3,500,000 koku of wheat, aimed at a production of 13,000,000 koku.

The problem that will inevitably rise concerning the execution of the plan to increase production is the capital and material and the supply to meet deficits. The Government, in connection with capital and material needs of the agricultural industry, advised a scheme for the consolidation and maintenance of every possible supply, leading to the execution of control by rationing under the ticket system. However, various problems came up concerning the supply of capital and materials owing to the lack of preparations of the distribution system. Moreover, in order to cope with the shortage of farm hands, besides the enforcement of labor service and cooperative industry, there was a scheme to allow the soldiers to have left their farms to return to their homes during harvest time.

The Fertilizer Distribution Control Law was promulgated, prohibiting the distribution and manufacture of metamorphosed fertilizer and enforcing the manufacture of emergency-controlled fertilizer and price control. In consequence of the outbreak of the European War, an emergency means of disposal was devised for the distribution of the surplus fertilizer in the villages. In recent years the Law Regulating Fertilizer Consumption was enacted, which adopted a system in which importance

is given toward a superior grade of rice and wheat in the distribution of fertilizers. (See Chapter XXII.)

Side-Lines In 1938 and 1939 agricultural side-lines have been promoted by the Government for increasing farmer's income. The following are some of the major side-lines popular among Japanese farmers today.

Straw Products. Of the many varieties of straw products in Japan, the making of straw-bags, ropes, and mats, which are indispensable in packing, form the most popular spare-time occupation of the farmers.

Straw-bags and ropes are required by the Army for putting up rice and other foodstuffs in bales. They are also used by the Salt Monopoly Bureau and the fertilizer manufacturers. Straw-bags are also in great demand for storing and conveying coal and ores. In addition, the use of straw bags as substitutes for gunny-bags is increasing. In Manchoukuo, for instance, gunny-bags for putting up salt used to be imported from India, but lately Japan instead has been supplying vast quantities of straw-bags.

Straw mats are required by the Army, too, and as they are of general use in packing. The growing demand for straw products is a welcome source of income to the farmers, averaging from 3 to 5 yen a day per household. The production of straw-bags, ropes, and mats realized no less than ¥53,000,000 in 1937, and ¥67,000,000 in 1938.

Rabbit Raising. Rabbits bred in Japan for fur are of the white, brown, and silver grey varieties. Up till the outbreak of the China Affair approximately 2,000,000 yen worth of Japanese rabbit furs were exported to the United States, but thereafter this lucrative trade has been discontinued, in order to divert as many pelts as possible to meet the Army's requirements, which rose phenomenally. Following the outbreak of the Sino-Japanese hostilities rabbit rearing received the whole-hearted encouragement of the Ministry of Agriculture and Forestry as well as of the local agricultural associations, with the result that production of furs in 1939 soared to the 7,000,000 yen mark. Notwithstanding this huge increase the combined supply of rabbit and hare furs still falls far short of demand.

Mitsumata and Paper-Mulberry. Mitsumata and paper-mulberry are materials from which Japanese paper is made.

Prior to the China Affair, Manila hemp was used as pulp, imports of which amounted annually to some ¥9,000,000, but since the hostilities commenced the imports dwindled to about half the above amount. On the other hand, the demand for Japanese native paper continues to increase both at home and abroad, so that a greater production of mitsumata and paper-mulberry is urgently required. Paper used for bank-notes, bonds, bills, etc., and copying-paper for export, must be manufactured from mitsumata, and as the demand for this kind of paper has recently multiplied due to economic prosperity, the price of mitsumata has lately shown a remarkable advance.

According to a local paper in Shimané prefecture last autumn, the price of mitsumata in the producing centers in Kochi prefecture has jumped to over 60 yen per ten kan (37.5 kilograms) from about 40 yen before the China Affair, with the result that villagers have had the good fortune to see their deposits in the village credit association swell to a minimum of ¥2,000 per family, and in some cases even to as much as ¥20,000. In consequence, the local authorities are said to have urged them to buy national bonds. Accordingly, an increase in production is deemed of the utmost importance and the Ministry of Agriculture and Forestry has already budgeted for an appropriate sum for this purpose in the 1940-41 fiscal year.

Floss-Silk. Floss-silk is made from waste cocoons and dupion cocoons, which are the by-products of sericulture, and the making of it constitutes a delightful side-line for female members of farming families.

The production of floss-silk in 1937, which amounted in value to ¥3,000,000 rose to ¥5,000,000 in 1933, with the recent increase in demand in Manchoukuo and North China, stimulated by the outbreak of the China Affair which multiplied the general as well as the military demand. In the Army floss-silk is used for lining greatcoats for protection against cold, and in making warm caps. The Army generally buys floss-silk and processes it, but finished floss-silk goods, such as caps and overcoats are also supplied from floss-silk

producing centers.

Agar-agar. Agar-agar, or Japanese isinglass, a product peculiar to Japan, is made from a kind of seaweed, *gellidium amansii* and others. There are two kinds of agar-agar, one is thready and the other square. The total production of both types is valued at ¥10,000,000 a year, about two-thirds of which consists of the thready kind which is almost all exported. In Europe and America Japanese isinglass is chiefly used for making jellies, and as an effective but harmless laxative. It is also used in making vaccine and germiculture, in mangling textiles, in making medicinal wafers, and in clarifying beer and wine, etc. In the South Seas *gellidium* jelly made from Japanese isinglass is relished as a cooling refreshment.

Thus the various uses to which isinglass may be put, has created for it a world-wide demand, and its exports are increasing steadily. Agar-agar, however, cannot be manufactured anywhere in Japan; places suitable for its production being limited to a few districts only. Moreover, the fact that *gellidium amansii* had not been so plentiful, has hitherto precluded the production of agar-agar on a large scale but lately the Ministry of Agriculture and Forestry has urged that greater efforts be made in procuring *gellidium amansii*. This, together with the recent progress in the cultivation of seaweed by people living on the seaboard, points to further development in the Japanese isinglass industry.

Other Side-lines. Among other side-lines undertaken by Japanese farmers may be mentioned that of making dried slices of sweet potato, used as material for the manufacture of absolute alcohol which is being used as an admixture to conserve gasoline. Sweet potatoes are grown in most parts of the country, and the making of the dried slices is being increasingly carried on as a suitable side-line for farmers, so much so that the production of starch from sweet potatoes has been all but neglected.

Pickles such as pickled radishes and *tukujin* pickles (sliced vegetables preserved in soy sauce), and groceries such as vermicelli and frozen bean-curd are foodstuffs that can be made gainfully by farmers during their leisure.

CHAPTER XIV

SERICULTURE AND RAW SILK

History

Historical records show that the raising of silkworms has been practised in Japan for more than two thousand years. It is surmised that the industry was first introduced into the country from Korea or China, but for sometime it made but slow development, as the work was almost exclusively in the hands of the naturalized Koreans and Chinese. Following the introduction of Buddhism, and with the advance of civilization, the demand for silk gradually increased and the industry spread among Japanese farm households. After that, sericulture made steady growth until about 1,100 years ago, when, at the time of the Emperor Kammu, it made a sudden spurt and spread over half the Japan proper of those days, and in less than another century most of the remaining half of the country was engaged in silk production. Recent development made in the industry is outlined in the following table, showing the cocoon output for the past half a century.

Year	(In 1,000 kan)	Index Number
1880-1884	12,223	100
1885-1889	11,147	91
1890-1894	15,436	123
1895-1899	24,608	201
1900-1904	26,484	217
1905-1909	32,622	267
1910-1914	43,184	353
1915-1919	61,561	504
1920-1924	64,877	530
1925-1929	91,668	749
1930	106,469	871
1931	94,072	709
1932	89,550	732
1933	101,247	828
1934	87,199	713
1935	82,067	671
1936	82,892	675
1937	85,972	703
1938	75,256	615
1939	90,799	742

The recent condition in the sericultural industry in Japan proper can roughly be explained as follows:

	1935	1936	1937	1938	1939
Number of agrarian families	5,610,607	5,597,465	5,574,879	5,519,480	—
Number of cocoon raising families	1,894,647	1,856,551	1,818,552	1,696,306	1,655,882
Percentage of cocoon raising families	33.7	33.1	32.6	30.7	—
Mulberry plantation area (chobu)	582,937	566,231	561,072	549,519	—
Egg-cards brushed (gram)	151,176,726	145,651,630	143,839,117	128,102,275	132,656,775
Quantity of cocoon yield (1,000 kan)	82,066	82,892	85,972	75,256	90,799
Value of cocoon yield (1,000 yen)	350,860	296,640	419,609	346,034	882,688

Cocoon-raising Industry

According to the Ministry of Agriculture and Forestry statistics the raisers of silkworm cocoons numbered 1,655,882 in 1939. The number of these cocoon raising houses decreased by 41,424 or 2.4 per cent from the previous year.

The quantity of cocoons produced in 1939 totalled 90,799,064 kan and the value was estimated at ¥882,688,029 consisting of 44,750,362 kan of spring cocoons valued at ¥407,571,659 and summer and autumn cocoons of 46,049,302 kan valued at ¥475,116,370. The total output increased by 15,543,378 kan or 27 per cent and value by ¥536,653,265

or 155.1 per cent as compared with the previous year.

Egg-cards brushed during 1939 amounted to 132,656,775 grams increasing 4,554,500 grams or 3.5 per cent over the previous year.

These remarkable increases are due generally to satisfactory weather conditions except in the western wing of the main island, Shikoku and Kyushu

where a severe drought unknown in recent years cut down the quantity of the summer and fall cocoons. The notable increases are also due to success in the official measures taken to encourage cocoon raising and to the favorable tone in silk market price. The last named factor gave much impetus to the raisers who then took minute care in rearing the worms for summer and autumn cocoons.

PRODUCTION OF SILKWORM EGGS

	(In kg.)				
	1934	1935	1936	1937	1938
Number of producers	4,924	4,346	3,827	3,512	3,157
Total					
Production	288,940	256,522	213,891	235,501	210,098
Qualified by government test	281,613	252,870	211,992	233,592	208,545
Reproductive eggs					
Production	9,369	8,616	7,235	6,989	7,070
Qualified by government test	9,006	8,256	6,976	6,788	6,883
Industrial eggs					
Production	279,570	247,903	206,655	228,511	203,028
Qualified by government test	272,606	244,615	205,015	226,804	201,661

Mulberry Plantation The success of the silk-worm raising industry depends upon an adequate supply of suitable leaves on which to feed the worms.

In Japan there are as many as 276 varieties of mulberry tree, and from these, 71 are selected by local government authorities as model kinds, each having its own special characteristics.

The total mulberry plantation area at the end of June 1938 was 549,519 chobu, representing a drop of 11,552 chobu or 2.1 per cent from 1937. This was due to progress of mulberry plantation readjustment all over the country. The number of mulberry saplings that were raised in 1938 counted 253,846,057 pieces valued at ¥3,380,413 and in 1939 269,800,000 pieces valued at ¥3,972,000.

Cost According to the investigation made by the Imperial Agricultural Association, cost of spring production in 1938 was as follows:

COST OF COCOON PRODUCTION (For 1 kan of the first class cocoon)

Details	Spring Crop (In yen)
Mulberry leaves	2.42
Egg-card	0.24
Labor	1.70
Cocoonery room	0.20

Details	Spring Crop (In yen)
Duties	0.16
Miscellaneous	0.39
Total	5.11

Educational Facilities There are in Japan three special colleges for the silk industry, namely, the Ueda Sanshi Semmon Gakko, Nagano prefecture; Tokyo Sanshi Gakko, Tokyo; and Kyoto Koto Sanshi Gakko, Kyoto; besides which, there are, in different parts of the country, 16 public schools of middle school grade. Some of the agricultural colleges and middle grade schools also have classes dealing with silk industrial enterprises. In addition to these regular seats of learning there is a class for the practical training of silk-raisers at every sericultural experimental station established by the Government in each silk producing district, and a similar training is also given at a score of private institutes created for the purpose of diffusing knowledge on all phases of the silk industry.

The Cocoon Market The Numazu cocoon market for 1939 opened on May 29 for the first spring cocoon transactions in Japan. Usually at the Numazu market yellow cocoons are dealt in, but at the Hamamatsu market which

was opened on the 29th, white cocoons were transacted. Prices of white cocoons were the highest for the last 15 years. High, low and average prices of the day, which formed the standard for the year's prices in this country, together with those for the preceding five years, were as follows:

	High	Low	Average
	(In yen per kan)		
1935:			
White	4.91	4.36	4.85
Yellow	5.11	4.23	4.85
1936:			
White	5.30	4.28	4.68
Yellow	5.29	4.51	4.94

	High	Low	Average
	(In yen per kan)		
1937:			
White	5.03	5.03	5.03
Yellow	6.28	5.20	5.93
1938:			
White	5.17	4.98	5.06
Yellow	4.96	4.38	4.61
1939:			
White	11.19	10.93	11.06
Yellow	10.07	9.20	9.63

The Statistics on cocoon production by kind in Japan proper in the past 5 years are given below:

COCOON PRODUCTION BY KIND IN 1934-38

		(Japan Proper)				
		1934	1935	1936	1937	1938
Quantity	kan	87,739,796	82,139,796	82,892,193	83,972,363	76,256,286
Total production						
Value	yen	203,871,290	350,860,428	386,640,792	419,609,741	346,034,764
Cocoons						
Quantity	kan	78,101,380	73,367,743	73,992,638	77,112,053	67,210,119
Value	yen	192,163,675	330,510,891	365,304,203	397,419,066	321,953,607
Douplons						
Quantity	kan	5,071,269	4,726,745	4,784,779	4,642,885	4,200,175
Value	yen	7,057,230	11,702,573	11,597,767	11,505,307	13,519,620
Waste cocoons						
Quantity	kan	3,967,147	3,971,565	4,114,776	4,217,425	3,845,992
Value	yen	4,650,385	8,646,964	6,738,822	10,685,368	10,561,537

AVERAGE COCOON PRICE IN JAPAN PROPER PER KAN

		(In yen)			Spring Cocoon	Summer-Autumn Cocoon	Average	
		Spring Cocoon	Summer-Autumn Cocoon	Average				
					1931	3.08	2.96	3.03
					1932	2.54	4.70	3.53
					1933	6.25	4.27	5.28
					1934	2.52	2.38	2.45
					1935	3.82	5.37	4.50
					1936	5.06	4.81	4.94
					1937	5.55	4.13	4.88
					1938	4.26	4.93	4.60
					1939	9.11	10.19	9.65

Raw Silk

Soon after the country's entry into foreign trade, the Tokugawa Shogunate put a restraint on the exportation of silk on the ground of its scarcity and of its being a prized national production. Notwithstanding such a restrictive policy raw silk exports from Yokohama increased by leaps and bounds, as enormous profits could be made by the exporters.

With the Restoration came the encouragement of home industries, the first among them to arrest the attention of the Government authorities being the silk industry, and ever since special efforts have been made toward developing this national industry. Unfettered financial help was extended to filatures in 1915, 1920, and again in 1930, and the Government has estab-

lished facilities for the promotion of all phases of silk activities, schools, silk conditioning houses and various experimental stations.

The silk reeling and sericultural industry is represented by Nagano prefecture. Suwa is located in the central part of the prefecture and Okaya (Hirano Village) in Suwa district is the most thriving and largest silk reeling center. No other silk reeling district in the world can rival it, since Japan produces two-thirds of the world's entire silk production, and silk production in Nagano takes the foremost rank in Japan. Gumma prefecture is the next largest reeling center with Fukushima, Aichi, Saitama, Gifu and Kyoto following.

Production and Exports The production of raw silk of all kinds in 1938 amounted to 11,507,241 kan valued at ¥534,191,133, showing an increase of 332,688 kan and ¥6,870,502 as compared with the previous year.

The number of silk filatures has kept falling for past 12 years, except 1930 and 1937. The Government was giving subsidy to filatures for encouragement of scrapping surplus basins in accordance with the silk reeling industry law, and the readjustment of medium-sized filatures made headway. The total number of filatures in 1938 was 41,255,

a decrease of 2,167 as compared with the previous year. The decrease was witnessed among small and medium-sized filatures as shown by the following table:

FILATURES CLASSIFIED BY THE NUMBER OF BASINS OPERATED

Those operating	1937	1938	Comparison
Less than 10 Basins	41,408	39,435	(-)1,973
10-49	906	816	(-) 90
50-99	478	398	(-) 80
100-299	479	451	(-) 28
300-499	99	103	(+) 4
500-999	51	48	(-) 3
1,000 and over	1	4	(+) 3

Of the total, filatures using machines numbered 1,837, re-reeling filatures 36,055, and duplon filatures 3,363.

The total number of operatives was 277,006, divided by sex, 20,879 males and 256,127 females, decreasing 20,142 in the total, 1,243 males and 16,899 females.

In spite of the decrease in the numbers of filatures, basins and operatives, the output increased both in quantity and value which were 11,507,241 kan and ¥534,191,133. Production of silk waste also made an increase as shown in the following table.

NUMBER OF FILATURES, BASINS AND OPERATIVES

(Silk Bureau, Ministry of Agriculture and Forestry)

Year	Establishments	Filature Worked by Machinery	Basins	Operatives
1919	234,992	4,311	610,032	—
1924	196,929	3,674	523,582	546,813
1926	91,751	3,768	428,174	488,342
1927	83,469	3,787	425,595	496,230
1928	76,090	3,509	435,735	515,504
1929	69,417	3,719	437,738	525,307
1930	70,728	3,759	433,637	509,124
1931	66,400	3,687	418,402	495,449
1932	60,461	3,356	365,417	428,763
1933	54,397	3,213	343,579	395,027
1934	51,168	3,013	321,040	362,510
1935	45,703	2,708	297,657	347,513
1936	41,892	2,468	280,692	320,496
1937	43,422	1,892	256,115	295,148
1938	41,255	1,837	247,961	277,006

SILK PRODUCTION

(Silk Bureau, Ministry of Agriculture and Forestry)

Year	Total Output		White Silk		Yellow Silk	
	Volume (kan)	Value ¥	Volume (kan)	Value ¥	Volume (kan)	Value ¥
1924	7,577,170	837,230,677	6,158,148	673,368,557	1,419,022	163,862,124
1925	8,284,317	956,052,187	6,822,065	784,720,379	1,462,252	171,331,808
1926	9,101,310	850,751,982	7,151,726	687,505,253	1,949,584	183,246,729
1927	9,880,306	798,798,455	7,800,821	629,005,493	2,079,485	169,782,962
1928	10,584,232	835,467,904	7,760,865	615,721,117	2,823,367	219,746,787
1929	11,292,399	857,577,692	8,246,583	624,955,155	3,045,816	232,622,537
1930	11,365,026	536,663,848	8,097,133	384,978,584	3,267,893	151,685,264
1931	11,682,814	427,690,988	8,036,360	295,289,433	3,646,454	132,401,555
1932	11,090,711	454,457,838	7,805,617	320,777,178	3,285,094	133,680,660
1933	11,242,816	497,740,808	8,429,370	370,840,466	2,813,446	126,900,342
1934	12,064,894	398,369,167	8,785,013	294,268,393	3,279,881	104,100,774
1935	11,662,048	500,052,421	9,154,361	399,590,673	2,507,687	100,491,748
1936	11,287,329	517,246,143	9,621,836	442,153,148	1,665,493	75,092,995
1937	11,166,553	527,320,631	9,648,493	458,437,242	1,518,060	68,883,389
1938	11,507,241	534,191,133	9,720,524	454,969,224	1,786,717	79,221,909

TOTAL PRODUCTION BY RAW SILK FACTORIES

	1924	1935	1936	1937	1938
Grand total					
Number of establishments	51,168	45,703	41,892	43,422	41,255
Number of boiling basins	321,040	297,657	280,692	256,115	247,961
Number of operatives	362,510	347,522	320,960	295,148	277,006
Male	27,450	26,175	23,922	22,122	20,879
Female	335,060	321,347	296,574	273,026	256,127
Production (Value)					
Raw silk	yen 417,414,865	522,606,348	538,558,343	548,804,996	562,093,262
Qt.	kan 12,064,894	11,662,048	11,287,329	11,166,553	11,507,241
Val.	yen 398,369,167	500,052,421	517,246,143	527,320,631	534,191,133
Waste					
Qt.	kan 4,014,305	4,019,588	3,430,462	3,234,206	3,523,851
Val.	yen 19,045,698	22,553,927	21,312,200	21,484,365	27,902,129

Note:—Silk year begins with June and ends with May of the following year.

Japan's Place in World's Silk Industry

According to the investigation made by the Silk Bureau of the Agriculture and Forestry Ministry the total world production in 1935 was 59,460,000 kilograms of which Japan (Chosen and Taiwan included) produced 45,520,000 kg. The 1936 world production totaled 59,425,000 kilograms of which Japan

produced 44,198,000 kilograms. China with 9,409,000 kilograms produced the largest quantity next to Japan. Then came Italy with 3,100,000 kilograms. Compared with 1923, the gain made during the 10 years was 18,145,000 kilograms. Detailed figures of the statistics prepared at the Silk Bureau of the Agriculture and Forestry Ministry follow:

RAW SILK PRODUCTION IN THE WORLD

(In 1,000 kilograms)

Year	Total	Japan	India & Indo-China	China	Eastern Europe, Near East and Central Asia	Spain	Italy	France	Brazil
1924	52,670	28,666	80	17,144	1,095	95	5,255	335	—
1925	57,138	31,485	90	19,678	1,145	100	4,380	260	—
1926	59,485	34,677	120	19,433	1,070	90	3,855	240	—
1927	63,211	37,782	140	19,244	1,040	83	4,627	295	—
1928	67,430	40,582	110	20,478	1,140	79	4,836	205	—
1929	70,630	43,403	60	20,722	1,350	74	4,826	195	—
1930	68,330	43,943	20	18,067	1,220	58	4,882	140	—
1931	57,718	45,244	10	8,244	810	44	3,286	80	—
1932	56,984	42,114	—	9,524	706	42	3,520	78	—
1933	57,001	43,757	—	8,876	854	38	3,400	76	—
1934	57,558	43,370	—	6,316	930	30	2,836	77	—
1935	59,466	45,520	—	9,829	2,281	34	1,700	52	50
1936	59,425	44,198	—	9,409	2,575	40	3,100	53	50

Silk in Japan's Foreign Trade

Exports of raw silk for 1939 totalled 386,029 piculs, including dupion, valued at ¥506,844,000. While the amount decreased by 91,442 piculs from the 1938 exports, the value increased by ¥142,720,000. The United States, as usual, made the bulk of purchases taking 331,524 piculs. Europe followed with 45,159 piculs. In the last 10 years the export quantity has not made any great change but the export value fluctuated widely.

SILK AND TOTAL EXPORTS COMPARED

(Unit: ¥1,000)

Year	Value of All Exports (Japan Proper)	Value of Silk Exports	Percent- age of Silk
1912	526,892	150,321	28.5
1913	632,460	188,917	29.9
1914	591,101	161,797	16.3
1915	708,307	152,031	21.5
1916	1,127,468	267,037	23.7
1917	1,603,005	355,155	22.2
1918	1,962,101	370,337	18.9
1919	2,098,872	623,619	29.7
1920	1,948,395	382,717	19.3
1921	1,252,828	417,124	33.3
1922	1,637,452	670,048	40.9
1923	1,447,751	556,169	39.1
1924	1,807,035	685,366	37.9
1925	2,305,590	879,657	28.2
1926	2,044,728	734,052	35.0

Year	Value of All Exports (Japan Proper)	Value of Silk Exports	Percent- age of Silk
1927	1,992,317	742,266	37.3
1928	1,971,955	733,436	37.2
1929	2,148,619	784,150	36.5
1930	1,469,852	419,107	28.5
1931	1,146,981	355,394	31.0
1932	1,409,992	382,265	27.8
1933	1,861,045	390,901	21.0
1934	2,171,924	286,793	13.2
1935	2,499,073	387,032	15.4
1936	2,692,976	392,809	14.5
1937	3,175,418	407,118	12.9
1938	2,689,677	364,124	13.5
1939	3,576,341	506,844	14.1

As regards the quantity, it is rather on the increase compared with 10 years or so ago. In 1923 the exports were figured at 263,280 piculs and for the following 3 years the quantity of the annual shipment never exceeded 450,000 piculs in contrast to 497,485 piculs for 1933. But this quantity for 1933 was smaller than that for any single year between 1928 and 1932. In 1934 it regained the former level, realizing a quantity next only to 1931 figure, and the tendency continued in 1935. But figures went down for the two years, 1936 and 1937, and in 1938 showed a slight increase. In 1939 it decreased again as mentioned above. Below is given the quantity of silk exported each year for the 12 years ending 1939:

Year	Quantity of Silk Exported (picul)	Year	Quantity of Silk Exported (picul)
1928	549,256	1934	551,308
1929	680,950	1935	553,156
1930	477,322	1936	505,550
1931	560,577	1937	476,360
1932	548,541	1938	477,471
1933	497,485	1939	386,029

WORLD MARKETS FOR JAPANESE SILK

(Compiled by the Ministry of Commerce and Industry)

(Unit: ¥1,000)

	1935	1936	1937	1938	1939
United States	328,910	333,949	325,225	297,882	437,611
Great Britain	21,450	23,628	31,430	26,175	36,920
France	23,764	21,772	26,111	24,631	16,180
Australia	4,232	5,231	8,132	6,461	9,381
Canada	70	823	727	278	—
British India	—	—	8,460	1,520	581
Switzerland	—	—	433	177	1,375
Italy	—	—	269	351	214
Total including others	387,032	392,809	407,118	364,124	506,845

SILK EXPORTS TO THE UNITED STATES

(Unit: picul 133 lbs.)

Calendar Year	Export Volume	Index Number	Rate of Increase or Decrease against Previous Year (%)	Calendar Year	Export Volume	Index Number	Rate of Increase or Decrease against Previous Year (%)
1921	247,672	100.0		1931	540,158	218.3	(+)19.2
1923	201,938	81.5	(-)-35.4	1932	513,402	207.1	(-) 5.1
1924	335,596	135.5	(+)68.2	1933	437,024	176.7	(-)14.7
1925	422,834	170.8	(+)26.0	1934	433,537	175.0	(-) 0.9
1926	427,621	172.7	(+) 1.1	1935	466,566	188.3	(+) 7.6
1927	491,078	198.3	(+)19.8	1936	428,209	173.6	(-) 8.3
1928	514,772	207.8	(+) 9.8	1937	380,175	153.5	(-)11.2
1929	560,976	226.5	(+) 9.0	1938	393,426	158.8	(+) 3.4
1930	453,517	183.1	(-)19.2	1939	331,524	133.8	(-)15.7

Price of Raw Silk

In January 1920, raw silk was quoted at ¥4,360 per bale of 16 kan, the highest price in the history of the country's silk business. At that time the volume of production was 360,000 bales, but during the next 10 years production increased to 730,000 bales, but unfortunately the prices did not fall in inverse ratio. Had they done so, Japa-

nese producers would have been happy, for in June 1932, the price fell below one-tenth that of 1920, whereas the output had only doubled. In 1933 it regained a little, but in 1934 the price fell to its lowest, and it seemed to be showing an upward tendency from the following year. It went down again in 1938, but regained upward tendency in 1939 ending with ¥2,068 in December.

RAW SILK PRICE AT YOKOHAMA SPOT MARKET

(In yen)

(Standard quality; per picul, 133 lbs.)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average
1926	1,942	1,860	1,711	1,503	1,519	1,576	1,602	1,557	1,601	1,532	1,460	1,441	1,585
1927	1,413	1,418	1,414	1,416	1,451	1,427	1,374	1,317	1,341	1,301	1,289	1,293	1,375
1928	1,311	1,357	1,356	1,348	1,326	1,251	1,247	1,282	1,312	1,375	1,362	1,370	1,321
1929	1,356	1,378	1,396	1,401	1,341	1,314	1,282	1,302	1,220	1,288	1,221	1,169	1,310
1930	1,174	1,169	1,165	1,139	1,100	795	705	708	648	574	581	562	775
1931	708	684	660	597	531	527	585	577	584	548	556	567	583
1932	672	653	617	534	473	469	536	803	938	891	914	928	702
1933	770	694	655	728	786	970	954	857	851	713	586	555	760
1934	583	643	570	538	523	494	474	463	465	510	550	508	537
1935	634	617	590	607	614	592	632	754	830	912	931	874	674
1936	916	764	749	746	691	681	738	771	734	771	863	871	775
1937	915	883	909	877	820	832	880	841	828	768	719	687	830
1938	683	707	713	700	701	702	797	762	778	827	808	817	759
1939	864	956	1,027	1,112	1,260	1,187	1,238	1,244	1,584	1,747	1,852	2,068	1,366
1940	2,127	1,687											

American Consumption The American consumption of Japanese raw silk in the silk year 1938-39 amounted to 385,164 bales, an increase of 27,564 bales over the previous year. But the percentage to the total lowered from 94 per cent for 1937-38 to 93 per cent.

AMERICAN CONSUMPTION OF RAW SILK

(In bales)

	Consumption		Stocks in N.Y. (June '38)
	Imports	Stocks	
1937-38			
Japanese silk	357,600	358,749	40,299
European silk	15,081	14,081	1,667
Chinese silk	7,799	6,551	2,491
Total	380,480	379,381	44,457
1938-39			
Japanese silk	385,164	361,405	16,540
European silk	10,194	8,837	310
Chinese silk	19,123	18,991	2,359
Total	414,481	389,233	19,209

Monthly silk distribution at home and the distribution in the United States were as follows:

RAW SILK DISTRIBUTION IN DOMESTIC MARKETS

(Arrivals and Deliveries at Kobe and Yokohama)

—Quantity in bales—

Years & Months	Arrivals	Sales	Sales in Japan
June-May: 1934-35	548,123	515,743	41,220

Years & Months	Arrivals	Sales	Sales in Japan
June-May: 1935-36	529,573	485,031	44,037
1936-37	540,237	508,884	39,988
1937-38	528,774	472,920	40,193
1938-39	467,247	417,617	52,402

1938:	Arrivals	Sales	Sales in Japan
Jan.	29,817	30,643	2,382
Feb.	33,011	30,065	4,305
March	43,028	36,904	5,022
April	40,825	30,697	3,762
May	42,560	40,620	3,513
June	32,157	32,463	5,510
July	45,152	36,414	3,586
Aug.	52,506	50,014	1,623
Sept.	51,019	46,069	2,300
Oct.	50,217	46,815	2,576
Nov.	47,181	42,667	3,720
Dec.	45,305	46,218	4,624

1939:	Arrivals	Sales	Sales in Japan
Jan.	21,473	22,374	6,145
Feb.	24,350	16,241	9,997
March	32,092	22,843	7,009
April	30,711	24,740	5,305
May	35,068	30,862	4,839
June	26,572	21,829	5,695
July	45,923	36,280	3,715
Aug.	46,935	43,745	3,411
Sept.	46,379	43,044	3,909
Oct.	47,014	39,777	3,977
Nov.	44,212	34,571	9,750
Dec.	45,557	23,202	19,135

DISTRIBUTION OF RAW SILK IN AMERICA IN 1938-39

(Quantity in bales)

Months	Imports		Consumption	
	Japanese	Total	Japanese	Total
1938:				
Jan.	29,137	29,858	29,488	30,715
Feb.	24,501	25,416	29,019	30,260
March	24,399	27,376	32,235	34,884
April	35,233	38,510	30,483	33,381
May	21,358	24,248	25,062	28,687
June	35,722	38,933	28,733	31,492
July	29,154	30,441	30,552	32,593
Aug.	35,376	35,946	37,150	38,508
Sept.	38,021	39,809	37,652	38,844
Oct.	37,267	38,731	34,049	35,631
Nov.	41,435	44,006	39,375	41,599
Dec.	37,846	42,264	32,776	35,264
1939:				
Jan.	32,294	36,092	36,915	40,816
Feb.	20,848	22,843	30,328	33,219
March	19,768	22,801	33,801	37,863
April	23,300	25,424	25,585	27,802
May	27,761	29,618	23,758	26,150
June	18,335	21,264	23,223	26,256
July	29,055	32,681	22,968	26,142
Aug.	28,175	32,407	30,059	33,095
Sept.	34,800	39,569	32,292	36,869
Oct.	44,546	50,033	36,897	41,858
Nov.	29,635	38,233	27,105	32,241
Dec.	26,265	34,811	16,598	21,128
1940:				
Jan.	27,020	33,121	24,243	29,506
Feb.	9,095	13,566	18,113	22,485
March	13,945	17,266	17,720	21,085

Silk Conditioning

The Japanese Government established a silk conditioning house in 1895 at Yokohama, with the object of facilitating raw silk transactions between buyer and seller by providing an organ for the strict examination of raw silk, and also of encouraging reelers to improve the quality of their product in the light of the results of the examination. In 1931 another one was established at Kobe, and these two silk conditioning houses are making all efforts for the maintenance and improvement of the quality of raw silk produced in the country.

The Yokohama Silk Conditioning House

The Silk Conditioning House was established in 1895 and began to operate on August 5, 1896. It was at first on quite a small scale, but was successively enlarged owing to the continual growth of the raw silk export trade.

In the disaster of September 1, 1923, the buildings of the institution were completely gutted, and the entire equipment and records utterly destroyed. A temporary Silk Conditioning House was installed with all possible speed, and official testing was resumed on February 1, 1924.

Later, the present Silk Conditioning House and annexes, all entirely new buildings, were erected in the most convenient part of Yokohama for both land and sea transport.

Under the Law which went into effect on and after July 1, 1927, all transactions in raw silk for export were regulated to base on the conditioned weight of the silk determined by this Institution, and the classification tests were also enforced on and after January 1, 1932 as the compulsory test for export raw silk.

Organization and Functions The Yokohama Silk Conditioning House performs the following functions:

- All kinds of tests and inspections on raw silk.
- Studies and investigations regarding the test and storage of raw silk.
- Courses and lectures on the test and assortment of raw silk.
- Examination of apparatus and equipment pertaining to raw silk.
- Supervision of the warehouses for raw silk and silk piece goods attached to the Yokohama Silk Conditioning House.

There are three departments: the Conditioning Department; the Quality Department; and the Department of General Affairs. The Department of General Affairs is divided into two sections: the Section of General Affairs; and the Investigation Section.

The Conditioning Department carries out the necessary tests for determining the weight of raw silk, as well as studies relating thereto. These tests comprise tests for conditioned weight; tests for net weight; tests for moisture and boll-off tests.

The Quality Department performs tests to determine the quality of raw silk, such as the classification test and other tests pertaining to the quality of raw silk.

The Department of General Affairs attends to business matters, investigations in general and the supervision of the warehouses.

Compulsory Tests for Export Raw Silk

First of all, the entire books (bundles of 30 skeins) of a lot* are inspected carefully in a visual inspection room for making such sorting as to provide proper value as a lot of merchandise. Fifty sample skeins representing a lot are then taken out at random from the entire lot for performing mechanical tests classified into: major test (evenness tests, cleanness test and neatness test) and auxiliary test (winding test, size deviation test, maximum deviation test, tenacity and elongation tests, cohesion test and average size test), and then the entire lot is delivered to the Conditioning Department.

Visual Inspection The items of visual inspection are as follows:

General Finish: The condition of general finish of a lot and the presence and degree of defects arising from re-reeling, finishing packing and packing damage are inspected and the results are indicated by Excellent, Good, Fair, or Slightly Inferior.

Uniformity of a lot: The general condition of uniformity of a lot is inspected and the results are indicated by Excellent, Good, Fair, or Slightly Inferior.

Nature: The inspection of nature of raw silk is made on the shade and degree of shade of color, the kind and degree of lustre and the nature and smoothness of thread by hand.

Skein Inspection Skein inspection is to inspect the super major defects of the raw silk thread and also examine the existence and the degree of the number of the gum knots of the raw silk thread.

Winding Test The object of this test is to determine the number of breaks which occur in the raw silk thread in the winding operation. The first 20 sample skeins are wound from the outer surface of the skeins, the additional 20 skeins from the inner surface of the skeins and the remaining 10 skeins from the middle part of the skeins on to bobbins at a known speed as follows, and the number of breaks occurring one hour are counted.

* N.B. A lot usually consists of ten bales of raw silk and the weight of a bale (28 to 30 books make one bale) is about 60 kilos, or 132 pounds.

Winding Speed

Size of thread under test	
12 deniers or finer	110 meters per min.
13/17 deniers	140 " " "
18 deniers	" " " "
or coarser	165 " " "

A denier is a unit of the size of raw silk and equals the weight of 5 centigrams in 450 meters in length.

Size Deviation Test This test is to determine the average size deviation by taking the sum of the differences between the 200 individual sizing skeins and the mean size and dividing this sum by the number of sizing skeins.

Maximum Deviation Test The object of this test is to determine the degree of spring size in 200 sizing skeins, 450 meters each.

The difference between the average size and average of four coarsest size, and also the difference between average size and average of four finest size shall be obtained. Both differences are compared and the larger one represents the result of Maximum deviation.

Average Size Test The average size test is to determine the average size of raw silk in conditioned weight. 200 sizing skeins 450 meters each are taken and placed all together in a conditioning oven, dried to constant weight, and then 11% of the dry weight is added to constant weight, this shall be the conditioned weight of these skeins, from which the average size in conditioned weight shall be obtained.

Evenness Test The evenness test is a visual test to determine the evenness of raw silk by comparing with the standard photograph. The raw silk is first wound in sections (called "panels") on to boards having a flat black surface, by means of the seriplane. 100 such panels are used for the test. The method of carrying out this test is as follows:

The panels are compared with the panels of standard photographs and a selection is made of the standard photograph which most nearly resembles the test panel in unevenness pattern. The record of this test is made on the average percentage of the 100 panels and also on the average percentage of the low panels to the extent of one quarter of the total number.

Cleanness and Neatness Tests These tests are visual tests to determine the kind and number of cleanness defects

and the percentage of neatness defects by comparing with the standard photograph.

Cleanness defects are classified into:—Super major defects, major defects and minor defects and the degree of imperfection is determined (in the form of a penalty percentage) by counting the actual number of these defects on both sides of the seriplane board.

Cohesion Test The raw silk is composed of several cocoon filaments agglutinated with cocoon gum. The object of the cohesion test is to determine the degree of agglutination of the cocoon filament by means of the duplan cohesion tester. The test is made by rubbing the raw silk with the rubbing blade of this tester. The record is taken of the average number of strokes needed to separate each filament of the raw silk.

Tenacity and Elongation Tests Tenacity and elongation tests are performed on ten sample skeins of known size by means of the serigraph, and determine the value of tenacity and elongation of the silk at the breaking point. Tenacity is expressed in grams per denier, while elongation is expressed in percentage; and their averages for the ten samples represent the record of tenacity and elongation respectively.

Gross Weight Weighing This test is to ascertain at first the gross weight of a lot, after taking out 16 sample skeins and then the net weight is ascertained by deducting the tare therefrom.

Conditioning Test This test is performed as a basis of the transaction on weight and the method is as follows:

Out of each lot, 16 skeins are drawn at random, and separated into four groups of 4 skeins each. Each of these groups is then placed separately in conditioning ovens and dried, and the degree of moisture of each is ascertained in percentages. The average of the four percentages obtained is deemed to be

the average percentage of moisture content of the lot from which the 16 skeins were drawn.

This percentage of moisture is then deducted from the actual net weight of each bale of the lot (i.e. gross weight less tare) and the result shows the dry weight of each bale. The total dry weight of all the bales plus 11%, forms the conditioned weight of the entire lot.

Sealing Bales After the test has been completed, into each bale of the lot is inserted the identification ticket, and the Pass Tag is tied thereto and it is sealed with lead bearing the mark of the Yokohama Silk Conditioning House.

Delivery of Certificate The Certificates of Quality Test for Grading and Conditioning Test are delivered to the applicant after the test has been completed. The applicant or surveyer may also demand copies of the certificate.

Optional Tests The Conditioning House will carry out special tests including tests for moisture, net weight, boil-off, and quality in accordance with the items of test methods, or quantity of samples which may be specified by the applicant.

Publication of Data and Statistics A monthly bulletin is issued by the Silk Conditioning House giving data of the tests carried out. An annual review of the work accomplished by the Silk Conditioning House, together with data and statistics, is also published. In addition, special bulletins are published from time to time, giving the results of studies and investigations carried out by the Silk Conditioning House.

Supervision of Warehouses The warehouses attached to the Silk Conditioning House are leased to the Teikoku Sansi Soko Kabushiki Kaisha (Imperial Raw Silk Warehouse Company, Ltd.) which undertakes the storage of raw silk and silk goods under the supervision of the Silk Conditioning House.

CHAPTER XV

FISHERIES

General

Japan Leads On account of her unique position as a maritime country Japan's fishing industry has naturally developed from of old until today Japan occupies the first position in the world in the output of aquatic products which amounted to ¥754,758,284 in 1938 as the following table shows. These products consist mainly of fish, shell-fish, seaweed, which are used as food, fish oils and animal fertilizers.

Value of Fishery Products in 1938

Classification	Value in yen
Coastal Fishery	248,894,737
Pelagic fishery, home	110,541,850
Pelagic fishery, colonial	3,068,406
Whaling	26,776,389
Trawling	7,669,703
Fishery in Russian waters	44,007,054
Floating canneries in	
Kamchatka	30,663,124
Aquiculture	30,110,429
Fish manufactures	241,883,950
Agar-agar	11,142,642
Total	754,758,284

Of the total, 398 million yen was raised by catches in the waters surrounding Japan proper. Details are given below in comparison with 1937 catches:

Catches in Japan Proper

Fishes -	(In yen)	
	1937	1938
Coastal fishing	162,844,491	179,907,511
Cultivated	11,552,077	12,976,755
Pelagic fishery		
(home)	59,482,795	71,863,990
Trawling	7,951,200	7,669,703
Total	241,830,563	272,417,599
Shell-fishes	16,162,026	16,267,512
Sea-weeds	24,915,184	23,697,451
Whales, crustaceans,		
Mollusca, etc.	66,951,551	86,485,133
Grand total	349,859,324	398,868,055

Exports of Fishery Products

The total value of canned comestibles exported in 1939 amounted to ¥132,009,000, of which ¥94,411,000 came from

third countries, i.e. countries other than Kwantung Leased Territory, Manchoukuo and China. Approximately 70 per cent of the total consisted of canned crabs, fish and shell-fish.

The total value of fishery products (including No. 2, 3, 4, 5, 6 and 8 in the following table) exported in 1939 amounted to ¥61,935,000, of which ¥1,028,000 came from third countries, increasing 40 million yen or 187 per cent and ¥5,857,000 or 113 per cent respectively over the previous year. The exports of agar-agar amounted to ¥8,144,000, of which ¥6,866,000 was gained from third countries, while almost all fish oils were purchased by third countries.

The total exports of various fishery products in 1939 amounted to 175 million yen against 115 million yen of the previous year. Details are given below in comparison with 1938:

	1938	1939
(1) Canned foods (Unit: ¥1,000)		
Crabs	15,244	30,323
Salmon	28,383	27,052
Trout	10,079	8,907
Tunny	4,067	8,800
Sardine	7,543	7,022
Mackerel	680	872
Shell-fish	1,842	2,732
(2) Dried fish and shell-fish	7,648	23,916
(3) Salted fish	3,331	13,150
(4) Fresh fish and shell-fish	6,672	9,624
(5) Kombu (Laminaria)	2,638	7,342
(6) Fish liver	—	6,047
(7) Amanori (Porphyra)	791	1,389
(8) Roasted fish	811	1,153
(9) Agar-agar	6,201	8,144
(10) Fertilizer		
Fish powder	5,182	4,515
Sardine	4,506	4,188
(11) Fish oil	4,348	5,277
(12) Hardened fish oil	4,333	3,831
(13) Shell	1,336	667
Total	115,635	175,251

Persons Engaged in Fisheries

The fishery industry in Japan is now run on a modern industrial basis and

especially pelagic fishing is developing rapidly. But by far the larger number of fishermen are still engaged in working in the old-fashioned way, generally on a small scale. In 1938, as many as 1,442,713 persons were engaged in all

kinds of fishery industry, and of this number 1,143,618 were males and the rest females. Of the total number, 1,035,878 were fishermen, 144,135 were engaged in cultivation and 262,700 in the manufacture of aquatic products.

NUMBER OF PERSONS ENGAGED IN VARIOUS BRANCHES OF THE FISHERY INDUSTRY

Year	Total Number	Fishermen	Those engaged in Cultivation	Those engaged in Manufacture
1930	1,482,355	1,109,700	122,116	252,119
1931	1,482,520	1,110,506	124,784	247,113
1932	1,499,040	1,106,850	141,304	250,796
1933	1,499,175	1,097,254	144,655	257,266
1934	1,521,916	1,103,346	151,007	269,563
1935	1,521,477	1,098,999	155,203	267,275
1936	1,534,432	1,102,502	154,627	277,303
1937	1,501,882	1,078,142	152,426	271,314
1938	1,442,713	1,035,878	144,135	262,700

FISHERY EMPLOYERS AND EMPLOYEES

Year	Employers	Employees
1930	635,241	847,114
1931	634,699	847,821
1932	640,818	858,722
1933	635,849	863,326
1934	640,735	881,181
1935	633,435	888,042
1936	637,031	897,401
1937	619,227	882,655
1938	598,535	844,178

Fishing Boats and Vessels

The total number of boats and vessels engaged in fishing at the end of 1938 was over 356,482, of which 288,327 were without engines, while 68,155 were with engines. The number of smaller boats, having capacity of less than 5 tons, is decreasing, while the number of vessels having engines has steadily increased. This shows an improvement in vessels and in the method of fishing.

Year	Total Number of Boats	Boats without Engines		Boats with Engines	
		Engines	Steam	Motor	Motor
1930	359,295	323,228	159	35,908	
1931	360,690	318,443	185	42,062	
1932	360,686	315,217	244	45,225	
1933	363,473	314,434	250	48,789	
1934	364,582	311,553	87	52,942	
1935	366,019	308,541	96	57,382	
1936	366,267	304,098	106	62,063	
1937	364,260	297,961	97	66,202	
1938	356,482	288,327	194	67,961	

FISHING BOATS AND VESSELS CLASSIFIED ACCORDING TO KINDS AND CAPACITIES

Kinds and tonnage of steamers	(At the end of each year)				
	1934	1935	1936	1937	1938
Without engines	311,553	308,541	304,098	297,961	288,327
Under 5 tons	303,342	300,651	266,798	290,734	281,849
5-10 "	7,635	7,317	6,779	6,637	5,982
10-20 "	529	530	499	568	478
20 " and over	47	43	22	22	18
With engines	53,029	57,478	62,169	66,299	68,155
Steam engines	87	96	106	97	194

Kinds and tonnage of steamers	1934	1935	1936	1937	1938
Under 50 tons	63	23	24	3	98
50-100 "	2	3	10	1	5
100 tons & over	22	70	72	93	91
Oil engines	52,942	57,382	62,063	66,202	67,961
Under 5 tons	37,053	40,658	44,774	48,105	50,111
5-10 "	6,772	6,841	6,999	7,198	7,568
10-20 "	6,724	7,154	7,454	7,804	7,340
20-50 "	1,871	2,108	2,117	2,295	2,105
50 tons & over	522	621	719	802	831

Coastal Fishery

Fish, shell-fish, etc. caught in 1938 amounted to ¥248,894,737, an increase of ¥29,245,334 or 11.7 per cent over the previous year, the major classification of which was as follows:

	Quantity (In kan)	Value (In yen)
Fish	449,431,414	179,907,511
Shellfish	31,169,303	10,720,760
Crustaceans and Mollusca	56,437,301	43,934,469
Seaweeds	109,824,289	14,331,997

The amount of catches in coastal waters since 1933 is shown in the following table. In 1930-32 while the value of catches showed a gradual decrease, catches were steadily increasing, showing thereby that the decrease in value was due to decline in price caused by the depression of those years, but after 1933 the prices steadily rose, specially in 1938 and 1939, while catches decreased with the decrease in the number of fishing boats and fishermen.

YEARLY COMPARISON OF CATCHES IN COASTAL WATERS

(Quantity in Kan, Value in Yen)

Year	Total		Fresh Fish		Shellfish		Crustaceans and Mollusca		Seaweeds	
	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
1933	1,029,331,693	170,613,874	762,822,800	128,151,712	36,158,167	7,972,010	54,492,636	26,288,328	175,858,090	8,201,824
1934	867,926,765	173,137,123	593,913,015	128,142,923	48,008,823	10,094,031	50,793,662	25,617,397	175,211,265	9,282,772
1935	737,448,945	180,801,517	514,455,650	134,671,748	54,542,403	11,697,023	36,310,162	25,259,631	132,140,730	10,173,115
1936	782,031,824	212,648,020	571,592,193	159,764,206	40,620,877	11,202,085	42,133,322	29,373,380	128,685,432	12,308,349
1937	726,729,060	219,649,403	494,484,899	162,844,491	37,643,983	10,451,464	40,874,838	31,426,069	153,725,340	14,927,379
1938	696,862,307	248,894,737	499,431,414	179,907,511	31,169,303	10,720,760	56,437,301	43,934,469	109,824,289	14,331,997

Catches of the more important fishes in coastwise fishery since 1934 are shown in the following tables:

CATCHES OF PRINCIPAL FISH BY KINDS

(In yen)

Kind of Fresh Fish	1934	1935	1936	1937	1938
Herring	7,157,445	5,077,161	4,381,435	5,506,548	2,674,255
Sardine	26,314,350	28,257,527	40,958,138	37,894,420	43,363,336
Bonito	2,687,998	1,901,310	2,419,598	2,021,248	2,975,588
Mackerel	5,830,284	6,596,660	8,406,727	8,938,207	10,892,248

Kind of Fresh Fish	1934	1935	1936	1937	1938
Tunny	4,991,742	6,163,318	7,165,228	6,358,456	6,174,578
Yellow-tail	9,654,945	9,671,911	11,531,400	10,382,532	10,863,685
Cod	3,781,320	4,822,484	5,730,153	4,625,894	6,967,037
Shark	909,043	718,055	868,545	1,457,089	1,273,104
Sea-bream, red	9,685,562	9,786,482	10,199,904	10,582,643	11,609,202
Sea-bream, black	2,176,553	2,158,534	2,221,157	2,303,840	2,470,995
Flat-fish	4,135,106	4,330,465	4,757,784	4,807,336	5,855,704
Cybiun	2,557,195	2,449,911	2,652,746	2,716,541	2,612,556
Horse-mackerel	4,501,667	4,877,411	5,781,491	5,595,356	6,651,406
Flying Fish	907,458	958,228	769,983	918,834	1,084,929
Grey mullet	2,655,492	2,722,809	2,754,766	2,843,577	3,147,337
Konosirus	804,007	838,942	791,141	899,589	978,327
Dog-salmon	4,690,443	4,994,644	9,154,512	11,815,728	13,034,405
Trout	5,312,855	5,244,056	3,995,978	6,261,477	7,043,602
Japanese smelt	2,595,748	2,915,007	3,291,607	3,603,235	3,978,717
Eel	2,278,195	2,475,619	2,492,801	2,385,702	2,476,371

VALUE OF VARIOUS KINDS OF SHELLFISH

(In yen)

Kind of Shellfish	1934	1935	1936	1937	1938
Awabi ¹	2,849,109	3,843,778	3,286,546	2,515,305	2,403,951
Oyster	473,786	506,377	533,147	455,107	656,143
Clam	493,946	512,038	523,582	561,570	618,036
Saza ²	485,917	506,423	576,911	610,912	642,501
Arca	405,100	362,709	387,496	231,155	204,657
Asari ³	434,589	861,534	753,809	780,313	914,061

1 Sea ear, abalone. 2 Turbo cornutus. 3 Tapes phillippinarum.

VALUE OF CRUSTACEANS AND MOLLUSCA

(In yen)

Kind	1934	1935	1936	1937	1938
Cuttle-fish	10,276,569	7,734,479	12,029,626	11,542,717	19,826,508
Octopus	3,357,509	3,736,233	3,680,606	4,612,075	5,530,585
Prawn and shrimp	6,320,846	7,044,016	6,867,408	7,234,061	8,720,523
Spiny lobster	1,076,491	1,170,757	1,555,317	1,573,159	1,576,158
Crab	1,603,616	2,526,257	1,902,042	2,479,464	3,074,568
Bêche-de-mer	777,449	1,015,148	1,125,481	978,484	1,688,998

VALUES OF VARIOUS KINDS OF SEAWEED

(In yen)

Kind	1934	1935	1936	1937	1938
Kombu ¹	3,930,373	4,195,723	4,389,327	6,219,462	5,427,481
Amanori ²	452,133	488,832	551,769	742,647	578,795
Wakamé ³	1,026,348	1,018,903	1,498,276	1,238,097	1,931,667
Tengusa ⁴	1,466,681	1,961,102	2,894,132	3,322,113	3,250,137
Funori ⁵	877,708	894,105	958,257	1,070,893	870,216

1 Laminaria. 2 Porphyra. 3 Undaria pinnatifida. 4 Gelidium corneum. 5 Gelopeltis furcata.

Pelagic Fishery

Large-sized vessels with motors have increased greatly in number of late. There are over 10,000 vessels of over 10 tons, many of which are actively

engaged in fishing at distances of up to 700 miles from Taiwan and Japan proper. The northern seas have been opened up by floating crab canneries, and mother vessels for the salmon and

salmon trout fisheries. But there are still vast undeveloped areas in the Behring Sea, the Sea of Okhotsk, the Maritime province waters, the South Seas, the South China Sea, the Gulf of Thailand, and even in the Southern Pacific, so that the future for pelagic fishery for Japan is bright and of great importance to her. The following sections deal with different branches of deep-sea fishing.

In Home Waters In 1938, the number of vessels engaged was 8,836, the number of men 113,148 and the amount of catches 210,255,058 kan of a value

of ¥110,541,850, exclusive of catches in colonial waters. The vessels with engines numbered 8,669, while those without numbered only 167.

Catches of principal fish are as follows:

	In kan	In yen
Bonito	27,857,344	19,513,606
Tunny	10,654,005	15,440,201
Sea-bream	3,297,776	6,162,146
Flat-fish	11,363,812	7,753,607

The number and descriptions of vessels engaged in this fishing with their catches, since 1934, are given below:

NUMBER AND CREWS OF VESSELS ENGAGED IN DEEP-SEA FISHING IN HOME WATERS

Year	Total Number of Vessels		Vessels without Engines		Vessels with Engines				
	No.	Tonnage	No. of crew	No. Tonnage	No. of crew	No.	Tonnage	No. of crew	
1934	8,705	194,407	110,983	297	2,038	1,686	8,408	192,369	109,297
1935	8,984	199,069	115,689	171	1,321	1,133	8,813	197,757	114,556
1936	9,885	215,026	125,775	240	1,940	1,391	9,645	213,086	124,384
1937	9,783	221,925	122,892	215	1,679	1,134	9,568	220,246	121,758
1938	8,836	211,968	113,148	167	1,370	1,297	8,669	210,598	111,851

VALUE OF DEEP-SEA FISH CAUGHT IN HOME WATERS

In Japan Proper

(In yen)

Kind of fish	1934	1935	1936	1937	1938
Sardine	3,702,191	5,771,642	7,779,621	6,977,247	5,551,388
Bonito	11,048,454	10,888,267	12,963,536	13,186,667	19,513,606
Mackerel	2,973,530	3,473,178	4,321,971	3,893,867	3,894,842
Tunny	10,753,997	10,245,932	11,071,390	12,340,259	15,440,201
Cod	2,967,552	3,515,581	6,192,670	6,693,544	6,075,643
Shark	2,686,731	2,946,156	4,210,800	4,685,984	5,119,640
Sea-bream	5,470,836	5,269,449	5,530,996	4,324,556	6,162,146
Flat-fish	5,184,968	5,323,953	6,358,031	5,611,904	7,753,607
Cyblum	53,030	38,206	25,419	21,868	18,651
Skipper	1,655,766	1,237,222	1,713,738	1,746,809	2,334,266
Others	22,931,206	25,555,326	27,322,115	30,404,238	38,677,860
Total	69,428,261	74,261,912	87,483,287	89,887,033	110,541,850

In Chosen Waters

	1934	1935	1936	1937	1938
Number of boats	832	1,063	—	—	—
Total value of catches	¥3,241,283	¥4,020,884	¥3,063,063	¥3,196,234	—

In Taiwan Waters

	1934	1935	1936	1937	1938
Number of boats	42	15	15	124	26
Total value of catches	¥181,812	¥26,083	¥23,318	¥126,364	¥91,807

In Kwantung Waters

	1934	1935	1936	1937	1938
Number of boats	288	212	200	167	146
Total value of catches	¥644,465	¥922,330	¥978,000	¥531,289	¥636,312

In South Sea Mandated Islands

	1934	1935	1936	1937	1938
Number of boats	—	—	84	128	191
Total value of catches	—	—	¥1,830,800	¥3,349,518	¥2,340,287

Norwegian Method Followed Whaling is being carried out according to the Norwegian method. As this method requires quick movements the vessels used are small-sized ones of a capacity below 120 tons. In order to allow whales to breed and also to maintain order in the work the Government has made it a rule that whaling should be carried on only under permit. The Government furthermore restricts the number of vessels engaged in this work to 30 in seas other than the South or

North Pacific Ocean. It also orders vessels to operate from headquarters placed in 18 suitable places along the coast of Hokkaido, the North-Eastern Sea, South-Western Sea and the Japan Sea.

Japanese whaling is now extending to the Antarctic Ocean and the Japanese whalers made good catches there in recent years. The total value of catches and manufactures reached ¥26,776,389 in 1938. Details follow:

WHALES CAUGHT (Value in yen)

Whales caught		Value in yen				
		1934	1935	1936	1937	1938
In home waters	Total	No. 1,356	1,598	1,641	1,814	1,790
	Value	1,991,421	2,466,962	2,577,602	3,397,426	3,872,804
Finback whale	No.	178	134	92	92	125
	Value	427,093	440,000	330,000	332,257	556,499
Blue whale	No.	24	21	3	7	5
	Value	90,118	118,000	24,000	49,040	39,805
Sperm whale	No.	786	1,001	1,133	1,208	1,058
	Value	883,220	1,080,000	1,369,000	1,950,262	1,974,461
Humpback whale	No.	42	48	58	57	49
	Value	88,880	179,000	219,000	204,945	219,918
Sei whale	No.	324	392	351	445	551
	Value	495,210	641,000	616,000	839,946	1,069,499
Right Whale	No.	2	2	4	5	2
	Value	6,900	8,856	19,517	20,976	12,622
Whales caught in colonial waters	Total	No. 123	173	173	236	189
	Value	429,683	647,434	754,322	894,680	1,118,083
Finback whale	No.	106	139	149	210	170
	Value	405,741	546,000	666,000	807,490	1,046,087
Blue whale	No.	—	—	—	5	—
	Value	—	—	—	28,413	—
Sperm whale	No.	2	4	2	5	—
	Value	2,856	4,547	3,619	14,781	—
Humpback whale	No.	15	30	21	16	—
	Value	21,086	97,000	83,000	43,996	71,083
Sei whale	No.	—	—	1	—	1
	Value	—	—	1,624	—	911

ANTARCTIC WHALING

Year	Number of Mother Ships	Number of Men Engaged	Whales Caught	Whale Oil	Estimated Value (In yen)	
					Salted Meat	Total Including Others
1934	1	213	213	473,639	13,014	486,653
1935	1	343	639	2,180,149	42,466	2,262,615
1936	2	766	1,969	8,662,277	64,627	8,726,904
1937	4	1,796	5,565	13,843,381	322,251	14,455,780
1938	6	2,794	7,540	19,709,760	1,196,102	21,785,502

Trawling Trawling in Japan is modelled after that now being carried on in the North Sea. The steam vessels engaged are from 200-300 tons in size, some being fitted with Diesel engines. A permit must be obtained from the Government before commencing trawl fishing. At present the Government is restricting trawlers in the East and South China Seas, and the Yellow Sea to 70 vessels. 56 vessels make Shimonoseki their headquarters, while 8 work from Nagasaki, and 6 from Hakata. It also prohibits trawlers, by special regulations, from operating in the nearby seas

in order to keep the coastal water free from the devastation caused by the destruction of immature fish, etc. During the World War there was a fall in the catches by trawlers owing to the decrease in number of trawlers, but since 1921, the trawling business has again become active though the number of trawlers as mentioned above is restricted to 70. But, it was increased later and, in 1938, there were 47 vessels with 859 members of the crew. Catches by trawling in 1938 amounted to 10,072,302 kan, value ¥7,669,703.

FISH CAUGHT BY TRAWLING

(Quantity in kan, value in yen)

Kind of Fish	1935	1936	1937	1938
Total quantity	14,257,646	13,886,917	13,380,415	10,072,302
Total value	7,044,312	6,831,152	7,951,200	7,669,703
Pagrus major				
Quantity	53,149	27,875	23,175	18,021
Value	71,542	51,219	50,575	25,057
Sciæna japonica				
Quantity	1,381,405	738,290	1,054,498	1,036,857
Value	1,154,862	722,941	937,817	1,080,034
Sciæna schlegelii				
Quantity	4,781,925	4,752,700	4,631,250	3,229,937
Value	1,697,517	1,853,836	2,069,856	1,989,209
Flat fish				
Quantity	1,049,877	881,154	662,830	458,535
Value	607,697	612,030	508,205	481,796
Shark				
Quantity	460,538	572,312	451,199	304,957
Value	136,540	177,936	157,958	135,839
Others				
Quantity	6,530,752	6,914,586	5,557,463	5,023,995
Value	3,376,154	3,413,190	4,226,789	3,957,768

Fishery in Soviet Waters

Fishery in Russian or northern waters is an important right conceded to Japan in the Treaty of Portsmouth, signed at the conclusion of the Russo-Japanese War or 1904-05. In 1928, a new convention, under the conditions of the above Treaty was concluded for a period of eight years, after the expiration of which time the pact is to be renewed. The districts to be worked, extending from the Maritime Provinces to Kamchatka, are leased from the Soviet Union at annual auctions held at Vladivostok. (As to the disputes between Japan and Russia on the fishery question in recent years, see Chapter VI.)

In 1938 the number of fishing lots actually worked was 328, the number of steamers 131, sailing vessels 1, and the number of fishermen and others engaged in the fishing 19,031. The amount of salmon, trout, and herrings caught in 1938, was 479,745 koku in total, and the crabs caught numbered 8,428,248. Good catches of salmon and trout are made every other year, while the quantity of crabs has a tendency to become larger in recent years. The amount of salmon, crab, etc. canned was 1,287,946 cases, valued at ¥29,010,838 in 1938. In the same year the amount of salmon and trout salted reached 258,011 koku. The following table shows the number of fishing districts leased, amount of fish caught, etc.

NUMBER OF FISHERIES, FISHING VESSELS, FISHERMEN, AND PRODUCTS IN SOVIET WATERS

	1935	1936	1937	1938
Number of fisheries:				
Fisheries leased from U.S.S.R.	395	399	389	386
Fisheries worked for the year	376	376	355	328
Fishing vessels:				
Steamships No.	196	152	141	131
Tonnage	422,000	361,000	331,734	309,884
Sailing-ships:				
Number	2	1	1	1
Tonnage	1,000	525	525	525
Fishermen	17,506	20,364	19,858	19,031
Total fish caught koku	501,000	571,000	549,858	479,745
Dog salmon	179,000	338,000	176,750	169,859
Trout	280,000	165,000	298,869	221,873
Red salmon	40,000	67,000	71,106	86,661
King salmon	2,579	1,925	3,086	1,257
Herring guano	113	34	47	95
Crab	5,049,000	6,565,000	7,759,066	8,428,248
pieces				
Fishery products prepared, yen	29,149,000	35,489,000	37,598,284	44,007,054
Salt cured (Total)				
Quantity, koku	343,000	376,000	555,432	258,011
Value, yen	11,101,000	13,099,000	11,697,618	11,667,313
Salmon				
Quantity, koku	172,000	308,000	374,486	151,552
Value, yen	6,719,000	1,560,000	7,824,974	8,536,473
Trout				
Quantity, koku	172,000	68,856	180,946	106,459
Value, yen	4,382,000	1,560,278	3,872,644	3,130,840
Canned food (Total)				
Quantity, cases	956,000	1,147,243	1,155,407	1,287,946
Value, yen	15,686,000	20,198,000	23,234,699	29,010,838
Red salmon				
Quantity, cases	189,000	343,000	342,325	444,624
Value, yen	6,089,000	8,826,000	11,840,559	15,984,991
Salmon				
Quantity, cases	50,000	117,000	1,318	35,015
Value, yen	1,174,000	2,425,000	25,682	694,683
Trout				
Quantity, cases	681,000	637,000	738,055	728,328
Value, yen	6,675,000	6,338,000	7,084,403	7,886,191
Crab				
Quantity, cases	36,000	50,000	78,709	79,979
Value, yen	1,748,000	2,610,000	4,284,055	4,444,973
Others: Value, yen	2,362,000	2,192,000	2,665,967	3,328,903

Note: One koku=40 kan=330.69 lbs.

FLOATING SALMON CANNERIES IN KAMCHATKA

Year	Mother Ships	Men Engaged	No. of Catches (in 1,000 pieces)	Value (In ¥1,000)			Total
				Canned	Salted	Frozen Eggs	
1934	16	5,543	8,944	8,050	1,119	988	10,239
1935	8	4,972	11,544	7,785	1,651	590	10,129
1936	6	3,478	8,796	7,409	1,760	455	9,691
1937	7	3,310	10,115	12,051	1,750	690	14,614
1938	7	3,529	9,829	10,448	3,631	—	14,249

Floating Crab Canneries Fishing is carried on by vessels equipped with machinery for the purpose of canning the crabs on the vessels themselves. The first enterprise was made in 1921, and, in 1923, rules regulating the work of crab-manufacture vessels were issued by the Government, which also established districts where fishing was forbidden and made permits necessary before a vessel could set out to the fishery. Recently the rule has been re-

vised, the number of vessels on the western side of Kamchatka being restricted to 18 and the amount of canned crab to 320,000 cases.

Up to 1927, Japanese only were engaged in this fishing, but in 1928 two Soviet vessels came in, in 1929 another two entered and 1930 saw a further increase.

Canned crabs manufactured by this method since 1934 are as follows:

FLOATING CRAB CANNERIES

	1934	1935	1936	1937	1938
Vessels in operation	9	9	9	9	8
Number	37,235	34,112	36,737	36,749	28,750
Tonnage	3,120	3,124	3,243	3,420	2,824
Fishermen engaged	9,930,678	11,332,000	13,948,000	14,913,197	18,536,405
Crabs caught, pieces	162,079	171,000	184,000	204,375	253,596
Canned foods	7,732,616	8,429,000	9,490,000	11,193,937	13,886,050
Quantity cases					
Value in yen					

Note: A case contains 22.32 kg.

Aquiculture

The conservation and cultivation of aquatic resources is very important to Japan as fish and other marine products constitute a great part of the staple diet of her people. Great care and study are being given to aquiculture in the country, the incubation and letting loose of salmon and trout and the cultivation of fish in shallow waters are being well looked after by the Government. From 1926 on, not only the incubation of salmon and trout, but also the transfer of crawfish, shad, etc., was tried several times with assistance obtained from the U.S.A. The aquicultural production for 1938 amounted to ¥30,110,-

429. The amount gained was ¥1,136,167 or 3.7 per cent over 1937. Of this total, production of carp amounted to ¥5,055,190; that of eels ¥6,636,853; that of oyster ¥1,960,757; that of sea weeds ¥9,365,454; and that of pearls ¥1,376,325. The principal fish, shell-fish and seaweed which are now being cultivated are carp, eel and tortoise in fresh water, and the seaweed laver in sea-water. The breeding is done in rice-fields, breeding ponds, reservoirs, marshes, etc.

The number of aquicultural establishments in 1938 was 158,629, the area covered 151,201,913 tsubo. Condition and results of the industry in recent years are given in full in the following tables:

NO. OF ESTABLISHMENTS ENGAGED IN AQUICULTURE, AREA AND PRODUCTS

Year	No. of Establishments	Area (In tsubo)	Value of Products (In yen)
1935	161,779	157,761,107	25,534,550
1936	162,326	154,930,254	25,551,596
1937	159,038	149,314,974	28,974,262
1938	158,629	151,201,913	30,110,429

FISH, SHELL-FISH, ETC., RAISED THROUGH AQUICULTURE

	1935	1936	1937	1938
Carp:				
Ricefields				
Quantity kan	516,000	509,000	496,940	418,112
Value yen	681,000	683,000	705,948	684,606

	1935	1936	1937	1938
Carp:				
Breeding-ponds				
Quantity kan	1,657,000	1,607,000	1,611,569	1,524,664
Value yen	2,169,000	2,203,000	2,345,091	2,550,778
Reservoirs, marshes, etc.				
Quantity kan	1,006,000	1,256,615	1,249,652	1,032,844
Value yen	1,401,000	1,629,000	1,973,268	1,819,806
Eel:				
Breeding-ponds				
Quantity kan	1,741,000	1,809,000	1,863,769	1,919,020
Value yen	4,681,000	4,931,000	5,018,502	6,549,175
Reservoirs, marshes, etc.				
Quantity kan	30,000	35,000	27,027	29,854
Value yen	77,000	82,000	73,818	87,678
Goldfish:				
Quantity kan	493,000	555,000	554,150	386,452
Value yen	571,000	581,000	667,446	530,741
Oyster:				
Quantity kan	15,985,000	15,741,000	14,949,475	12,145,345
Value yen	1,998,000	1,858,000	2,022,879	1,960,757
Asari:				
Quantity kan	11,691,000	11,359,000	16,459,681	13,804,741
Value yen	801,000	890,000	1,274,095	1,803,168
Pearl:				
No. of shells	7,750,000	7,072,000	10,857,953	10,883,512
Value yen	1,395,000	984,000	1,543,837	1,376,325
Pearl shells:				
No.	37,267,000	36,216,000	29,790,061	24,936,320
Value yen	829,000	905,000	869,751	406,502
Amanori (Porphyra):				
Quantity kan	8,855,000	8,410,000	9,346,073	8,232,993
Value yen	8,942,000	8,566,000	9,987,805	9,365,454
Others:				
Value yen	1,980,433	2,239,917	2,491,822	2,975,439

Manufacture of Fishery Products

The supply of fish depends to a considerable extent on seasonal changes but demand is controlled by the tastes and customs of consumers, so that supply and demand are too often not well balanced. In order to adjust these difficulties satisfactorily, careful studies have been made regarding the storing and preserving of these products. Especially, as the problem of food has become a serious one lately, it is often argued that a portion of the fishes

which are now being turned into fertilizers and which amounted to 40% of the total yields, should be converted into food. Under these conditions Japan is paying very careful consideration to the manufacture of fishery products.

The total manufactured fishery products in 1938 was valued at ¥241,883,950, of which ¥28,990,021 was in fertilizers, ¥13,138,868 in fish oils, ¥658,275 in Glolopeltis dried, and the balance of ¥199,096,786 was the value of food products.

MANUFACTURED FISHERY PRODUCTS

(Units: Quantity in kan, value in ¥1,000)

Year	Total Value	Food Products		Fertilizers	
		Quantity	Value	Quantity	Value
1934	167,048	118,115,026	128,804	113,071,246	28,913
1935	175,540	119,240,300	137,472	99,865,854	28,552
1936	215,861	132,637,000	156,144	120,298,000	37,474
1937	214,870	142,956,302	163,024	88,985,600	33,115
1938	241,883	164,363,368	190,096	68,050,231	28,990

Year	Fish oils		Sukifunori*	
	Quantity	Value	Quantity	Value
1934	22,037,028	8,702	210,365	628
1935	16,595,515	8,793	189,719	723
1936	30,079,000	21,527	190,000	716
1937	24,437,345	18,001	172,806	730
1938	20,428,790	13,138	139,071	658

Note: Production of agar-agar is not included in the table.

* Dried seaweed, *Glolopeltis furcata*.

Products as Food To the present the Japanese people have not paid much attention to the manufacture of fishery products, except "fushi," as articles of food, because fresh fish is available at almost any time and any place. But since there is a large consumption of such products among people of Western nations attention has been turned

to the preservation of fish with a view to export. The principal items preserved are "fushi" (fishmeat steamed and dried), fish dried, salted and dried, boiled and dried, smoked, salt-cured, canned, and Japanese isinglass. Production of each for the last few years is as follows:

VALUE OF FOOD PRODUCTS

(Unit ¥1,000)

Year	Fushi	Dried	Salted & Dried	Boiled & Dried	Smoked	Saltcured	Miscellaneous
1934	15,823	23,250	8,821	19,781	372	9,704	51,051
1935	14,314	22,306	10,040	22,547	289	11,859	56,117
1936	17,525	27,264	10,527	23,469	402	14,559	62,398
1937	16,948	27,124	10,103	21,999	438	19,313	67,098
1938	17,251	36,103	13,027	23,744	614	30,073	73,282

Agar-agar Kantén or agar-agar (or Japanese isinglass) is a gelatinous substance extracted from seaweed, especially from *Gelidium Amansii*, used for

food and industrial purposes, production of which is shown in the following table:

	1934	1935	1936	1937	1938
No. of establishments	449	463	512	520	528
Total production:					
Quantity, kan	618,841	665,000	680,000	708,203	687,731
Value, yen	5,257,378	6,390,315	9,712,497	10,122,783	11,142,642

Fertilizers Details of the production of fish fertilizers are given in the table below. As the table shows most fertilizers are made from herrings, sardines and bonito. Where transportation

facilities are not very good or where there is no satisfactory equipment for manufacturing them into food fishes are converted into fertilizers.

FISH FERTILIZERS

(Quantity in kan, value in ¥1,000)

Year	Total	Herring Sardine Fish Bone Sardine Dried						Others
		Cake	Cake	Cake	Dried	Herring		
	Quantity	Value	Value	Value	Value	Value	Value	Value
1934	113,071,246	28,913	3,319	19,536	969	1,006	2,163	1,917
1935	99,865,854	28,552	1,679	18,157	945	1,194	1,088	4,830
1936	120,298,000	37,474	1,024	26,715	1,220	857	1,893	5,764
1937	88,985,600	33,115	973	21,545	1,688	359	1,370	7,178
1938	68,050,231	28,990	960	18,814	2,710	430	737	5,337

Fish Oils Fish oils used for industrial purposes are sardine oil, herring oil, cod oil, whale oil and shark oil. Production in 1938 was 20,428,790 kan,

a decrease of 4,008,555 kan as compared with the previous year. The value amounted to ¥13,138,868, a loss of ¥4,862,640.

FISH OILS

Year	Total	(Value in yen)					
		Sardine	Herring	Cod	Whale	Shark	Others
1934	8,792,511	6,416,967	358,551	375,857	408,137	431,096	711,903
1935	8,792,502	6,687,986	165,421	471,265	545,921	724,479	197,431
1936	21,527,114	16,112,027	361,808	1,006,645	2,371,291	1,026,241	649,042
1937	18,001,508	14,272,777	170,818	849,508	1,151,017	947,754	609,834
1938	13,138,868	9,700,667	372,628	641,250	892,373	1,063,795	468,155

Manufacture of Salt

The salt industry in Japan is carried on under the Salt Monopoly Law. Salt is manufactured by the boiling method. The cost of production, therefore, is

high, and the quantity produced is not enough so that a large quantity of cheap salt is imported every year. The number of salt producing establishments, production, production areas, etc. in Japan are as follows:

March 31	No. of Establishments	No. of Manufacturers	No. of Employees	Area of Saltbeds (In cho)	No. of Boiling Pans	Production (In kin)
1934	3,339	3,347	36,855	4,571	3,709	1,127,167,526
1935	3,308	3,303	36,390	4,574	3,093	1,007,400,548
1936	3,261	3,232	35,787	4,571	3,680	864,659,761
1937	3,239	3,221	35,310	4,562	3,641	892,905,280
1938	2,992	3,201	33,297	4,553	3,526	806,156,644

Supply and Demand of Salt Along with the remarkable advance of the soda manufacturing industry, demand for salt in this country has become urgent in recent years.

The present amount of supply is not made public, but it amounted to 2,028,000 metric tons in 1936, 60 per cent of which being consumed for industrial purposes.

The most important suppliers of salt for Japan are North China and Kwantung Leased Territory. Shantung Province has 10,000 cho of saltbeds with a producing capacity of 500,000 metric tons a year, which is believed to be doubled by improving saltbeds and the management of the industry. Changlu

saltbeds which have an area of 9,100 cho at present is going to be enlarged under a five-year expansion plan to approximately 20,000 cho with an annual producing capacity of 1,000,000 metric tons, 60 per cent of which may be exported to Japan.

In 1936 Kwantung Leased Territory produced 372,000 metric tons from 15,000 cho saltbeds. According to an expansion plan the production in 1941 will reach 500,000 metric tons. Another expansion program is executed in Chosen, and Japan will be able to obtain sufficient amount of salt for all purposes in the near future without supply from places other than the yen bloc countries. The supply of salt in 1937 was as follows:

SUPPLY OF SALT IN JAPAN PROPER

(In 1,000 metric tons)

Year	Production	Imports	(From)		Total
			Taiwan)	(From Kwantung L.T.)	
1931	521.3	454.2	101.1	189.0	975.5
1932	572.6	638.4	83.3	147.2	1,211.0
1933	630.8	925.7	78.8	128.1	1,556.5
1934	676.3	1,229.4	84.8	154.1	1,905.7
1935	604.4	1,183.7	99.8	182.9	1,788.1
1936	518.8	1,270.1	88.0	240.2	1,788.9
1937	535.7	1,080.7	106.1	405.3	2,216.4

FISHERIES

Imports in 1937

(In metric ton)

Taiwan	106,019	Erythrea	98,540
Kwantung L.T.	405,264	British Soudan	7,631
Tsingtao	72,687	British Aden	35,082
Manchoukuo	96,988	Spain	5,258
Changlu, N. China	227,357	Germany	1,098
Indo-China	100,349	America	8,137
Turkey	73,032	Hawaii	43,414
Italian Somaliland	107,368	Thailand	8,336
French Somaliland	58,845	Tunis	47,657
Egypt	174,262	Total including others	1,680,693

Organizations Connected with Fisheries

Suisankai (Fishery Societies) Suisankai is a public corporation, recognized by the Suisankai Law of 1921, which has as its purpose the development of fishery. It is an organization covering a particular county or city and includes among its members, in addition to those engaged in fishing, persons having rights to fish and those who manufacture, trade in, or store fishery products. A prefectural suisankai is organized by county and city suisankai of that particular prefecture, and at the head of prefectural suisankai and suisankai located abroad is the Telkoku (Im-

perial) Suisankai. The functions of suisankai include the encouragement of fishery, the improvement and extension of the manufacture of marine products, the development of fishing districts, protection of agriculture, etc. It also collects statistics, investigates markets, or engages in brokerage, etc. On the social side, the rescue of shipwrecked vessels, improvement of relations between employers and employees, employment agency work, mediation in labor troubles, etc., are looked after by the societies. And lectures on fishery subjects, exhibitions and fishery shows are held by them. The number of suisankai, their members, etc., during the last few years are as follows:

SUISANKAI (Fishery Societies)

	1933	1934	1935	1936	1937
Fishery Societies:—					
Total	349	346	344	344	343
County and city fishery societies	308	305	303	303	302
Prefectural fishery societies	40	40	40	40	40
Imperial fishery society	1	1	1	1	1
Number of members of societies:					
County and city fishery societies	450,276	450,696	444,135	447,496	448,452
Prefectural fishery societies	304	296	294	299	298
Imperial fishery societies	42	43	43	43	43
Expenditure of fishery societies (yen)	1,932,159	1,644,675	1,545,577	1,672,326	2,063,959

Suisankumiai (Fishery Guilds) There are two classes of suisankumiai. The first of these is a corporate judicial person, organized by fishermen or those who are engaged in the manufacture or sale of aquatic animals or plants in a particular district for the purpose of the encouragement and improvement of fishery, cultivation and propagation of

aquatic products, etc. The number of suisankumiai is decreasing gradually. At one time there were as many as 220 or more of these Kumiai or guilds. At the end of 1937 there were 81, with a membership of 40,874 and an expenditure of ¥1,396,024. The Act for Suisankumiai in Foreign Waters promulgated in 1902, authorizes any Japanese

ORGANIZATIONS

engaged in fishery or in the manufacture or sale of aquatic products in foreign waters, either by permit or by treaty, to organize suisankumiai. At present Roryo Suisankumiai (Suisankumiai in Russian Waters) is the only one which belong to this class. This guild is formed by fishermen and those engaged in the manufacture and sale of aquatic products in the Maritime Province, Kamchatka, and Saghalien Island. At the end of 1937, its members were 26 bodies. Its especially important task is to encourage amicable relations between the Japanese and Russian fishermen working in the same waters and thus ensure the smooth and effective working of the industry in those parts.

Gyogyo-Kumiai (Fishermen's Societies) Gyogyo-Kumiai is a judicial person recognized by the Fishery Law, and is organized by fishermen living in a particular district. It acquires fishery rights, etc., for member fishermen and takes any measures necessary to further

or protect the common benefit of its members.

The principal object of gyogyo-kumiai is the acquisition of fishing rights, etc. This is quite natural in Japan for fishermen work with their village as unit and no fisherman can work independently. Therefore, fishing rights are mostly secured by gyogyo-kumiai, special privileges being given to the kumiai for securing them.

Though in the original Act, the object of gyogyo-kumiai was restricted to the acquisition of fishing rights etc, the Act was revised in 1910, whereby the kumiai had the obligation put on them of undertaking any proper measures that would redound to the mutual benefit of fishermen.

Gyogyo-Kumiai Rengokai are corporations of gyogyo-kumiai. Their principal functions are joint sales of fishery products, cultivation of fish and rescue of shipwrecked vessels. Their history and number are as shown below:

GYOGYO-KUMIAI (Fishermen's Societies)

	1933	1934	1935	1936	1937
No. of societies classified according to no. of members (total)					
under 50	3,980	3,994	4,000	3,998	4,016
51—100	1,271	1,257	1,223	1,198	—
101—200	904	923	933	928	—
201—500	975	973	1,694	1,719	—
501—1000	687	692	1,694	1,719	—
1001 and over	120	124	124	123	—
No. of members of societies	23	25	26	30	—
Federation of societies	570,056	574,328	580,103	594,710	605,010
No. of federations	70	72	74	80	89
No. of member-societies	925	926	941	975	1,596

Dogyo-Kumiai or Related Associations

Dogyo means the same trade or profession; hence Dogyo-Kumiai are associations of those connected with the same trade. In relation to the fishery industry they are formed by those dealing in aquatic products, canned foods,

salt, cultivation of fish, etc. In 1938 there were as many as 22 dogyo-kumiai connected with the fishing industry. There is also the Dai-Nippon Suisan Kai, which is incorporated for the purpose of the improvement and encouragement of fishery.

CHAPTER XVI

FORESTRY

Introduction

Japan is one of the few countries of the world favored with extensive forests. The area of forests and fields in Japan including Chosen, Taiwan and Karafuto, was 45,299,105 hectares at the end of 1933 and was about 67% of the whole area of the country, which is 67,538,527 ha. It is about 3.8 times as large as her agricultural land.

Since Japan forms a long narrow chain stretching north and south from the northern extremity of the Kurile Islands to the southernmost point of Taiwan, and since her mild climate is very favorable for the growth of plants and trees, it is natural that there should be a thick growth of many varieties. There are as many as 1,500 kinds, of which principal forest trees alone number more than 100. In point of richness in variety, she occupies a high position even among countries which are favored with larger forest areas. While the amount of timber produced is valued at roughly ¥300,000,000 annually it is still far less than 10% of the value of the total staple products of the country and is not at present enough to fill domestic requirements. Every year it is necessary to import about 10,000,000 koku of lumber, equivalent in value to ¥100,000,000. Furthermore, forestry offers very limited labor opportunities. As compared with agriculture, which gives work to one-half of the total families in Japan, and fishing, which finds employment for 1,500,000 people, the number of persons engaged in forestry is small, being less than 720,000.

Distribution and Character

Forests in Japan stand, roughly speaking, in four different zones: sub-tropical forest zone, evergreen broad leaved forest zone, the deciduous broad-leaved forest zone and coniferous forest zone.

The Sub-tropical Forest Zone This covers the whole of Taiwan, the southern half of the Ryukyu Islands, including the Yayéyama Islands, annual mean temperature in it being over 21° C. As

to the altitude, the zone varies from below 2,000 meters above sea level in the southern part of Taiwan to below 1,000 meters above sea level in the northern part of the same island. In this zone, binroji, tsuga, (Arenga saccharifera) basho-banana and bamboo are found.

The Evergreen Broad-leaved Zone This comprises Shikoku, Kyushu, the northern part of the Ryukyu Islands and the southern part of Honshu (Main Island) (at 36° N. Lat. and Southwards), the annual mean temperature of this zone being 13°-21° C. As to the altitude, it is 854 meters on an average in Kyushu, 762.5 meters in Shikoku and 610 meters in the southern part of Honshu. Trees which grow in this zone are kusunoki (Cinnamomum camphora, Nees), oak, akamatsu (Pinus densiflora), white fir, tsuga (Tsuga sieboldi, Carr), etc.

The Deciduous Broad-leaved Zone This zone covers the northern part of Honshu, the southern part of Hokkaido and a greater part of Chosen, the annual mean temperature in this zone being from 6° C. to 13° C. As regards the altitude, it is from 976 meters to 1,372.5 meters in the northern part of Honshu and 457.5 meters in the southern part of Hokkaido. Trees which grow in this zone are cedar (the Japanese cypress), white fir, todo-matsu (Abies sachalinensis, mast), ezo-matsu (Picea ajanensis, Fisch), beech poplar, white birch, etc.

The Coniferous Zone This zone covers the northern half of Hokkaido, the group of the Kurile Islands and the Saghalien Island, the mean temperature of which is 6° C. to below zero. This zone starts at the height of 1,000 meters in Honshu and ends at the height of 2,592.5 meters in the same island, while it ends at the height of 1,067.5 meters in Hokkaido and 610-762.5 meters in Saghalien Island. Principal trees which grow in this zone are ezo-matsu and todo-matsu.

Forests in Kiso district extend over

STANDING TIMBER

mountain regions which range from 305 meters to 3,050 meters above the sea level along the course of the upper stream of the River Kiso. It covers 104,055 ha. in area and its growing stock amount to 28 million cu. m. Principal trees are the Japanese cypress, the swamp-cypress, sawara (Chamae cypariss obtusa, S. et Z), nezuko (Thuja japonica, maxim) and parasol-pines. They are old and are thickly grown. The reason that they are retained so well is due to the fact that during the feudal times, the cutting down of these trees was prohibited. Among these, the most magnificent trees are the Japanese cypresses which are about 190 years old. Most of them are 0.46 meter in diameter and 27.45 meters in height.

Forests of sugi in Akita district are widely distributed along the Yanéshiro

and Omono Rivers, and belong to the Government. The forests cover an area of about 43,000 ha. and hold stock of 16 million cu. m. The forests, where they are not mixed with other trees, are beautiful and magnificent to look upon. Most of the sugi in these forests are from 120 to 200 years old, and in a dense part the stands hold as much as 1,400 cu. m. per ha. Some of them are so large that their diameter reaches sometimes to 1.22 meters. The forests are noted for the abundance of timbers of a superior quality. Annual cutting from these forests amounts to 280,000 cu. m.

Area of Forests, etc.

According to the report of the Ministry of Agriculture and Forestry the area of forests in Japan proper was as follows:

(In Japan proper the investigation on the area of forests, bamboo-groves and wild lands (productive yet uncultivated) is carried at the year-end every third year.)

AREA OF FORESTS, BAMBOO-GROVES AND WILD LANDS IN JAPAN PROPER

Year (At the year end)	1930		1933	
	(In hectares)			
Grand total	23,011,218	23,645,731	24,186,376	(In chō)
Forested tracts	19,879,240	20,575,913	21,035,861	
Coniferous	4,632,827	5,420,360	5,658,563	
Broad-leaved	8,470,016	9,086,657	9,007,564	
Mixed	6,148,369	5,454,838	5,758,616	
Bamboo-groves	136,329	148,348	152,684	
Miscellaneous	491,697	465,708	458,434	
Bare tracts	3,131,977	3,069,817	3,150,515	
Crown	1,432,649	1,413,885	1,380,087	
National	7,638,263	7,657,609	7,712,934	
Public	4,186,375	4,287,336	4,444,567	
Temple and shrine	141,381	144,269	152,904	
Private	9,612,550	10,142,631	10,495,885	

Note: One hectare=2.47 acres. One cho=2.45 acres.

Stock of Growing Timber

Japan Proper To ascertain the amount of growing timber owned by the Imperial Household, Government, and public and private interests, careful investigations are made, the investigations

in the case of public and private interests being carried out by each prefecture. The following statistics show the growing timber in Japan proper in 1933 classified according to ownership: (Quantities in 1,000 cu. m. One cubic meter=35.3165 cubic feet.)

Kind	Public and Private					Total	%
	Crown	Government	Public	Shrines and Temples	Private		
Coniferous trees	32,452	139,948	71,172	7,333	327,510	578,415	46.0
Broad-leaved trees	14,121	323,431	83,503	5,000	252,823	678,878	54.0
Total	46,573	463,379	154,675	12,333	580,333	1,257,293	—
%	3.7%	36.6%	12.4%	0.7%	46.6%	—	—

Thus the total standing timber in Japan proper (Hokkaido excluded) is 1,257,293,000 cu. m., of which coniferous trees account for 578,415,000 cu. m. and broad-leaved trees 678,878,000 cu. m.

Other Parts The following table shows the number, ownership and type of trees in other parts of the country.

STANDING TIMBER IN HOKKAIDO, TAIWAN, CHOSEN AND KARAFUTO IN 1933

(Quantities 1,000 cu. metres)

Owners	Hokkaido			Karafuto		
	Coniferous Trees	Broad Leaved Trees	Total	Coniferous Trees	Broad Leaved Trees	Total
Crown Government	32,911	74,130	107,041	—	—	—
Public	165,705	212,599	378,304	165,951	22,905	188,856
Shrines and temples	19,829	51,448	71,277	—	—	—
Private	2	17	19	—	—	—
Total	2,899	28,994	31,893	165,951	22,905	188,856

Owners	Taiwan			Chosen		
	Coniferous Trees	Broad Leaved Trees	Total	Coniferous Trees	Broad Leaved Trees	Total
Crown Government	—	—	—	—	—	—
Public	70,006	127,374	197,380	87,902	72,158	160,060
Shrines and temples	68	297	365	4,316	2,095	6,411
Private	—	—	—	2,413	1,472	3,885
Total	828	9,121	9,949	60,658	15,275	75,933
Total	70,902	136,792	207,694	155,289	91,000	246,289

The total stock of growing timber in the country classified according to ownership is as follows:

TOTAL STAND OF TIMBER IN JAPAN IN 1933

(1,000 cu. m.)

Owners	Coniferous Trees	Broad Leaved Trees	Grand Total
Crown Government	65,363	88,251	153,614
Public	629,512	758,467	1,387,979
Shrines and temples	95,385	137,343	232,728
Private	6,489	6,489	16,237
Total	391,895	306,213	698,108
Total	1,191,903	1,296,763	2,488,665

Afforestation

There is a great scope for the practice of afforestation in Japan because of the large wild areas, plains where there is only a thin growth of trees, and forests where there are many undesirable trees. However, since a great deal of timber is being cut, reforestation becomes more urgent every year.

Afforestation is divided into two classes, viz., natural and artificial. Natural afforestation is being carried out in only a small portion of the Crown and Government forests, while in most of the

public and private forests, conditions are such that no definite plans for natural afforestation have been made. However, as this is liable to cause forests to go to waste careful studies are being made to improve the situation. In artificial afforestation Japan has had some good experience and artificial afforestation for the Imperial and Government forests is being carried out on a well-planned basis.

New Plantation Area newly planted in 1938 was 125,308.2 cho, and the number of trees planted was 367,484,980,

of which coniferous trees numbered 306,210,241 while broad-leaved trees numbered 47,797,112. The number of trees planted in the Crown-owned area in the same year was 13,477,627.

In addition to the above there were 58,485,856 trees supplementarily planted

in the forests in 1938, and bamboo-groves newly cultivated were 538.6 cho in area and 592,944 in the number of bamboos planted.

Naturally Regenerated Area of forests naturally regenerated in 1938 was 268,754.4 cho.

ARTIFICIAL AFFORESTATION

(Area in cho)

Year	1936	1937	1938
Area newly planted	119,472.7	118,065.4	125,308.2
Number of trees newly planted	356,350,597	340,557,533	367,484,980
Coniferous area	95,935.4	95,649.7	98,303.2
Number of trees	288,684,326	278,715,475	306,210,251
Broad-leaved area	18,436.7	18,200.9	17,152.9
Number of trees	52,808,322	50,417,523	47,797,102
Crown area	5,100.6	4,214.8	4,852.1
Number of trees	14,857,949	11,424,532	13,477,627

Production of Wood, Bamboo and Other Forest Products

The total value of forest products in 1938 is estimated at ¥531,659,181.

Area of wood and bamboo lands cleared and the value of wood and bamboo produced in recent years were as follows:

	1936	1937	1938
Area cleared in cho	455,398	445,873.7	471,001.2
Total value in yen	194,840,000	254,991,282	356,178,315
Timber	136,933,000	189,088,543	279,358,666
Fuel wood	55,153,000	63,218,575	73,697,698
Bamboo	2,754,000	2,684,164	3,171,951

Note: Figures for fuel wood include those for the wood converted into charcoal. The actual amount of the value of fuel wood only is estimated at ¥38,322,802, so that the total value of forest products is estimated at the figures given above.

During the ten preceding years no marked fluctuation has been observed in movements of quantities of timber and fuel wood produced, while, on the other hand, their value has been showing annually more than moderate de-

creasing trend until 1934 when it turned to increase.

Value of other forest products in 1938 amounted to ¥210,805,762. Details follow:

Kind	1935	1936	1937	1938
Seeds of trees	47,328	44,716	56,022	87,737
Fruits (Chestnuts, Walnuts, etc.)	3,637,943	4,297,997	4,306,391	4,419,446
Barks	2,317,412	2,512,932	2,901,405	3,889,410
Loan grass	17,051,201	18,432,950	21,423,867	23,827,480
Fresh mushrooms (matsutaké)	4,547,224	4,394,132	4,891,987	4,250,791
Dried mushrooms (shilitaké)	4,282,318	5,505,551	4,822,663	4,684,465
Bamboo sprouts	4,143,188	4,888,931	5,202,223	5,657,300
Horse-radish	1,565,726	1,744,885	1,658,627	1,593,629
Charcoal	90,814,783	101,796,857	131,460,169	161,477,762
Total including others	129,083,727	144,347,118	177,443,668	210,805,762

Protective Forests

Besides having a direct value through the produce they yield, forests have

a distinct indirect value through influence on climate, conservation of water supplies, prevention of erosion, etc.,

and in order that the fullest use may be made of them the Government established a system of "protective forests." In the following instances, under the Forestry Act, the Government is authorized to decree that certain forests, etc., shall be considered as "protective forests":

(1) When it is necessary to protect against soil denudation.

(2) When it is necessary to protect against sand shifting.

(3) When it is necessary to protect against flood, wind and tide.

(4) When it is necessary to protect against avalanches and rolling stones.

(5) For conservation of water supply.

(6) For fishery purposes.

(7) For guiding navigators.

(8) For public health.

(9) For scenery.

The area of protective forests in 1935-38 was as follows:

PROTECTIVE FORESTS

Year (At the year end)	1935	1936	1937	1938
Total			(Area in cho)	
Number	422,321	433,180	443,013	450,587
Area	2,122,633.6	2,135,437.9	2,143,554.4	2,143,087.9
Against soil-denudation				
Number	256,637	265,965	273,760	280,955
Area	924,786.9	933,159.1	938,844.7	948,395.7
For feeding springs				
Number	67,559	67,092	66,508	66,724
Area	994,611.9	998,030.4	998,833.0	988,917.0
Against flood				
Number	15,182	15,711	15,700	15,340
Area	6,516.5	6,526.4	6,532.0	6,569.4
Against rolling stone				
Number	476	474	485	487
Area	683.9	684.0	697.7	700.8
Against avalanche				
Number	4,942	4,968	6,116	6,209
Area	6,691.8	6,715.1	7,408.3	7,752.7
Against wind				
Number	14,410	14,892	15,524	15,646
Area	77,221.7	77,284.8	77,900.5	76,319.3
Against dust				
Number	11,346	11,598	11,586	11,643
Area	13,656.0	14,079.6	14,153.2	14,000.3
Against tide				
Number	14,369	15,137	15,959	16,248
Area	9,137.4	9,270.1	9,171.4	9,236.7
For attracting fish				
Number	25,904	25,893	25,947	25,915
Area	51,259.4	51,159.0	51,694.2	51,867.0
Landmark for navigation				
Number	259	257	258	250
Area	1,268.3	1,277.0	1,274.2	1,262.9
For maintaining public health				
Number	153	153	153	153
Area	90.0	90.0	89.7	89.7
For scenic beauty				
Number	11,084	11,040	11,017	11,011
Area	36,709.8	37,161.4	36,955.5	38,575.5

Owners of protective forests, etc., cannot, according to the provisions of the Forestry Act, cut down the trees, take the forest products from them nor

utilize them for any purpose, unless with the approval of the authorities concerned. Protective forests are divided into two classes for administrative pur-

pose. In the first class are forests in which limits for cutting and utilization are fixed, while in the second are those, the cutting of which is absolutely prohibited. Any owner who has his forest included in the second class and suffers any loss by this inclusion will have the loss reimbursed by the Government.

Forestry Associations
(Shinrin Kumiai)

Forestry associations are those judicial persons recognized by the Forestry Act of 1907, which are formed not for

profit but for safety of the country, conservation of water supplies, protection of forests, etc. The nature of their work is to allow members to plant, fell, carry, guard, or sell timber under unified control and rational management. Forestry associations are classified according to their objects into four classes, viz., foresters' associations, business associations, coolies' associations, and protection associations.

The number of forestry associations in 1938 was 2,456, and the area covered was 1,988,735 cho. The growth of forestry associations in recent years is shown in the following table:

FORESTRY CO-OPERATIVE SOCIETIES

Year (At the year end)	1934	1935	1936	1937	1938
Total					
Number of societies	1,919	2,083	2,235	2,373	2,456
Area operated by societies	1,441,681	1,642,146	1,793,768	1,922,002	1,988,735
Number of members	278,111	325,172	359,048	389,921	405,018

Forest Damage and Insurance

Forests are subject to damage by fire, wind, snow, etc., damage and loss by fire being especially great. As the forestry business requires an investment which covers a long period of years it is essential to insure, for if a forest is swept by fire, not only the capital invested, but also the care and labor of many years is instantly swept away. The table below shows both the amount of loss and the area damaged by fire, wind, etc., during the last few years. In order to encourage forestry work

some means to minimize the loss which arises from fire had to be devised. For many years forest insurance was looked for but it was not until 1920 that the Toho Fire Insurance Co., Ltd., ventured to take on this business. The Teikoku Fire Insurance Co., Ltd., and Tokyo Marine and Fire Insurance Co., Ltd., quickly followed.

But the State Forestry Fire Insurance Law was promulgated in 1936 and the Government commenced the forestry insurance business as from 1937. The conditions of the business are as follows:

At the end of	Policies	Area Insured (In cho)	Amount Insured (In yen)	Premiums received (In yen)
1937	5,543	53,582	6,137,517	36,040
1938	19,420	122,398	14,360,003	87,699

Damages done to forests in 1938 reached 313,299.7 cho with an estimated value of ¥21,314,979.

STATISTICS OF DAMAGES DONE TO FORESTS

Year	Total Damage		Forested Tracts			
	Total Area cho	Value ¥	By Fire Area cho	Value ¥	By Wind Area cho	Value ¥
1935	267,362.2	18,612,942	12,033.9	2,490,686	40,727.4	1,269,659
1936	502,787.0	23,784,993	4,171.0	806,000	69,976.0	718,000
1937	321,506.0	16,978,093	14,945.6	3,706,887	79,454.0	2,388,533
1938	313,299.7	21,314,979	6,173.4	935,522	18,170.5	2,444,912

Year	Forested Tracts			
	By Fungus, Insect, etc.		By Flood	
	Area cho	Value ¥	Area cho	Value ¥
1935	4,980.4	212,846	11,519.4	6,396,686
1936	7,618.0	157,000	2,255.0	474,000
1937	6,250.0	443,460	3,168.0	925,127
1938	5,094.2	670,334	9,391.9	7,165,129

Year	Forested Tracts			
	By Snow		Others	
	Area cho	Value ¥	Area cho	Value ¥
1935	162,358.7	6,912,318	29,496.9	526,557
1936	384,601.0	19,971,000	26,120.0	739,000
1937	179,363.0	8,608,274	32,975.0	630,724
1938	226,796.3	8,339,461	22,089.1	822,524

Year	Bare Tracts					
	By Fire		By Flood		Others	
	Area cho	Value ¥	Area cho	Value ¥	Area cho	Value ¥
1935	3,050.4	50,868	2,302.0	610,652	3,892.1	141,670
1936	1,192.0	18,000	546.0	91,000	6,310.0	810,000
1937	2,688.0	50,135	608.0	52,353	2,052.0	165,057
1938	18,604.6	82,492	2,087.0	176,696	4,842.5	227,839

Forest Administration

The central office of forestry administration in Japan at present is the Forestry Bureau in the Ministry of Agriculture and Forestry. Under this Bureau, there are six Forestry Administration Offices, 218 Forestry Administration Stations and 1,544 administrative districts.

In the office of the Forestry Bureau there is a Section of General Affairs, a Section of Forestry Business, and for the administration of privately owned forests there is a Public and Private Forests Section. For experimental work there are, under the direct supervision of the Minister of Agriculture and Forestry, Forestry Experimental Stations. Forestry Administration Offices are located in Aomori, Akita, Tokyo, Osaka, Kochi, and Kumamoto cities, and are under the supervision of the Minister of Agriculture and Forestry. The work of each office is to plan the afforestation work of Government and public forests, to establish or eliminate Government forests, to start civil engineering work, to sell forests, etc. They also supervise the works of forest administration stations which are placed under them. In each office there is a Section of General Affairs, a Section of Forestry Planning, a Section of Afforestation and a Section of Utilization.

Forest Administration Stations, which number 218 in all, are directly concerned with the management and protection of Government and public afforested forests.

In Hokkaido, the Forestry Section in the Development Bureau is the central administration office, and under it there are 19 forest administration offices. About 3,520,000 ha. of forests which are owned by the Government are administered by these 19 offices, the average area controlled by one office being about 185,000 ha.

Forestry Education

College Education Forestry education in Japan began with the establishment of a forestry school at Nishigahara, Tokyo, in 1882, under the supervision of the Forestry Bureau. This school became the Tokyo Forestry School and by the University Ordinance of 1890 was incorporated as a branch of the Department of Agriculture of Tokyo Imperial University. Morioka and Kagoshima Higher Forestry Colleges were established in 1903 and 1904 respectively. The forestry education that was being carried on in Sapporo Agricultural College in Hokkaido, became a laboratory course when the college became a Department of Hokkaido Imperial University. During the World War, fa-

cilities for education were greatly extended, and Departments of Forestry were added to Kyoto and Kyushu Imperial Universities, while higher forestry colleges were established in Miyé, Utsunomiya, Gifu, Miyazaki, and Suigen in Korea and Taihoku in Taiwan.

Practical Education The first and second class forestry schools established and supervised by various prefectures give practical lessons in forestry. They exist either as independent schools of forestry, or as a part of agricultural schools.

Forestry Experimentation

Central Experimental Station A plant experimental station was first established in Nishigahara, Tokyo, in 1878, to make investigations into the advantages of the cultivation of various plants, the growth of plants, the relation between the forests and climatic conditions of the country, etc. This station was abolished in 1822, but in 1890, the business of forestry experiments was taken up by the Forestry Administration Station of Tokyo. Later, in 1905, owing to the pressing need, plant nursery beds were established in Meguro, Tokyo. This nursery developed into a Forestry Experimental Station under supervision of the Forestry Bureau. In 1922, the station was detached from the Forestry Bureau and placed under the direct supervision of the Minister of Agriculture and Forestry. A subsidiary station was also established in the Ogasawara (Bonin) Islands for the purpose of experimenting with tropical plants.

In the Central Experimental Station there are departments of general affairs, afforestation, vegetable pathology, utilization of forestry products, chemistry, forestry work, and weather and climate. Since 1904 it has regularly issued bulletins on experiments and forest weather, besides occasional reports. The Station will, for payment, make analysis, carry out experiments and give advice and judgement on matters of forestry for the general public, if requested.

Local Experimental Stations Among the various prefectures Hokkaido is the only one which has a forestry experimental station. It was established in 1908 and for twenty-five years has contributed to the development of forestry in that island. The station makes ex-

periments in afforestation, the utilization of forestry products and the protection of forests. In Kagoshima prefecture, a forestry research bureau was established in 1929. This bureau studies plant rearing, afforestation, etc. and is the only bureau which engages in experimental work in prefectures other than Hokkaido.

Forestry experimentation in Taiwan is undertaken by the Forestry Bureau under the Central Research Station in the Government-General of Taiwan. It has experimental forests of 52,000 cho. In addition to experiments in afforestation, utilization, and nursery work, it studies the classification and distribution of plants grown in the island. It has two branch stations.

The forestry experimental station in Chosen was established in 1922. As the climatic conditions in Chosen are rather continental the kinds of plants, their distribution, and the nature of forests, etc., differ widely from those in Japan, so the results of the experiments made in the Central Experimental Station in Tokyo cannot be directly applied to the forests in Chosen. The station is comparatively new, but as part of a plan which is to be completed in fourteen years beginning 1925, investigations on the classification and distribution of plants, experiments in rearing and the planting of principal trees, experiments in the prevention of damage from noxious insects and fungi on young plants and forests, tests on lumber and methods of storings, etc., have already been made and reports on the results of the investigations and experiments have been published in the bulletins issued by the station. In the experiments on rearing young plants it has already succeeded in showing the way to quicken their growth. Its experimental success in rearing the Korean pines being specially noteworthy.

In Saghalien Island an experimental station was established in 1929. Prior to that experiments were made on frigid zone plants by the Temporary Industrial Investigation Bureau in the Government Office of Saghalien Island in experimental forests near the towns of Toyohara and Horo.

Lumber Price

The lumber market in 1938 went up considerably, because of the decrease of imports of foreign lumber. January

quotation of American lumber was ¥24.70 per shakujime (about 1 cubic foot×12), and it rose to ¥32.50 in July, then dropped to ¥26.13 in November and the yearly average was ¥28.45. The Saghalien timber was quoted at ¥970 per 100 koku (koku=1 cubic foot×10) in January, ¥1,130 in March, ¥1,100 in September, again ¥1,130 in December, and yearly average ¥1,084.

Supply and Demand of Lumber

The production of lumber is steadily increasing since 1930 as shown in the following table, supplying 90.8 per cent of the total demand in 1937.

PRODUCTION OF LUMBER

Japan Proper (In koku)	
1930	47,683,536
1931	48,861,826
1932	51,222,910

IMPORTS OF LUMBER (In ¥1,000)

Year	Ebony, Kwarin, etc.	Teak	Cedar, Pine, Fir from under 60 mm. thick to over 200 mm.		Kiri (paulow- nia)	Aspen	Other Wood	Total
			Cedar, Pine and Fir (lofis and cants)					
1934	952	758	336	14,722	15,404	66	277	7,665
1935	967	1,347	16,533	20,230	83	304	9,945	49,776
1936	1,081	1,534	37,645		663	809	13,816	55,547
1937	815	2,852	41,640		821	727	17,962	64,817
1938	198	1,405	13,181		289	608	12,497	28,178
1939	126	1,068	13,808		593	718	15,941	32,326

EXPORTS OF LUMBER (In ¥1,000)

Year	Bamboo	Railway Sleepers	Veneers	Shooks	Match Sticks	Wood Shav- ings for Match Boxes	Woods, Sawn	Logs, etc.	Total
1934	952	2,207	4,010	5,779	255	402	6,620	4,639	—
1935	472	689	4,397	5,012	88	282	7,520	5,192	10,468
1936	895	699	5,965	4,872	377	273	9,146	3,371	12,186
1937	853	467	9,002	7,113	388	298	13,536	4,346	17,529
1938	1,132	286	6,064	6,745	662	509	17,825	14,358	14,704
1939	1,359	3,674	12,499	8,265	794	893	65,866	36,012	26,764

Pulp In regard to the supply and demand of pulp see "Rayon and Staple

"Fibre" in Chapter XVIII and "Paper" in Chapter XXI.

1933	56,296,382
1934	64,372,163
1935	65,650,465
1936	72,137,823
1937	79,426,961
1938	89,345,867

(koku=1 cubic foot×10)

The quantity of import of lumber is on the decrease since 1932, although the value fluctuated according to different years. Imports from the United States have specially decreased in recent years to be replaced by those from the South Seas. On the contrary, exports are on the increase, nearly doubling the quantity exported in years prior to 1937.

The actual demand in Japan proper, therefore, remains almost unchanged in recent years, going up and down between 48,000,000 koku and 60,000,000 koku. The State control of building in these years may also be accounted for.

CHAPTER XVII

MINING

History of the Industry

During the reign of the Emperor Kotoku (645 A.D.), a mineral deposit was discovered in the province of Iyo, present Ehime prefecture, and experts came over from Korea and China, to work the minerals extracted. Metals were being used for making coins, so mining received the encouragement of the rulers. During the time of the Emperor Shomu, (724-747 A.D.) mineral deposits were found in many places and the art of working them made considerable advance, a fact witnessed by the construction of the Great Buddha at Nara, a monument of the metal-working art of those days.

Later, during the time of the Ashikagas, mining made further development, especially in the field of gold, copper and sulphur. Influential lords who held sway in their own localities required metals to finance their army, and mines always proved good objects for fights. Mineral deposits obtained in this manner were well worked and the mining industry naturally developed.

In the time of the Tokugawas metallurgy further advanced. The government coined money which circulated all over the country and naturally the industry was well protected and carefully developed under its regis. At this time Japan was known throughout the world as a country which abounded in gold and silver, and after the country was opened up to foreign trade the quantity of these precious metals exported was considerable, a business which provided a natural stimulus to gold and silver mining. The government also encouraged private enterprisers to engage in the industry, a result of which was the entry of the Sumitomos. The chief mineral deposits discovered during those times were:

Ashio Copper Mine	in Tochigi
Besshi "	in Ehime
Sado Gold Mines	in Sado Island
Mijké Coal "	in Fukuoka
Karatsu "	in Saga

After the Meiji Restoration the indus-

try did not show much progress until after the Sino-Japanese War of 1884-1885, when the Government called in many mining experts from abroad and employed them in government operated mines, not only to improve, organize and work the mines more efficiently but also to teach the operating of them on a modern basis. The mines improved in this manner were sold to private companies, and the experts who were officials of the Government were transferred together with them, a factor which served to bring the mining industry of Japan to its present stage of development.

In all kinds of mineral products, the year 1935 witnessed considerable increases over the preceding years. This was caused by the enormous increase of overseas trade and the continued boom of munitions industries. The year 1936 far surpassed the productions of the preceding years, setting an all-time record. An upward price trend caused miners to produce more than ever before.

Speaking of gold, the 1937 output totalled 13,184 kilograms in contrast to 21,114 kilograms for 1936. Silver production, too, decreased and amounted to 184,391 kilograms against 298,793 kilograms for 1936. Copper was not exception to the rule. Its output totalled 48,823 metric tons against 78,114 metric tons for 1936. Coal production totalled 24,278,000 metric tons against 38,067,000 metric tons for 1936. Petroleum products for 1937 totalled 2,272,631 hectolitres for 1936. Production of sulphur totalled 140,502 metric tons, gaining over the 1936 figure of 175,314 metric tons. Production of lead was the largest known for recent years with a total of 5,521 metric tons against 8,021 metric tons for 1936. Demand for zinc became heavy with progress of munitions industry. Last year's produc-

Note:—Most of the items on mining are not made public since 1937, especially figures for outputs of minerals.

tion totalled 26,835 metric tons in contrast to 36,201 metric tons for the previous year. Tin decreased somewhat and totalled 949 metric tons for 1937 against 1,859 metric tons for 1936. Throughout

these two years the constant measures of encouragement of the Government and heavy demand for munitions industry provided the background for the large production.

NUMBER OF MINE-LOTS PROSPECTED AND THEIR AREAS

(Prepared by Ministry of Commerce and Industry)

(Area is given in ares)

	1934	1935	1936	1937	1938
No. of Mine-lots	8,918	10,191	11,175	13,180	19,208
Area	171,271,346	197,668,056	216,727,000	266,205,444	397,235,758

Classified according to Kinds of Minerals

(Area is given in ares)

Kind of Mineral	1936		1937		1938	
	No. of Mine-lots	Area	No. of Mine-lots	Area	No. of Mine-lots	Area
Metal	7,731	140,850,104	9,100	172,101,997	13,331	256,615,449
Phosphorus	19	308,582	20	378,852	53	1,117,279
Graphite	30	375,819	25	224,956	37	430,907
Coal	2,015	46,668,887	2,390	58,048,328	3,421	85,750,339
Lignite	144	1,525,784	148	1,634,154	239	3,284,464
Petroleum	884	19,598,611	1,054	24,228,692	1,503	35,785,307
Petroleum asphalt	20	440,591	37	955,728	61	1,542,041
Sulphur	291	6,116,556	381	8,223,615	531	12,125,533
Total including others	11,175	216,726,569	13,180	266,205,444	19,208	397,235,758

NUMBER OF MINE-LOTS OPERATED AND THEIR AREA

(Prepared by Ministry of Commerce and Industry)

(Area is given in ares)

	1934	1935	1936	1937	1938
No. of Mine-lots Operated	1,395	1,448	1,613	1,863	2,091
Not optd.	2,915	2,888	2,764	2,544	2,382
Area Operated	23,723,094	23,874,047	28,874,000	28,384,319	31,592,079
Not optd.	21,678,168	22,267,615	22,587,000	19,832,958	18,873,669

Classified according to Kinds of Minerals

Kind of Mineral	1936		1937		1938	
	No. of Mine-lots	Area	No. of Mine-lots	Area	No. of Mine-lots	Area
Metal	Operated 711	9,493,034	898	11,352,413	1,061	13,219,490
	Not optd. 1,468	9,400,913	1,305	8,289,501	1,209	8,128,098
Phosphorus	Operated 2	13,374	3	38,405	4	40,436
	Not optd. 7	46,661	6	32,796	5	30,765
Graphite	Operated 3	36,048	9	69,890	5	55,057
	Not optd. 14	51,004	5	15,250	9	30,083
Coal	Operated 596	13,375,035	630	14,033,213	711	15,452,227
	Not optd. 832	10,536,721	807	10,074,404	725	9,188,167
Lignite	Operated 103	565,712	98	552,953	98	550,515
	Not optd. 94	327,129	94	324,811	93	287,180
Petroleum	Operated 132	1,559,169	144	1,654,847	129	1,567,244
	Not optd. 249	787,268	240	717,410	252	820,545

Kind of Mineral		1936		1937		1938	
		No. of mine-lots	Area	No. of Mine-lots	Area	No. of Mine-lots	Area
Petroleum Asphalt	Operated	9	122,042	10	122,908	9	122,550
	Not optd.	3	2,958	2	2,092	3	2,451
Sulphur	Operated	45	428,808	58	498,620	62	539,584
	Not optd.	92	384,264	80	323,378	80	317,757
Total including others	Operated	1,613	25,669,510	1,863	28,384,319	2,091	31,592,079
	Not optd.	2,764	22,587,070	2,544	19,832,958	2,382	18,873,669

PRODUCTION OF MINERALS

Japan Proper

(Value, in yen)

Unit	1935		1936	
	Quantity Produced	Value	Quantity Produced	Value
Gold	18,293,869	56,234,439	22,235,000	74,828,000
Gold dust	27,447	75,262	—	—
Platinum-dust	1,575	9,980	—	—
Silver	256,004,834	17,917,084	303,753,000	15,172,000
Silver dust	—	—	—	—
Copper	70,317,043	52,152,075	77,973,000	66,617,000
Lead	7,070,361	1,774,996	8,883,000	2,691,000
Bismuth	51,980	318,793	—	—
Tin	2,068,839	7,872,479	1,871,000	6,377,000
Tin dust	241	499,901	—	—
Tin ore	metric ton 173	40,709	—	—
Antimony sulphide	kg. —	—	—	—
Antimony ore	—	5,089	27,555	—
Mercury	metric ton 3,888,710	1,318,678	—	—
Zinc	—	370,689	17,540,993	39,066
Cast iron	—	239,408	17,476,784	342,647
Steel	—	1,338,891	13,423,080	291,374
Iron pyrites	—	35,969	1,381,480	1,750,914
Chromite	—	71,659	1,370,671	—
Manganese ore	—	89	97,577	—
Dioxide metal	—	6,435	13,357	—
Scheelite ore	—	2,889,144	461,226	—
Arseneous acid	kg. 91,248	1,158,372	—	—
Phosphate rocks	metric-ton 1,201	78,325	—	—
Graphite	—	—	—	—
Coal	—	37,762,491	270,177,016	41,803,000
Atan*	—	108,526	568,000	305,537,000
Crude Petroleum	—	—	—	—
Crude Oil	hl. 3,509,568	11,985,514	3,907,000	15,529,000
Gasoline	100 cm. 414,741	696,924	—	—
Sulphur	metric ton 164,945	10,244,145	198,237	11,911,000
Sulphur ore	—	165,807	1,084,238	—
Sulphuric acid	—	2,582,437	699,429	—
Total	—	—	504,419,190	589,400,000

* Brown or soft lignite.

The amount of mineral production since 1937 is not made public. But the Ministry of Commerce and Industry gives index numbers for the outputs in 1937, 1938 and 1939 as 150.6,

160.1 and 164.5 respectively, taking the average of the 3 years, 1931, 1932 and 1933 as normal. Judged from the index numbers, the increase in the amount of taxes collected by the Government

In connection with the mining industry and rise in prices the value of production in 1937 might have exceeded 800 million yen, in 1938 1,000 million yen and in 1939 1,100 million yen.

AMOUNT OF TAXES COLLECTED

Year	Tax on Mining Products	Special Tax on Mining Products (In yen)	Tax on Mine-lots	Total including others
1933	1,427,504	—	2,177,341	4,729,453
1934	1,701,007	—	2,600,445	5,886,601
1935	1,914,517	—	2,841,083	6,167,640
1936	2,204,200	—	3,071,534	7,112,929
1937	3,036,308	420,428	3,707,908	9,705,944
1938	4,279,139	987,052	5,306,939	13,894,304

Gold Since 1932, the Government has enforced many policies concerning gold: the purchasing of gold at current market prices; the reduction of railway freight rates on gold ore; the reduction of fees for analysing gold ore at the Bureau for Supervising Mines; the subsidization of construction of gold refineries, and the guiding of operations of gold mines on minor scales. As a result, the production of gold has increased considerably. In Japan proper alone, in 1936, it amounted to more than 22 metric tons valued at ¥74,820,000, whereas in 1931 only a little over 12 metric tons of gold valued at ¥16,500,000 were produced. Production in the Japanese Empire, including Taiwan and Chosen, which was about 22 metric tons, valued at ¥26,840,000 in 1931, increased sharply to more than 41 metric tons worth ¥138,560,000 in 1936.

The Government promulgated the Gold Production Law which went into effect on August 28, 1937, with a view to increasing production of gold in an aggressive manner and to concentrating the precious metal in governmental hands so that it may be utilized in equilibrating international accounts. In conjunction with the execution of this law, the Government is encouraging gold production with a sum of approximately ¥22,580,000 to be spread over five years from the 1937 fiscal year.

For the promotion of gold mining industry, the Government also introduced the Law Concerning the Japan Gold Production Promotion Company, Limited, at the 73rd session of the Imperial Diet in 1938. Approved by the Diet, the law was promulgated on March 29, 1938. The company organized under this law is a special semi-governmental corporation whose functions are to facili-

tate supply of abundant funds for gold mining enterprises and also to undertake various promotional enterprises in connection with the industry, such as the refining of poor ores.

On May 2, 1938, the Government raised its buying price of gold from the former level of ¥3.77 per fine gram to ¥3.85, the current level of the world gold market. On May 9, it abolished the gold buying commission which had hitherto been levied, and reduced by 50 per cent the rates of refining fees charged by the Mint on gold bullion to be sold to the Government, the rates of fees on certificates of the quality of gold bullion and those of fees on testing. At the same time, the buying commission on gold bullion in small lots below 50 grams was abolished.

The essential points of the Gold Production Law may be listed as follows:

1. Persons desiring to engage in the business of gold refining and of buying minerals containing gold are required to secure licences from the Government.

2. Persons who have acquired minerals containing gold or alluvial gold or any substance containing gold are required to refine them into gold bullion and to sell the latter to the Government, or to sell them to licensed gold refiners or buyers of minerals containing gold. When these buyers have refined the bullion, they are obliged to sell it to the Government. Thus, all newly refined gold is to be concentrated by the Government, irrespective of the channels through which it may be obtained.

3. Gold refiners are required to formulate their plans of operation in advance and to report them to the Government. Reports are also required concerning changes in plants. The

Government is authorized to order alterations in the plans of the refiners.

4. Whenever it is deemed necessary for the augmentation of gold production, the Government may, on the recommendation of the Gold Commission, command gold refiners to expand or improve refining facilities and may give necessary instructions concerning such facilities.

5. Owners of mining rights and rights on alluvial minerals containing gold shall be treated in the same manner as gold refiners, with respect to business operations.

6. When it is deemed necessary for the public welfare, the Government may, on the recommendation of the Gold Commission, issue orders to persons who are engaged in gold mining, gold refining and buying of minerals containing gold.

7. The Government is authorized to demand reports from gold miners, gold refiners and persons engaged in the business of buying minerals containing gold concerning their business methods and assets, and may also investigate such matters. The Government may further issue supervisory orders regarding the accounting methods of the above persons or may take the necessary action.

8. When it is deemed necessary, the Government may, on the recommendation of the Gold Commission, issue orders regarding the price of gold, restrictions on the use of gold and other matters relating to the consumption of gold. This provision has been put into force through Ordinance No. 60 Concerning Regulations on Gold Consumption of the Department of Finance, promulgated on December 28, 1937.

9. Machinery, tools or other materials necessary in the business of gold miners or gold refiners, when imported with the approval of the Government, shall be exempted from import duties for a period of five years from the day on which the Gold Production Law went into effect.

10. The Government may give subsidies to gold miners or gold refiners within the limits of the amount fixed in the budget.

Measures for encouraging the production of gold are roughly as follows:

1. To give subsidies to those prospecting for gold mines.

2. Subsidization of construction of

facilities for selecting and refining ore.

These measures are to be carried out in accordance with the provisions of the Gold Production Law. Procedures relating to these measures are provided for in Ordinance No. 22 Concerning Gold Production Encouragement Regulations of the Ministry of Commerce and Industry, promulgated on October 10, 1937. Other measures are:

1. To subsidize expenses covering institutions for training the field staffs of gold mining companies.

2. To survey mineral deposits in gold producing areas.

3. To hasten the disposal of applications for gold mining licences.

4. To lend machinery and tools for gold mining.

A summary of the prospectus of the Japan Gold Production Promotion Company, Limited, is as follows:

1. Organization of the company: This company is to be a special joint stock company organized under a special law.

2. Purpose of the company: To conduct operations necessary for the promotion of gold mining and refining.

3. Capital: ¥50,000,000, of which ¥25,000,000 is to be invested by the Government. The capital may be increased on the approval of the Government.

4. Officers: (a) The company shall have a president, vice-president, three or more directors and two or more auditors. (b) The president and vice-president shall be appointed by the Government; their term of office shall be four years. Directors shall be appointed by the Government from among the shareholders of the company; their term shall be three years. Auditors shall be elected from among the shareholders at a general meeting; their term shall be two years.

5. Business: (a) Financing of and investment in gold mining and refining enterprises and in enterprises for the manufacture of gold mining and refining machinery and tools. (b) Gold mining and refining. (c) Buying and selling of gold mining and refining machinery and tools, and other materials or equipment. (d) Buying and selling of minerals containing gold. (e) Survey and valuation of gold mines.

6. Debentures: (a) The company is authorized to issue debentures under the name of the Gold Production Debentures up to an amount five times the paid-up capital of the company.

(b) The Government may guarantee the payment of the principal of and interest on such debentures.

7. Dividends: (a) The company shall not be required to pay dividends on the Government-owned shares until private shares have been satisfied to the extent of 4 per cent per annum. (b) In case the profits to be divided among shareholders reach a ratio exceeding 4 per cent per annum on private investments and the company intends to declare dividends at a higher rate, distribution of such excess profits may be made on the Government shares and private shares at a ratio of 1 to 5, until the company becomes able to declare dividends of equal rates on both kinds of shares.

8. Subsidization of dividends: When the amount of profits to be distributed among shareholders fails to reach the rate of 4 per cent per annum on private investments, the Government shall subsidize the company with an amount covering the deficiency for the first year of its operation and for the subsequent five years. However, each subsidy cannot exceed the combined total of a sum equivalent to 4 per cent per annum on private investments and a sum of interest paid on Gold Production Promotion Debentures, with the exception of the first one.

9. Tax exemption: (a) The company shall be exempted from income tax and business profit tax for the first and the subsequent 10 business years. (b) No local taxes shall be levied on this company.

10. Subsidies: The Government may grant subsidies to the company principally for its enterprises relating to refining of poor ores.

11. Government supervision: (a) The Government is authorized to supervise the business of the company. The company is required to obtain approval from the Government regarding increase of capital, issuance of Gold Production Promotion Debentures, other borrowings, changes in the Articles of Incorporation, disposition of profits, resolutions on amalgamation with other companies or dissolution, and business plans. (b) The company shall observe the Government's supervisory orders and orders necessary for the promotion of gold producing enterprises. (c) The Government shall appoint supervisors of the Nippon Gold Production Promo-

tion Company in order to supervise the business of the company.

12. Regarding the organization of this company, the Government shall appoint an Organization Committee, which shall make all preparations and follow the necessary procedures.

The foregoing explanations apply to governmental policies in Japan proper. In Korea, the Decree on Gold Production was promulgated by Imperial Ordinance No. 10 of September 7, 1937. This Decree is similar in substance to the Gold Production Law of Japan proper. In Formosa, the Gold Production Law is to be enforced as in Japan proper in accordance with Imperial Ordinance No. 518 of September 25, 1937.

The Japan Gold Production Promotion Company intends to increase the production of gold throughout the Empire. It will conduct business in Korea and Formosa as well as in Japan proper. **Silver** Affected by the bounds and leaps in the silver quotations in foreign markets and on account of the close relationship of silver with gold smelting the production of silver increased too, the 1935 production amounting to 256,004,834 grams, which advanced to 303,753,000 grams during 1936. Average silver price in 1937 in Tokyo was ¥48.48 per kilogram, 46.56 in 1938 and ¥47.40 in 1939.

Tin Only about one-fourth of the total demand is being met by home products. To be exact 1,218,000 kg. was produced at home in 1934 against the total home consumption of 5,280,000 kg., leaving a balance of 4,062,000 kg. to be imported and 20,000 kg. for exports.

Osaka Tin Refinery Guild was established in October, 1933. The reproduced tin put out by the members of the guild became such an important factor that its manufacture came to be designated as one of the principal industries by the Government in November 1934. The sales of the product have been well regulated after the formation of the guild. Before the guild was organized the product contained a good deal of impurities and the production was only two or three hundred tons. As the time went on the technique of refining improved and the production in 1934 went up to five hundred tons. All the product is consumed in the domestic market, the legal maximum price in 1939 being ¥47.58 per 100 kilograms.

Copper Production of copper, unlike

that of tin, lead, zinc, or aluminium, was comparatively large in Japan, occupying an important position among metal industries, especially in arms industry. Copper industry developed rather early in Japan. Its production in 1876 was less than 4,000 tons, but Japan was then known throughout the world as the second largest copper producing country, exporting one half of her product. But with the Great War as the turning point, her position as copper exporting country became less important, for new copper beds were discovered in Chile and Congo. Japan then came to occupy the fourth position in the production of copper, and has been compelled to become an importer, the quantity imported increasing every year.

Demanding as an indispensable requisite in the munition manufacturing industries its brisk tone was maintained in 1934 as it had been in the previous year. The 1936 copper output in Japan established a record high with 77,973,000

metric tons in contrast to 69,829 metric tons for 1935. The copper market in Japan was long under the influence of New York and London markets. But since the second half of 1932, owing to the depression of the yen and the increased tariff, it began to regain an independent position from foreign influences. Copper prices in Japan for 1936 were unusually high affected by New York and London quotations. In 1939, the average market prices of electrolytic copper rose to ¥320.00 per 100 kg., a record high. The exports of copper reached 211,554 piculs valued at ¥15,105,000 for 1937, 113,456 piculs valued at ¥8,636,000 for 1938 and 142,651 piculs valued at ¥10,122,000 for 1939.

To meet the enhanced demand copper mines extended their equipments, the most important being the improvement of the furnace at Naoshima refinery of the Mitsubishi Mine, the extension of Saga refinery of the Nippon Mine, and opening of a new shaft at Ashio Mine of the Furukawa interests.

SUPPLY AND DEMAND OF COPPER (Kilograms)

	Production	Imports	Total	Exports	Home Consumption
1932	71,876,557	1,966,600	73,843,157	23,121,600	50,721,557
1933	69,032,756	17,617,700	86,650,456	8,512,100	78,138,356
1934	67,002,270	51,363,300	118,370,570	12,621,600	105,748,970
1935	69,467,000	65,261,000	137,441,000	72,000	134,170,000
1936	78,614,000	47,794,000	129,607,000	7,000	127,524,000

Lead The home production of lead barely satisfies 7% of the aggregate demand. In 1936 the total home production was 8,883 metric tons, and the import was 97,822 metric tons.

Zinc The origin and development of zinc mining in Japan is of comparatively recent date. In 1900, a Swiss clock firm, seeing bright prospects of developing the industry, purchased many zinc mines in the country and began exporting the metal. From this time the industry developed, the number of men engaged in mining increased, and the exportation of zinc grew in proportion.

Along with the development of other industries there has been an advance in zinc smelting. With increased demand during the World War, production and exports increased, the quantity produced in 1917 reaching 54,700 metric tons, and smelting furnaces numbering 16. From the slump of 1920 and the depression

which followed it, the industry received a heavy blow. Most of the furnaces were shut down, and only those in Miké, Takata, and Hiroshima were able to weather the storm. The last named has been especially successful in manufacturing sulphuric acid with the sulphur separated from zinc ores.

Zinc ores in Japan exist mainly in igneous and aqueous rocks. They seldom exist independently, sometimes being found mixed with lead ores. The principal ore which yields zinc is zinc sulphide, some of the best of which contains about 67% of zinc and 33% sulphur. Ordinary ores contain 40 to 55% of zinc and 24 to 28% of sulphur. The principal places of production are as follows:

Place	Location	Prefecture
Kamioka	Kozan	Gifu
Budé	"	Niigata
Ikuno	"	Hyogo
Yasuda	"	Nagasaki

Hosokura ..	"	Miyagi ..
Kanayama ..	"	Wakayama ..
Wanibuchi ..	"	Shimané ..
Sasu ..	"	Nagasaki ..
Glnya and Maden	Kozan in Helando,	

Chosen
Mimane Kozan in Kelando, Chosen
The production, import, export, and consumption of zinc follow:

Year	Production Quantity produced kg.	Value yen	Imports kg.	Exports	Consumption kg.
1931	25,407,089	4,471,742	24,633,600	—	50,040,789
1932	27,043,432	6,032,611	26,571,600	—	52,615,032
1933	30,057,632	9,746,995	32,525,600	—	63,183,232
1934	32,145,458	9,516,702	33,208,100	—	65,353,558
1935	34,191,000	—	45,842,000	—	80,034,000
1936	39,066,000	—	61,774,000	—	97,975,000

Iron and Steel Industry

Down to the Meiji Era The art of iron smelting is said to have been known even in prehistoric times in Japan, but no reliable record can be found. The granites found in large quantities in the Chugoku districts, i.e. Okayama, Hiroshima, Tottori, and Shimané prefectures were found to contain a good percentage of magnetite iron from which iron dust was extracted. These places became famous for their iron products and swordsmiths. In the middle of the 19th century, there were as many as 300 smelting works in these districts, but before the Restoration the utility of iron was not well realized and the demand for it was naturally small. Therefore, the iron and steel industry in its modern garb can be said to have begun with the Restoration.

Since the Restoration Early in the Meiji Era, mines were mostly operated by the Government. As the iron and steel industry was considered very important from a military standpoint the Government placed Kamashi mine, in Iwaté prefecture, under its direct management, and established there some smelting works with foreign experts called from abroad. In 1879, two furnaces with a capacity of 25 tons each were installed, but, owing to a shortage of raw materials and fuels the enterprise failed.

After the Sino-Japanese War of 1894-1895, the necessity of establishing the iron and steel industry for manufacturing war supplies was very keenly felt, and the Yawata Iron Works was established in 1886. Owing to the increased demand for iron and steel by various expanding industries the Ya-

wata Works were extended in 1906 and again in 1911.

Private iron and steel works have since been established in rapid succession. In 1905, Suzuki Shoten of Kobé established Kobé Seikojo, and in 1907, Nippon Seikojo was established at Muroran with English and Japanese capital. In 1912, Nippon Kokan Kaisha, Ltd., was established, while in Manchuria, Honkeiko Baltetsu Koshi was established in 1910 on joint account of Japan and China.

These iron and steel works expanded tremendously during the World War, and production increased with marvelous rapidity. The 1913 production of pig iron was 240,000 metric tons while the 1918 production had increased to 583,000 tons. During the same period the production of steel increased from 255,000 tons to 537,000 tons. The Mitsubishi Co. established their Iron Works in Kenjiho, Korea, about this time.

Perhaps the iron and steel industry received a heavier blow than any other from the slump of 1920, a blow that was intensified by the decisions reached at the Disarmament Conference of 1921. The price of pig iron fell from ¥531 per ton, the highest price, in July of 1918 to ¥65 per ton in 1921, steel bars fell from ¥451 to ¥132, and steel sheets from ¥1,285 to ¥199. Twelve pig iron manufacturing companies, four steel manufacturers and six steel materials manufacturing companies went out of business. Many small companies were amalgamated with or absorbed by bigger ones, until at present the whole iron and steel industry is controlled by a few powerful houses, Mitsui, Mitsubishi, Sumitomo, Okura, Asano and Okawa.

Many new industries were started dur-

ing the Great War and as they progressed their demand for iron and steel expanded. Production increased to meet this demand and the 1923 output was greater than at any time during the Great War. The industry received blows from the great earthquake of 1923 and the financial panic of 1927, but with the finances of the largest concerns of the country behind it readjustments were soon made and as demand increased the industry steadily developed.

Iron Industry in 1937

Iron industry in the country and foreign trade of iron and steel have been put under a strong Governmental control since the outbreak of the China incident in 1937, by the enactment of the Iron Manufacturing Industry Law which was passed at the 71st session of the Diet in the summer of that year. The new law, while exempting all iron manufacturing concerns in the country from taxation makes it compulsory for them to ask the permission of the Government for any changes in their working program, and enables the Government to order the necessary changes.

In April 1937 the Minister of Commerce and Industry announced a scheme for abolishing customs duties on imports of pig iron for a year and increasing the annual production of pig iron to 5,600,000 tons and that of steel to 6,000,000 tons by the end of 1941. Accordingly, the expansion scheme of the Japan Iron Manufacturing Company was to continue for several years to come and new furnaces were to be installed in Hyogo and Korea while its existing factories were to be greatly expanded. But the occurrence of the China incident expanded the requirements and the Konoé Cabinet which came to power in June 1937, drew out a five-year program for expanding the production of iron in order to realize an annual output of steel amounting to 10,000,000 tons in Japan and Manchoukuo combined. To increase the supply of steel for special purposes the curtailment of the production of iron bars and rods for peacetime enterprises was enforced as from October, 1937. At the same time regulations governing all factories using iron and steel were issued, and Governmental license was made necessary for any

building in which more than 50 tons of iron bars and rods are used, the law coming into force on October 20, 1937. The supply and demand relations are also brought under a thorough Governmental control. All phases of iron and steel manufacturing industries and trade are kept in secret since the second half of 1937.

Steel Competitive rearmament programs adopted by the leading countries of the world have resulted in a remarkable increase in demand for steel and the steel manufacturing industry in Japan has been witnessing unprecedented activity, as shown in the following table. The production in the latter half of 1937 is not made public, but it may be safely said that it reached an amount far surpassing the corresponding period of 1936.

SUPPLY AND DEMAND OF STEEL

(In 1,000 tons)

	Production	Imports	Exports	Domestic consumption
1936:				
First half	2,066	144	223	1,987
Second half	2,514	141	195	2,460
Total	4,580	285	419	4,446
1937:				
First half	2,454	294	212	2,535

Pig Iron and Waste Iron The problem of increasing the production of pig iron had been a long-standing one in Japan, and after the Hirota Cabinet came into power in 1936 it became the subject of one of the most important policies of the Government. Installation of additional furnaces was encouraged and exemption of pig iron from customs duty was proclaimed. Early in 1937 the Hayashi Cabinet established a scheme for increasing the annual production of pig iron to 5,600,000 tons by the end of 1941. The Japan Iron Works made preparations for increasing production in conformity with the Governmental plan and, at the same time, succeeded in concluding a contract with American companies for the importation of pig iron amounting to 150,000 tons during 1937. According to the Japan Iron Works' plan the produc-

Note: The publication of conditions in the iron and steel industry has ceased since 1937.

tion of pig iron in 1937 was to increase by some 500,000 tons, the amount of supply expected being 3,700,000 tons or an increase of 15 per cent over the previous year. Actual production and imports of pig iron in 1936 and 1937 was as follows:

PRODUCTION AND IMPORTS OF PIG IRON IN 1936 AND 1937

	Production		Imports	
	1936	1937	1936	1937
January	233	191	62	65
February	220	185	71	56
March	239	228	91	57
April	231	231	85	54
May	241	230	94	64
June	231	212	101	102
July	239	—	67	117
Total for the year	2,869	—	978	—

Note: Figures for production have not been published since July and those for imports since August.

The imports of waste iron amounted to 1,356,000 tons in the first 7 months of 1937. Figures for the rest of the months of that year are missing, but the fact that those for the first 7 months alone were getting close to the total of the 12 months of the previous year indicates the increased activity of steel manufacturing industry in 1937.

IMPORTS OF WASTE IRON IN 1936 AND 1937

	1936	1937
January	47	74

SUPPLY AND DEMAND OF IRON ORES IN JAPAN PROPER

Year	Amount		Amount imported from Colonies	Amount exported to Colonies	Demand	Percentage of Production to Demand
	produced	imported				
1930	245,991	1,973,659	278,727	2,466	2,504,900	21%
1931	208,181	1,549,919	176,585	5,176	1,929,509	20
1932	226,722	1,482,409	151,603	4,200	1,856,400	20
1933	320,670	1,523,627	255,320	5,600	2,093,900	28
1934	431,600	2,131,916	180,500	5,500	2,738,500	22
1935	515,800	3,404,099	242,100	5,700	4,156,400	18
1936	620,400	3,780,100	242,700	—	4,643,200	18
1937 (up to July)	—	1,856,800	1,009,700	—	—	—

	1936	1937
February	56	94
March	72	84
April	72	136
May	119	223
June	118	356
July	164	400
Total	648	1,356
Total for the year	1,497	—

Iron Ore Deposits in Manchoukuo and North China Iron ore deposits in Japan proper and Korea are estimated at 200,000,000 tons and the domestic supply of iron ore meets but 24 per cent of the demand, the remaining 76 per cent coming from abroad. With the increase of output in Manchoukuo Japan may reduce imports of the metal from Western countries to 50 per cent of the demand. The percentage is hoped to diminish still further with the exploitation of iron resources in North China. The total iron ore deposits in China and Manchoukuo were estimated at 1,000,000,000 tons according to "An Outline of Mining Industry in China," or 555,000,000 tons according to the "Iron Ore Deposits and Iron Industry of China" by F. R. Tegengren, and approximately 90 per cent of which is in the five provinces of North China and Manchoukuo. The quality of these ores is said to be poor and the results of their exploitation are regarded very uncertain. Nevertheless, Japan may be able to get a good supply of iron ore from these districts for years to come through the efforts of skilful engineers and the application of modern scientific methods.

Pig Iron Pig iron is produced by Nippon Seitetsu Kabushiki Kaisha (Japan Iron Manufacturing Company). Coke is mostly used in its production, the amount produced with charcoal be-

ing so small that it is hardly worth mentioning. The amount of production classified according to the mode of production and raw materials from which it is produced is as follows:

Year	From Iron Ore		Reproduced From Ores	Total
	With Coke	With Charcoal		
1927	884,341	—	10,905	925
1928	1,077,065	381	14,237	853
1929	1,065,908	2,000	19,138	82
1930	1,136,853	241	24,743	57
1931	896,445	—	20,897	—
1932	993,447	1,253	15,837	224
1933	1,403,502	—	19,924	463
1934	—	—	—	—
1935	—	—	—	—
1936	—	—	—	—
				2,007,500

During the war, Japan had the bitter experience of having her supplies of iron and steel cut off from Great Britain and the United States of America, and in view of this the Nippon (then Yawata) Works has steadily extended its production capacity. The 1930 pro-

duction was 2.5 times that of 1919. Japan requires about 1,500,000 tons of pig iron every year. Her own production is not enough to meet this requirement and the shortage is filled by importing from Chosen, Manchoukuo and India.

PRODUCTION OF PIG IRON IN JAPAN AND MANCHOUKUO

Year	Production in (In metric tons)			Total
	Japan Proper	in Chosen	Manchoukuo	
1929	1,087,128	153,627	295,380	1,536,135
1930	1,161,894	349,415	150,524	1,661,833
1931	917,342	147,257	342,270	1,406,869
1932	1,010,761	161,940	368,181	1,540,882
1933	1,423,889	161,163	433,523	2,018,575
1934	1,714,417	175,502	471,715	2,361,634
1935	1,906,787	147,774	—	2,999,328
1936	2,007,500	—	649,800	3,102,400

SUPPLY AND DEMAND OF PIG IRON IN JAPAN

	Production in (In metric tons)			
	1934	1935	1936	1937
Production in Japan Proper	1,728,100	1,906,700	2,007,500	—
Imports from Ceylon, Manchoukuo and India	778,400	1,092,500	1,094,800	583,200
Total supply	2,506,700	2,999,300	3,102,400	—
Exports to colonies	800	—	—	—
Demand in the country	2,501,300	2,998,000	3,101,500	—
Percentage of production to demand	92%	81%	77%	—

Steel and Steel Materials Steel ingots are produced mostly from pig iron, principally by the open-hearth process. The Bessemer process is sometimes employed by small mills, but the number of mills which use either this or the

crucible method is small. Recently the electric process of production has been gaining ground. The amount of steel produced by different methods are shown below.

PRODUCTION OF STEEL INGOTS

(In metric tons)

Method of Production	1929	1930	1931	1932	1933	1934	1935
Open hearth Bessemer	2,238,198	2,225,451	1,828,823	2,325,306	3,456,347	3,633,610	4,459,737
Electric Crucible	1,210	35	—	940	—	—	—
Electric	52,654	62,140	52,765	69,740	137,600	208,790	241,649
Crucible	1,778	1,711	1,537	2,296	2,192	1,120	1,200
Total	2,293,840	2,289,337	1,883,125	2,398,282	3,596,139	3,843,520	4,702,586

Total production in Japan proper and Chosen for 1936 was 4,914,000 metric tons.

PRODUCTION OF STEEL MATERIALS

CLASSIFIED ACCORDING TO KINDS (In metric tons)

	1929	1930	1931	1932	1933	1934	1935	1936
Round bars	683,841	483,556	467,333	568,446	846,997	778,451	1,015,744	1,582,133
Square bars	255,553	250,753	202,509	252,402	331,439	430,321	467,836	—
Thin plates	543,948	570,603	560,056	608,893	747,138	910,137	1,102,249	1,397,881
Steel pipes	78,492	88,336	63,491	95,890	117,287	136,969	166,682	188,659
Rolls & fish plates	271,324	289,696	110,338	233,502	271,982	368,199	366,744	288,576
Wire rods	68,471	122,428	176,561	215,250	285,013	347,548	412,600	487,162
Black sheet	—	—	—	—	35,989	61,161	94,920	139,417
Others	26,048	31,709	21,513	36,724	53,110	63,522	107,994	—
Total	1,927,677	1,837,081	1,601,800	2,011,107	2,688,955	3,096,308	3,734,791	—
Wrought Steel materials	38,450	26,895	16,595	31,917	63,709	71,145	72,030	—
Cast steel	49,224	38,661	30,532	42,684	61,043	79,819	100,444	—
Special steel materials	18,529	18,429	13,931	27,929	49,448	57,912	72,088	—
Grand total	2,033,880	1,921,066	1,662,858	2,113,637	2,863,155	2,305,184	3,979,353	4,538,626

The annual requirement of steel materials in Japan is about 3,500,000 tons. The production in the country has greatly increased of late and in 1935 and 1936

it was able to meet the domestic demand. The following statistics show how the demand is met.

SUPPLY AND DEMAND OF STEEL MATERIALS

(In metric tons)

	1931	1932	1933	1934	1935	1936
Production	1,662,858	2,113,637	2,863,155	3,805,184	3,976,000	4,538,550
Amount imported	265,548	235,165	409,862	426,658	357,100	344,900
Total supply	1,928,406	2,348,802	3,273,017	3,731,842	4,333,300	4,883,500
Amount exported	203,547	299,867	435,297	254,955	811,100	887,900
Home consumption	1,724,859	2,048,935	2,837,720	3,476,887	3,522,200	3,775,600
Percentage of production to consumption	96	103	101	95	114	115

Coal Mining

Coal surpasses all other mineral products both in quantity and money value. The 1936 production amounted to 41,803,000 metric tons with an aggregate of ¥305,537,000. Both the output and value

for the year were the heaviest for 10 years since 1926. Compared with the 1935 production, the output gained 4,076,509 tons and the value ¥35,359,984. The year 1936 was the most prosperous year for the coal industry. Details follow:

SUPPLY AND DEMAND OF COAL

(In metric tons)

	1935	1936	1937	1938
Coal actually marketed	37,762,000	41,000,000	38,941,000	42,495,000
Coal imported	4,049,000	4,189,000	4,429,000	3,741,000
Coal stocks at the beginning of year	657,000	722,000	—	—
Total coal supply	42,468,000	45,911,000	—	—
Coal exported	1,019,000	1,112,000	1,024,000	769,000
Coal stocks at the end of year	722,000	698,000	—	—
Coal demand in Japan proper	40,727,000	44,101,000	42,607,000	45,477,000

Note:—The imports of coal in 1938 amounted to 3,682,531 long tons valued at ¥67,217,000, and in 1939 to 3,794,710 long tons valued at ¥78,361,000. The exports amounted to 746,481 long tons valued at ¥10,147,000 in 1938, and decreased to 669,131 long tons valued at ¥9,666,000 in 1939. Figures for other items are not made public.

Japan's coal production since 1913 follows:—

		(In 1,000 metric tons)	
1913	21,315	1921	26,220
1914	22,293	1922	27,701
1915	20,490	1923	28,948
1916	22,910	1924	30,110
1917	26,361	1925	31,459
1918	28,029	1926	31,426
1919	31,271	1927	33,530
1920	29,245	1928	33,860
		1929	34,257
		1930	31,376
		1931	27,987
		1932	28,053
		1933	32,523
		1934	35,924
		1935	37,762
		1936	41,803

Business results of the coal-mining companies in recent years were:

Year	No. of Companies	Authorized Capital (In yen)	Reserve Fund	Net Profit Dividend Net loss		
				(In yen)	(In yen)	(In yen)
1928	105	386,413,700	26,868,288	11,711,498	7,142,008	13,011,829
1931	87	865,800,700	30,149,827	4,424,070	4,183,130	5,654,419
1934	113	470,097,200	60,394,926	30,716,855	19,847,553	995,199
1937	184	620,964,906	85,004,467	50,082,609	31,368,706	2,342,734
1938	215	928,478,050	107,839,968	73,006,387	39,400,763	2,914,751

Coal Deposits No survey of coal resources was undertaken between the years 1911 and 1931, but in the latter year the Mining Bureau of the Depart-

ment of Commerce and Industry commenced a survey which took 2 years to complete. The results, compared with the 1911 survey, are:

	Investigation in 1932			Total	%
	Anthracite Natural Coal	Bituminous Coal	Lignite		
Amount, already mined	29,888	984,130	6,965	1,020,483	5
Amount, unmineable	39,332	991,673	18,859	1,049,864	6
Amount, mineable	718,782	15,499,091	473,460	16,671,333	89
Percentage	4%	93%	3%	100%	
Actual deposits	454,745	5,439,905	65,765	5,960,415	36
Probable deposits	131,944	3,780,975	132,582	4,045,501	24
Possible deposits	132,093	6,278,211	275,113	6,685,417	40

MINING

Investigation in 1911

	Coal	Lignite	Total	%
Amount, already mined	283,200	—	283,200	3
Amount, unmineable	—	—	—	—
Amount, mineable	8,792,000	347,570	9,139,450	100
Percentage	86%	4%	100%	
Amount mineable	—	—	—	—
Actual deposits	822,000	75,770	897,770	10
Probable deposits	2,940,000	205,000	3,145,000	34
Possible deposits	5,030,000	66,700	5,096,700	56

Note: "Amount unmineable" indicates the deposits, such as portions between pits, officially prohibited regions and where no pick is allowed.

"Probable deposits" as judged geologically and from conditions of coal seams and which can be presumed as available in future.

"Possible deposits" represent the deposits imagined to be there and are the most uncertain of all.

Petroleum

Production The home yield of crude oil until about 1916 was approximately 2,600,000 koku, by no means sufficient to satisfy domestic demand. Notwithstanding yearly increase in demand output was unable to keep pace with it so that by 1927 domestic production was only able to satisfy 25% of the home

consumption. The percentage has since increased and in 1932 was about 44%.

According to investigations conducted by the Nippon Petroleum Oil Company, the most important producer of crude oil, wells with a daily output of 20 kiloliters (approximately 11 koku) and over numbered no more than seven mentioned below:

Location	Name of Well	Date	Depth	Daily Output during 10 Days after Successful Date
Kashiwazaki	Warimachi Ro Style No. 3	Jan. 6	1,240 meters	24.64 kiloliters
"	Warimachi Ro Style No. 20	Feb. 11	1,246 "	27.13
"	Takamachi Ro Style No. 35	April 2	1,240 "	22.50
"	Takamachi Ro Style No. 36	April 24	1,240 "	34.08
"	Warimachi Ro Style No. 27	May 14	1,255 "	30.45
"	Warimachi Ro Style No. 14	June 11	1,325 "	32.88
"	Warimachi Ro Style No. 36	July 20	1,264 "	60.60

Supply and Demand One of the most conspicuous features in the oil production for the five years, 1931-1935 was the marked increase in the use of foreign crude oil in the manufacture of heavy oil. The amount for 1935 set an all-time record of 35,837,000 cases, one case being 9.5 gallons, far larger than the preceding four years. The supply of the heavy oil manufactured out of home crude oil for 1935 was fairly

heavy, second in amount from a previous record of 3,017,310 hl. for 1931. For three years following 1931 the amount was falling, but the 1935 amount gained again, due to a rapid growth of demand at home. The amount of home consumption for 1936 was the heaviest known so far. Below are given detailed figures on the supply and demand of oil:

SUPPLY AND DEMAND OF OIL (in hl.)

(hectoliter=26.4 American gallons)

(1 case=9.5 gallons)

Classification	Year	Production		Total	Imports
		From Home Oil	From Foreign Oil		
Gasoline Oil	1932	628,474	3,105,810	3,734,284	4,401,440
	1933	394,737	3,533,429	3,928,166	4,625,860

PETROLEUM

Classification	Year	Production		Total	Imports
		From Home Oil	From Foreign Oil		
Kerosene Oil	1934	349,470	4,436,050	4,785,520	5,505,290
	1935	436,760	5,341,710	5,778,470	5,925,440
	1936 (in case)	2,378,000	17,165,000	19,543,000	19,250,000
	1932	244,758	579,299	824,057	700,500
	1933	208,660	589,694	798,354	576,510
	1934	206,700	709,780	916,480	877,780
Light Oil	1935	296,500	828,600	1,125,100	933,560
	1936 (in case)	1,228,000	2,063,000	3,831,000	2,526,000
	1932	733,672	1,483,508	2,217,180	—
	1933	563,824	1,404,971	1,968,795	—
	1934	663,730	1,332,810	1,996,540	—
	1935	609,270	1,185,160	1,794,430	—
Lubricating Oil	1936 (in case)	1,375,000	2,789,000	4,164,000	222,000
	1932	511,969	1,133,088	1,645,057	353,890
	1933	455,520	1,555,840	2,011,360	241,140
	1934	592,160	1,761,540	2,353,700	389,620
	1935	743,510	1,631,610	2,375,120	425,290
	1936 (in case)	1,815,000	4,985,000	6,800,000	1,787,000
Heavy Oil	1932	205,354	507,623	712,977	12,996,530
	1933	214,203	1,062,168	1,276,371	13,016,430
	1934	376,020	1,870,990	2,247,010	16,165,550
	1935	853,190	2,438,240	3,291,430	20,959,990
	1936 (in case)	3,659,000	8,295,000	11,954,000	35,463,000
	1932	2,324,227	6,809,328	9,133,555	18,452,360
Total	1933	1,836,944	8,146,102	9,983,046	18,459,940
	1934	2,188,080	10,111,170	12,299,250	22,938,240
	1935	2,939,230	11,425,320	14,364,550	28,244,280
	1936 (in case)	10,455,000	35,837,000	46,291,000	59,248,000

SUPPLY AND DEMAND OF OIL (in hl.)

(1 case=9.5 gallons)

Classification	Year	Total	Export	Balance Consumed at Home	
				Pct. of Production to Demand	Pct. of Demand
Gasoline Oil	1932	8,135,724	—	8,135,724	45.9
	1933	8,554,026	—	8,554,026	45.9
	1934	10,290,810	—	10,290,810	47.0
	1935	11,703,910	27,180	11,676,730	49.0
	1936 (in case)	38,712,000	81,000	—	—
	1932	1,524,557	120,140	1,404,417	58.7
Kerosene Oil	1933	1,374,864	51,000	1,323,864	60.3
	1934	1,794,260	44,320	1,749,940	52.0
	1935	2,058,660	110,890	1,947,790	58.0
	1936 (in case)	5,493,000	864,000	—	—
	1932	2,217,180	—	2,217,180	100.0
	1933	1,968,795	—	1,968,795	100.0
Light Oil	1934	1,996,540	—	1,996,540	100.0
	1935	1,794,430	—	1,794,430	100.0
	1936 (in case)	3,872,000	514,000	—	—
	1932	1,998,947	124,850	1,874,097	87.8
	1933	2,252,500	203,960	2,048,540	98.2
	1934	2,743,320	288,640	2,454,680	96.0
Lubricating Oil	1935	2,800,410	270,540	2,529,870	94.0
	1936 (in case)	8,134,000	453,000	—	—
	1932	13,709,507	—	13,709,507	5.2
	1933	14,292,801	—	14,292,801	8.9

Classification	Year	Total	Export	Balance Consumed at Home	Pct. of Production to Demand
	1934	18,412,560	—	18,412,560	12.0
	1935	24,251,420	—	24,251,420	14.0
	1936 (in case)	47,331,000	80,000	—	—
Total	1932	27,535,915	244,990	27,340,925	33.4
	1933	28,442,986	254,960	28,188,026	35.4
	1934	35,237,490	332,960	34,904,530	35.0
	1935	42,608,830	408,580	42,200,240	34.0
	1936 (in case)	103,542,000	1,998,000	—	—

Note:—Figures are not published since 1937.

Artificial Petroleum In view of the necessity of developing artificial petroleum industry as a means of covering the shortage of the resources of natural petroleum in this country, the Government formulated a plan to establish a company with a capital of ¥100,000,000 to take charge of the task.

At present, the annual consumption of petroleum in this country amounts to approximately 3,000,000 metric tons, not including the demand of the Imperial Navy. As the domestic production still remains in the neighborhood of 300,000 metric tons, the nation has to look for 90 per cent of its demand in foreign petroleum, mainly supplied by British and American oil interests. The policy for the compulsory storage of a fixed amount of oil by foreign oil concerns in the country is merely a negative measure like the policy for economizing petroleum.

Compelled by the present extraordinary international situation to take positive measures, the Government has resolved to establish the artificial petroleum industry by three methods comprising technical assistance, financial assistance through government investments, and encouragement for products.

The Fuel Research Institute of the Ministry of Commerce and Industry, which is located at Kawaguchi City in Saltama Prefecture, has succeeded in its experiments aiming to transfer from the laboratory to the plant the manufacturing of artificial petroleum by the three processes of low temperature, dry distillation, direct liquefaction and synthesis of oils. This success has led to the decision to establish a model State-managed plant in the Hokkaido at a cost of some ¥20,000,000 as an enterprise spreading over a period of three years beginning with the 1937-38 fiscal year.

Unlike the private enterprises which have already been placed on industrial

basis, the enterprise of the Ministry of Commerce and Industry, which is undertaken through the creation of a new department in the Fuel Research Institute, will be featured by an attempt to lower the production cost through rationally employing the aforementioned three processes. The minimum amount of annual production required for placing the enterprise on industrial basis is estimated at 20,000 tons. When this State enterprise proves successful, additional plants on the same scale are expected to be established in other suitable places.

It is to be noted that in undertaking to embark upon the enterprise, the Government also aims at the training of technicians to be charged with the task of guiding private enterprises. In other words, the new department of the Fuel Research Institute will play the role of a pilot of new enterprises.

The organization of a ¥100,000,000 investment company as a semi-official concern was decided upon in view of the necessity of the Government extending financial aid to the industrialists for embarking upon enterprises of national importance. According to the tentative plan, the new company will be called the Imperial Fuel Company and will aim at the annual production of 2,000,000 tons of artificial petroleum, including 1,000,000 tons of volatile oil and 1,000,000 tons of heavy oil.

This aim is to be attained through the execution of a seven-year program. For this purpose, the Government has decided to authorize the new company to issue debentures to a total amount three times that of its capital (or five times in case the capital fails to reach ¥100,000,000 due to a curtailment of the budget estimates). In order to encourage private investments, it was also decided to guarantee a dividend of 3.5 per cent during the first three years and of 5 per cent later on for the private shares

of the company, with the government shares receiving no dividend in case the profits of the company do not amount to 5 per cent.

With a view to the sound development of the artificial petroleum industry, the Government has decided to enforce a control through the adoption of the licensing system for the industry. Not only the enterprises to be launched in the future but the already commenced enterprises also are required to obtain the license so that they may enjoy the privilege of securing the investments of the semi-official investment company referred to above. It is estimated that all the enterprises will involve a huge sum of ¥700,000,000 upon the completion of the six-year program, comprising ¥400,000,000 in the invest-

ments of the semi-official concern, ¥200,000,000 in the investments of enterprisers and ¥100,000,000 in the expenses for 10,000,000 tons of coal liquefaction to produce 2,000,000 tons of artificial petroleum.

The production costs of artificial petroleum products are estimated to average ¥0.8 per gallon under the existing circumstances while the present quotation of gasoline is ¥0.51. Through the imposition of a gasoline tax as well as the raising of the tariffs, the Government expects to advance the prices of petroleum by about ¥0.10 per gallon. This, however, would still leave a margin of around ¥0.20 between the production cost and market price and accordingly, the Government plans to adopt a compensation system.

Producers and Operatives

BUSINESS RESULTS OF MINING COMPANIES

Year	No. of Companies	Authorized Capital	Reserve	Net Profit	Dividend	Net Loss
(In yen)						
1934	515	1,066,996,905	120,127,123	76,317,610	49,989,059	2,228,960
1935	611	1,269,098,458	141,984,183	98,089,442	63,862,501	3,250,888
1936	697	1,418,426,383	170,580,240	113,489,840	69,684,072	8,916,621
1937	836	1,758,504,011	210,737,740	131,457,216	85,221,659	7,027,587
1938	991	2,294,097,623	246,328,767	179,034,250	107,928,726	8,369,046

MINING COMPANIES BY KINDS IN 1938

(Prepared by the Ministry of Commerce and Industry)

Kind of Mining	Number of Companies	Authorized Capital	Reserve	Net Profit	Dividend	Net Loss
(In yen)						
Metal	397	1,086,981,900	100,240,890	84,655,748	55,864,457	4,086,967
Coal	215	928,478,050	107,839,968	73,006,387	39,400,763	2,914,751
Petroleum	38	180,845,000	32,724,013	15,800,679	8,488,750	291,812
Others	41	46,127,000	4,337,004	4,096,551	3,181,014	449,813
Stone	300	51,665,673	1,186,892	1,474,885	993,742	625,703
Total	991	2,294,097,623	246,328,767	179,034,250	107,928,726	8,369,046

NUMBER OF OPERATIVES ENGAGED IN MINING

End of June	Male	Female	Total	End of June	Male	Female	Total
1933	180,940	21,380	202,320	1936	249,182	25,512	274,694
1934	212,351	23,996	236,347	1937	326,266	39,905	366,171
1935	232,026	25,389	257,415	1938	389,365	46,445	435,810

Note: Figures for 1936 are the results of actual spot investigation on October 10.

CHAPTER XVIII

THE TEXTILE INDUSTRY

The number of operatives, mills, etc. for almost all kinds of the textile industry in 1938 showed an increased over those of 1937, indicating that the indus-

try as a whole was very prosperous in that year. The following table shows these figures:

NUMBERS OF OPERATIVES, MILLS, ETC. IN TEXTILE INDUSTRY IN 1938 AS COMPARED WITH THOSE IN 1937

Kind of Industry	No. of Mills		No. of Mills using Motors		No. of Officials		No. of Technicians	
	1937	1938	1937	1938	1937	1938	1937	1938
Silk reeling	2,006	1,938	1,908	1,843	4,652	4,523	4,328	4,401
Spinning	782	817	773	814	4,428	4,921	3,485	3,608
Twisting	2,081	2,142	2,039	2,041	545	532	320	327
Weaving	16,034	15,871	15,125	15,024	7,303	7,720	4,472	4,626
Hosiery	1,960	2,043	1,650	1,732	1,113	1,205	627	636
Dyeing, refining, bleaching, assorting	3,680	3,636	2,701	2,721	4,170	4,251	2,561	2,544
Miscellaneous	1,590	1,645	1,432	1,475	1,193	1,127	589	625
Total	28,133	28,092	25,628	25,650	23,354	24,279	16,382	16,857

Kind of Industry	No. of Operatives				Others		Total Workers	
	Male		Female		1937	1938	1937	1938
	1937	1938	1937	1938				
Silk reeling	17,205	17,661	207,200	200,873	4,138	4,420	237,523	231,468
Spinning	34,360	31,007	229,353	209,554	8,974	8,960	280,000	258,050
Twisting	5,433	4,893	18,873	19,834	343	401	25,514	25,987
Weaving	64,989	59,702	315,300	310,805	5,536	5,890	397,600	388,743
Hosiery	10,029	8,733	20,477	18,369	403	376	32,049	29,319
Dyeing, refining, bleaching, assorting	60,725	52,529	15,687	16,043	2,304	2,365	85,447	77,732
Miscellaneous	8,614	8,830	24,265	27,450	639	508	35,250	29,710
Total	201,355	183,355	831,155	793,598	22,337	22,920	1,094,583	1,041,000

Note: Figures are for the factories where more than 5 operatives are employed.
Source: The "Factory Statistics."

Cotton Industry in 1939

The cotton industry of Japan in 1939 met various hardships on account of the State control of production and distribution, the restrictions on the exports to the yen-bloc countries and the link system in export trade (see chapter on Foreign Trade), until September when prices began to rise throughout the world because of the outbreak of the second European war. In spite of it, the rise in prices greatly benefited the cotton industry in Japan.

Exports The exports of cotton tissues in 1939 to third countries (countries other than the Kwantung Leased Territory, Manchoukuo and China) had been calculated to be less than 2,000,000,000 square yards. But the volume of exports to third countries reached 2,400,000,000 square yards and was valued at ¥383,000,000; this was an increase of 500,000,000 square yards and ¥58,000,000 over 1938. The value is the highest since 1930. On account of restrictions imposed on exports, the exports of cotton tissues to the yen-bloc

countries greatly decreased with but 45,000,000 square yards, valued at ¥20,000,000 for 1939 against 296,000,000 square yards valued at ¥76,000,000 for 1938.

The best customers of the Japanese cotton tissues in 1939 were British India, the Netherlands East Indies and other Asiatic countries, in the order named. The rate of increase was greatest in the trade with the United States, which bought five times as much as in 1938, while the exports to Central American countries increased by 80 per cent.

The volume of exports of cotton yarns to third countries nearly doubled, reaching 54,900,000 kin, valued at ¥60,400,000. The increase was due to the efforts of manufacturers and traders who concentrated on the exports of cotton yarns when the exports of cotton tissues reached the possible maximum. The greatest rate of increase in exports was to British India and the Netherlands East Indies. The exports to the yen-bloc countries were also doubled with 7,600,000 kin, valued at ¥10,000,000.

The exports of other cotton goods, i.e. hosiery, towels, etc., reached ¥142,000,000, including ¥99,500,000 to third countries and ¥42,700,000 to the yen-bloc countries.

The total value of exports of cotton goods during 1939 reached ¥617,226,000, an increase of ¥51,242,000 or 8.5 per cent as compared with the previous year.

Imports The imports of cotton in 1939 reached 10,094,000 piculs, valued at ¥462,007,000; this was an increase of 716,000 piculs and ¥25,000,000 over the

previous year. Deducting ¥46,800,000's worth imported from China, the amount imported from third countries was ¥415,000,000's worth, of which ¥350,200,000's worth of cotton was converted into cotton goods for exports and the remaining ¥65,000,000's worth was consumed for the manufacture of cotton goods for domestic use.

Imports of cotton from Brazil greatly increased while those from British India decreased. This may be due to the cheaper price of Brazilian cotton to the U.S. cotton and the progressive importation of cotton raised by Japanese farmers in Brazil. The shortage of imports of Indian cotton, which was 300 bales less than the 1,500,000 bales agreed upon between the two countries for the year, was mostly due to a greater purchase of Indian cotton by spinning mills in China.

Balance of International Payments In 1939 Japan bought cotton worth ¥462,000,000 and sold cotton goods worth ¥617,000,000, thus profiting ¥155,000,000 through the cotton industry. Outside of the yen-bloc countries, the value of cotton imports from third countries was ¥415,000,000, and that of exports of cotton manufactures was ¥543,000,000; thus Japan gained the balance of ¥127,000,000, not to speak of the ¥65,000,000's worth of cotton which was consumed in the manufacture of cotton goods for domestic use.

Production In 1939 the amount of cotton yarn produced, including the mixed, was 3,047,547 bales, a decrease of 0.5 per cent from the previous year; that of cotton tissues (broad weaves only) was 3,028,091,000 square yards.

BUSINESS CONDITIONS OF COTTON SPINNING COMPANIES IN JAPAN PROPER

(In ¥1,000)

	No. of Paid-up		Debentures Fixed		Net	Rate	Rate of
	Cos.	Capital Reserves	& Debts	Assets			
1935, 1st Half	61	441,536	270,444	126,670	597,130	35,732	1.62
2nd Half	61	444,932	274,346	136,793	619,228	35,174	1.58
1936, 1st Half	68	454,640	278,307	179,832	665,027	33,016	1.45
2nd Half	67	466,492	280,629	184,563	699,382	36,828	1.58
1937, 1st Half	67	512,988	287,603	205,621	732,392	47,081	1.84
2nd Half	72	571,011	294,390	218,290	777,060	50,649	1.77
1938, 1st Half	76	604,629	302,505	214,863	792,225	49,196	1.62
2nd Half	75	628,222	309,591	219,063	819,549	49,505	1.57
1939, 1st Half	72	623,184	310,414	209,766	827,096	48,970	1.57

THE TEXTILE INDUSTRY

SPINNERS' CAPITAL AND EQUIPMENT

(In Japan Proper and Chosen)

At the end of	No. of Cos.	Paid Cap. (000s)	Reserves (000s)	Mills	Ring Spindles	Looms
1922	64	317,148	202,774	235	4,472,112	60,765
1923	70	376,273	217,408	241	4,422,428	64,460
1924	69	398,163	219,043	247	5,100,056	68,579
1925	64	382,715	223,531	243	5,413,094	73,381
1926	64	391,305	231,149	247	5,644,772	77,043
1927	64	391,551	238,367	257	6,079,272	78,352
1928	70	419,792	249,679	259	6,425,500	81,209
1929	70	429,415	259,757	258	6,795,502	77,898
1930	74	425,346	252,095	263	7,171,527	79,466
1931	72	398,855	240,828	263	7,498,152	77,782
1932	71	397,675	245,940	265	7,929,530	79,277
1933	69	403,899	255,398	268	8,608,608	86,343
1934	61	438,573	273,315	275	9,495,254	91,146
1935	74	440,255	276,898	276	10,197,124	89,325
1936 (June)	75	455,640	278,307	285	10,989,900	98,000
1937 (")	74	512,988	287,603	282	12,190,800	104,600
1938 (")	76	604,629	302,525	296	12,776,200	114,300
1939 (")	72	623,184	316,414	246	11,602,900	104,100

Note: In 1923 and in the years following, all figures include spinners not members of the Japan Cotton Spinners' Association. It must be noted that the looms include only those which are owned by spinners, not embracing those in mills which have no spinning equipment.

Source: The report of the Japan Cotton Spinners' Association.

JAPANESE SPINNING MILLS IN CHINA AND MANCHOUKUO

End of June	No. of Companies	Mills	Spindles	Looms
1934	15	40	1,880.3	19.3
1935	15	43	1,934.0	21.8
1936	15	45	2,033.7	25.7
1937	15	45	2,291.4	33.3
1938	16	54	2,110.1	25.8
1939	16	—	2,154.0	31.9

RAW COTTON IMPORTS

(Compiled by the Finance Ministry)

(In piculs and ¥1,000)

	1937		1938		1939	
	Quantity	Value	Quantity	Value	Quantity	Value
U.S.A.	4,223,964	306,388	3,248,976	166,414	2,979,000	146,640
British India	7,016,238	363,635	3,096,085	113,331	3,325,000	120,997
Egypt	670,390	58,759	404,720	27,530	551,000	37,060
China	400,824	23,609	1,432,414	71,790	64,000	46,809
Others	1,453,497	98,772	1,196,259	57,770	2,243,000	110,468
Total	13,764,913	851,163	9,378,454	436,835	9,163,000	462,007

CONSUMPTION OF COTTON

(Compiled by the Japan Cotton Spinners' Association)

(In 1,000 piculs)

	Indian	American	Chinese	African & Egyptian	Others	Total
1928	3,862	3,868	461	279	149	8,620
1929	4,864	4,276	219	325	171	9,855
1930	4,745	3,544	86	262	216	8,853

COTTON INDUSTRY

	Indian	American	Chinese	African & Egyptian	Others	Total
1931	4,392	4,256	20	264	152	9,084
1932	2,507	6,871	15	284	119	9,773
1933	3,487	6,579	59	391	212	10,728
1934	4,600	6,479	86	541	370	12,076
1935	5,088	6,341	33	508	477	12,520
1936	5,467	5,210	160	762	1,072	12,670
1937	6,082	5,239	250	920	1,355	13,845
1938	3,473	3,605	1,081	544	1,191	9,893
1939 (June)	1,597	1,818	223	347	651	4,637

PRODUCTION, CONSUMPTION, IMPORTS AND EXPORTS OF COTTON YARNS SINCE 1933

(In bales)

Year	Domestic Output	Imports	Exports	Exported as Cotton Tissues	Domestic Consumption
1933	3,099,856	58,966	48,307	1,491,656	1,632,994
1934	3,462,442	54,517	64,844	1,866,542	1,585,799
1935	3,559,051	17,514	95,583	1,940,400	1,545,425
1936	3,607,196	14,119	110,833	1,921,920	1,591,162
1937	4,010,576	10,877	128,908	1,890,690	1,949,981
1938	2,859,022	1,868	105,265	1,766,802	988,575
1939	2,673,063	800	208,750	1,762,210	702,903

(One bale = 3 piculs)

PRODUCTION OF COTTON YARNS IN JAPAN PROPER

(Compiled by the Ministry of Commerce and Industry)

Year	No. of Mills (At the end of Year)	No. of Operatives	Production	
			Quantity (In metric ton)	Value (In ¥1,000)
1934	417	170,114	635,385	795,686
1935	443	168,800	646,756	806,346
1936	473	183,504	673,124	830,909
1937	599	183,354	721,904	1,044,077
1938	607	151,201	560,360	764,885

Source: The "Factory Statistics."

PRODUCTION OF COTTON TISSUES IN JAPAN PROPER

(Compiled by the Ministry of Commerce and Industry)

Year	No. of Mills (At the end of Year)	No. of Looms	No. of Operatives	Value of Production
				(Unit: ¥1,000)
1934	51,130	376,704	224,645	816,361
1935	48,389	385,980	229,707	822,417
1936	46,915	392,941	239,881	883,341
1937	41,513	407,520	234,034	1,112,685
1938	33,828	386,841	209,247	888,221

Note: Figures include production by small factories which employ less than 5 persons, and differ from those given in the "Factory Statistics."

SUPPLY AND DEMAND OF COTTON TISSUES
IN JAPAN PROPER

(Compiled by the Japan Cotton Spinners' Association)

Year	Total Production (Broad Weaves) (In 1,000 yards)	Production by Spinning Companies (In 1,000 yards)	Production in Weaving Districts	Consumption	
				Exports (In 1,000 sq. yards)	Home Consumption (In 1,000 yards)
1930	2,015,411	1,388,423	1,226,988	1,571,825	1,043,586
1931	2,840,161	1,404,668	1,435,493	1,413,780	1,426,381
1932	3,100,130	1,532,850	1,567,280	2,031,722	1,068,408
1933	3,610,577	1,713,878	1,896,699	2,090,228	1,522,138
1934	4,057,979	1,793,843	2,264,136	2,577,237	1,606,079
1935	4,112,111	1,843,471	2,268,640	2,725,109	1,400,759
1936	3,973,479	1,799,033	1,780,972	2,709,885	1,269,092
1937	4,212,825	1,890,554	2,322,262	2,644,029	1,577,175
1938	3,101,028	1,611,794	1,639,379	2,180,810	920,218
1939	3,028,091	1,604,821	1,423,270	2,445,537	582,554

EXPORTS OF COTTON TISSUES

(Compiled by the Japan Cotton Spinners' Association)

(In 1,000 sq. yards)

	1935	1936	1937	1938	1939
	Manchoukuo & Kwantung L.T.	222,283	348,263	326,985	192,275
China & Hongkong	105,424	121,937	84,996	133,693	70,749
Straits Settlements	44,739	48,379	51,779	26,294	29,454
Thailand	71,240	72,186	71,815	80,087	83,054
British India	558,071	479,885	332,277	469,512	474,461
Dutch East Indies	369,943	351,479	434,391	246,253	308,669
Philippines	87,041	44,550	54,084	32,678	30,022
Other Asiatic Countries	278,650	224,117	214,749	265,518	423,430
Europe	90,124	142,176	130,038	95,560	91,397
U.S.A.	48,038	73,431	123,850	16,115	71,548
Other North American Countries	223	819	1,325	890	5,158
Central America	70,063	66,413	70,668	37,785	77,343
Argentina	100,278	81,386	131,024	66,563	18,390
Other South American Countries	97,598	97,740	117,705	72,043	134,088
Egypt	163,052	106,123	49,677	21,336	30,807
Other African Countries	312,595	359,544	374,767	345,120	389,408
Australia	86,662	69,738	52,529	64,311	76,156
South Sea Region	9,950	17,830	19,022	13,097	15,832

Silk Textile Industry

Silk Weaving Districts As early as the days of the Emperor Suinin, about 1,960 years ago, weaving was already carried on, on a fairly large scale, under encouragement of the Imperial Court. During the Yedo Age the weaving industry made marked development as one of the most important domestic industries. The Ryomo district, which is one of the chief weaving districts for silk textiles for domestic use, has been known as a very prosperous weaving

center for centuries. This district is in Gumma and Tochigi prefectures and includes great weaving centers such as Ashikaga, Kiryu, Isézaki, Sano and Tatebayashi. The district may be likened to Paterson, New Jersey, U.S.A. Another important weaving district is Fukui, followed by Kyoto, Ishikawa, Niigata and Tokyo in the order named. Among silk weaves of Japanese manufacture habutaé, taffeta, poplin, chiffon, pongee, fuji silk, crêpe, etc. are

well known abroad. In addition to these, however, there are many varieties, which are used by the Japanese at home, but these weaves are generally of narrow width, omeshi, ro, sha, meisen, nishijin, etc.

The Industry in 1938 Continued prosperity featured the silk weaving industry in Japan in 1938, but exports decreased to ¥49,352,000 from ¥72,286,000 of 1937, largely owing to the state control of trade and the barriers set up by various foreign markets.

The number of mills was 65,229, a

decrease of 323 as compared with the previous year, but that of looms increased by 12,078, indicating the increase of larger mills. The number of operatives increased by 1,064.

Production of Silk Weaves Owing to the increase in consumption at home production showed gains. Total production in 1937 was valued at ¥785,525,000, a gain of ¥54,078,000 or 7.4 per cent over the previous year. Production of silk textiles since 1931 follows:

PRODUCTION OF SILK TEXTILES

(Compiled by the Ministry of Commerce and Industry)

Year	1931	1932	1933	1934	1935	1936	1937	1938
No. of Mills	77,723	72,448	71,273	72,907	72,311	72,599	65,552	65,229
No. of Looms	232,443	245,680	260,377	301,721	334,845	369,319	379,213	391,292
No. of Operatives	213,285	224,561	236,997	267,345	290,912	310,359	294,292	304,932

Broad Weaves

	1931	1932	1933	1934	1935	1936	1937	1938
Crêpes and Kabe-ori								
Q'ty in 1,000 meters	34,646	45,812	85,385	124,950	179,348	231,376	284,122	236,395
Value in ¥1,000	27,964	33,546	66,105	73,721	82,973	91,974	109,141	92,639
Habutaé								
Q'ty in 1,000 meters	31,213	36,060	48,735	109,110	81,858	127,171	102,547	142,242
Value in ¥1,000	11,907	13,273	19,281	27,174	21,888	31,998	29,310	39,010
Pongee								
Q'ty in 1,000 meters	33,071	32,550	35,636	37,109	22,807	15,258	19,062	25,818
Value in ¥1,000	9,655	11,164	12,699	10,790	6,838	4,634	6,532	8,282
Fuji silk								
Q'ty in 1,000 meters	51,551	56,619	65,945	59,439	50,866	41,517	43,464	35,540
Value in ¥1,000	24,851	28,896	33,216	31,155	27,804	22,718	22,764	19,876
Satin								
Q'ty in 1,000 meters	25,490	45,799	45,527	74,577	91,087	89,556	86,617	91,851
Value in ¥1,000	14,268	20,048	21,904	26,546	26,790	27,361	27,473	38,766
Others & total								
Value in ¥1,000	137,251	175,640	235,902	273,097	283,420	311,842	366,581	358,774

Narrow Weaves

	1931	1932	1933	1934	1935	1936	1937	1938
Omehi								
Q'ty in 1,000 tan	1,783	2,102	1,493	1,783	2,095	2,529	3,744	3,623
Value in ¥1,000	22,577	21,195	15,809	17,398	19,975	17,945	19,640	22,503
Crêpes and Kabé								
Q'ty in 1,000 tan	10,659	9,611	10,979	15,199	17,865	19,321	16,467	18,226
Value in ¥1,000	67,670	60,982	69,207	93,761	101,236	100,246	84,600	108,552
Habutaé, etc.								
Q'ty in 1,000 tan	3,701	3,495	2,911	3,748	4,688	3,170	3,654	3,681
Value in ¥1,000	20,475	20,241	17,553	19,389	23,365	16,955	16,871	20,038
Ro and Sha								
Q'ty in 1,000 tan	1,347	2,139	1,894	2,717	2,567	3,175	3,372	2,256
Value in ¥1,000	8,352	12,231	11,319	12,868	12,367	13,279	13,180	10,025
Meisen, etc.								
Q'ty in 1,000 tan	13,526	12,601	12,117	12,735	11,205	10,639	11,889	12,885
Value in ¥1,000	57,017	48,132	46,096	49,641	44,907	42,525	48,278	63,472

Year	1931	1932	1933	1934	1935	1935	1937	1938
Others & total Value in ¥1,000	207,898	198,869	197,349	234,353	242,750	236,996	228,279	286,122
Special Weaves Value in ¥1,000	31,599	33,351	30,931	47,091	53,053	53,101	49,402	56,188
Total of Silk Textiles Value in ¥1,000	376,749	407,860	464,183	554,542	579,223	601,940	644,262	701,684
Silk-Cotton Mixtures Value in ¥1,000	30,107	31,159	36,912	46,328	53,709	61,192	77,185	84,441
Grand total Value in ¥1,000	406,857	439,019	501,095	600,870	632,933	663,133	721,447	785,525

Note: Figures given here show products by all mills, regardless of the size of mills or the number of operatives employed.

EXPORTS OF SILK TEXTILES

Kind		1935	1936	1937	1938
		quantity in 1,000 sq.-yds.	20,840	26,664	39,318
Habutaé	value in ¥1,000	9,844	10,840	17,393	15,492
	quantity in 1,000 sq.-yds.	6,279	5,790	2,969	2,705
Satin	value in ¥1,000	4,043	3,281	1,953	1,996
	quantity in 1,000 sq.-yds.	22,973	23,426	23,101	9,834
Fuji silk	value in ¥1,000	13,670	13,573	14,902	6,541
	quantity in 1,000 sq.-yds.	50,476	42,173	40,692	26,440
Crêpes	value in ¥1,000	38,827	31,274	30,831	19,477
	quantity in 1,000 sq.-yds.	17,093	9,191	10,301	6,121
Pongee	value in ¥1,000	5,085	2,976	3,679	2,088
	Others and Total Value in ¥1,000	77,444	68,027	72,286	49,352

Artificial Fiber Industries of Japan in 1939

Japan's production of artificial fibers in 1939 aggregated 550,000,000 pounds including about 240,000,000 pounds of artificial silk yarns and about 310,000,000 pounds of staple fiber, the former increasing by 14 per cent and the latter declining by 18 per cent, as compared with the production in the preceding year. The total production receded by 10 per cent from 1938.

The large decrease in production of staple fiber was due to the severe restrictions placed on domestic demand because of the shortage of raw materials, power and labor. It is true the restrictions applied to silk yarns also, but abnormally high exports more than counter-balanced the decreased domestic consumption—export goods being encouraged rather than restricted. In the case of staple fiber this did not happen because of the trade's dependence upon home trade, added to which the material was so much under a cloud because of its lack of durability that at one time it was even proposed that

production should be stopped. For domestic consumption, then, production fell off considerably in both artificial silk yarns and staple fiber, from 90,000 cases and 220,000 cases respectively, in January 1939, to 50,000 and 150,000 cases in December.

In the rayon industry, the application of an exclusive export-factory system was considered for the purpose of controlling the distribution of materials. A drastic revision of the link system for export artificial silk tissues, materialized at the end of October, the agreement prices were abolished, and the link took on more the nature of an individual link. On July 31, 1939, the Ministry of Commerce and Industry cut the sale price of pulp by 1.2 sen per pound, on the basis of which reduction, the Ministry ordered a cut in the price of artificial silk yarns, staple fiber and staple fiber yarns on November 1. Later, the maximum price system for export artificial silk yarns was abolished. The domestic consumption of those two important artificial fibers is now greatly restricted by quantitative and price factors, on the other hand, export goods

are left entirely free and unrestricted and are enjoying boom conditions because of receiving priority in the supply of raw materials. Production control was inevitable in the first half of 1939 owing to the insufficient supply of pulp, while in the second half of the year control was necessary because of additional securities in the way of power and coal. As a measure for economizing in power consumption, the Ministry of Commerce and Industry, in mid-September, ordered the fiber industries to cut down their power consumption by 50-60 per cent at factories producing domestic goods. Later, the distribution of coal to factories manufacturing for domestic consumption was also cut.

Production The domestic production of artificial silk yarns in 1939 totalled 224,160,000 pounds, divided into 95,170,000 pounds for the domestic market and 128,980,000 pounds of export. Inclusive of the production of non-members of the Japan Artificial Silk Manufacturers' Association and yarns for special purposes, total production came to aggregate 238,340,000 pounds, gaining by 14 per cent over the 1938 output, the increased production, despite the reduced output of domestic items being due to the gain in export items. At the end of 1939, the production of export items was three times as great as that of domestic products.

The total production of staple fiber last year amounted to 317,090,000 pounds, including 246,850,000 of domestic consumption items, 35,500,000 pounds of export items and staple fiber

for special purposes, thus dropping by 18 per cent from 1938. The production of staple fiber for domestic consumption steadily fell off in the second half of the year because of the falling supply of power and coal as well as pulp, but the production of export items became specially active after the outbreak of the European War. Thus, the total production of artificial silk yarns and staple fiber aggregated 555,437,000 pounds, including 238,340,000 pounds of artificial silk yarns and 317,097,000 pounds of staple fiber, or about 10 per cent less than the 1938 production of 597,600,000 pounds. Detailed figures follow:

1939 PRODUCTION OF ARTIFICIAL SILK YARNS

(In 1,000 lbs.)

	Domestic Items	Export Items	Total Production
January	9,220	6,598	15,818
February	8,237	8,470	16,707
March	8,264	10,922	19,186
April	9,304	9,834	19,137
May	9,357	11,698	20,995
June	9,178	11,599	20,777
July	8,689	10,919	19,608
August	8,802	9,996	18,698
September	7,906	9,599	17,504
October	6,229	11,927	18,156
November	5,534	13,220	18,754
December	4,554	14,306	18,860
Total	95,174	128,986	224,160

(Note: Exclusive of production by non-members of Japan Artificial Silk Manufacturers' Association and yarns for special purposes)

1939 PRODUCTION OF STAPLE FIBER

(In 1,000 lbs.)

	Domestic Items	Export Items	Special Staple Fiber	Total Production
January	24,028	—	2,999	23,941
February	23,040	1,506	3,089	27,633
March	20,559	1,902	3,092	25,553
April	23,439	1,983	2,065	27,478
May	22,309	1,992	—	24,301
June	22,354	2,325	—	24,679
July	21,465	2,209	—	23,674
August	21,165	1,940	—	23,105
September	19,414	3,216	—	22,630
October	16,742	5,614	—	22,356
November	16,005	7,839	—	23,844
December	16,286	4,984	—	21,270
Total	246,805	35,507	11,234	293,546

(Note: Exclusive of staple fiber for special purposes).

Exports of Artificial Silk The exports of artificial silk yarns in 1939 totalled 36,740,000 pounds, gaining by 67 per cent over the preceding year. In 1938, about a half of the total exports went to Manchoukuo, Kwantung L.T. and China, while the exports last year were divided into 12 per cent to the yen bloc and 88 per cent to third countries. This noteworthy change in the direction of the exports of artificial silk yarns was attributed to the adoption of the export quota system for shipments to Manchoukuo, Kwantung L.T. and China and the individual link system for exports to third countries. The outbreak of the European War and the resultant active purchasing operations by third countries also played an important part in increasing shipments to third countries. Shipments to British India accounted for more than a half of the 1939 exports of artificial silk yarns, being about three times as much as in the preceding year apparently because of decreasing stocks and increasing purchasing power in that district, thus bringing about a reaction in the extreme depression in exports to that destination in 1938. The European War was another encouraging factor. Increased exports were also noted to the Dutch Indies, Mexico, Hongkong, Australia, Syria, Egypt, and South Africa, while shipments to Manchoukuo, Kwantung L.T. and China receded considerably.

In artificial silk tissues exports last year decreased by 8 per cent from the preceding year to 309,920,000 square yards. In 1938, exports were divided into 35 per cent to Manchoukuo, Kwantung L.T. and China, and 65 per cent to third countries. Last year, the ratio changed to 23 per cent to the former and 77 per cent to the latter. Thus, the shipments to third countries last year gained by 8 per cent while shipments to the yen bloc dwindled by 38 per cent for the same reasons as did exports of yarns. Because of the unsmooth working of the link system for tissues, however, exports to third countries failed to increase so largely as in the case of yarns. British India also took most of the artificial silk tissues, replacing Australia, which ranked first after the yen bloc in 1938. Shipments of tissues to Australia, the Dutch Indies, South Africa, Hongkong, etc. also increased last year, while the Philippines,

New Zealand, Iraq and Thailand as well as Manchoukuo, Kwantung L.T. and China bought less. Detailed figures follow:

EXPORTS OF ARTIFICIAL SILK YARNS TO YEN BLOC AND THIRD COUNTRIES

(In 1,000 lbs.)

	1938	1939
Pure exports		
Yarns	10,766	32,762
Tissues	39,475	43,165
Tissues exported from Chosen	587	19
Miscellaneous artificial silk items	7,500	10,172
Total	58,528	65,999
Exports to yen bloc	45,300	35,916
Grand Total	108,828	121,425

(Note: tissues counted as yarns)

EXPORTS OF ARTIFICIAL SILK YARNS BY DESTINATIONS

(In 1,000 lbs.)

Destinations	1938	1939
British India	6,074	19,457
China	8,445	3,904
Dutch Indies	644	3,034
Mexico	1,730	2,797
Hongkong	219	1,713
Australia	725	1,372
Syria	111	990
Egypt	158	927
South Africa	—	662
Kwantung L.T.	762	387
Manchoukuo	2,011	288
Total (including others)	21,985	36,742

EXPORTS OF ARTIFICIAL SILK TISSUES BY DESTINATIONS

(In 1,000 sq. yds.)

Destinations	1938	1939
British India	32,450	40,843
Australia	40,657	44,034
Manchoukuo	47,400	33,330
Dutch Indies	26,688	32,059
Kwantung L.T.	49,549	31,798
South Africa	8,603	9,839
Hongkong	8,455	9,323
Curaçao	6,408	9,254
French Morocco	7,072	8,104
New Zealand	8,988	7,592
St. Settlements	7,775	7,745
Panama	4,872	7,713
Iraq	8,664	7,505

Destinations	1938	1939
China	20,788	7,318
Thailand	5,984	4,499
U.S.A.	1,659	4,410
Philippines	10,586	2,541
Canada	2,424	2,209
Honduras	542	1,930
Anglo-Egyptian Sudan	2,058	1,815
Total (including others)	337,043	309,928

Exports of Staple Fiber The 1939 exports of staple fiber totalled 32,840,000 pounds, divided into 24,420,000 pounds shipped to Manchoukuo, Kwantung L.T. and China and 8,410,000 pounds exported to third countries. Exports to the yen bloc last year increased by 92 times over the preceding year, while the exports to third countries were 350 times larger. Total exports advanced by 136 times, being more than double those of 1937. Exports to third countries, however, failed to reach the 1937 level. To the United States, staple fiber exports were extremely active in the first half of 1937; they became depressed in the second half of that year because of the outbreak of the China Affair, the depression continuing in 1938 and until the end of the third quarter of 1939. In and after October of that year, however, demand in the United States sharply increased and, with an increase in export prices, total exports showed a remarkable gain. The principal destinations for export staple fiber are Kwantung L.T., the United States, Manchoukuo and British India. Exports of staple fiber yarns last year totalled 12,530,000 pounds, inclusive of 11,940,000 pounds exported to third countries and 590,000 pounds shipped to the yen bloc. The sharp drop of the exports to Manchoukuo, Kwantung L.T. and China last year was more than counter-balanced by a noteworthy gain in exports to third countries, and total exports rose by about 1,000,000 pounds. British India led as buyers of staple fiber yarns, taking 5,080,000 pounds last year, the Dutch Indies came second with 4,630,000 pounds. Japan exported 48,280,000 square yards of staple fiber tissues last year, divided into 7,730,000 square yards exported to third countries and 48,280,000 square yards exported to Manchoukuo, Kwantung L.T. and China. Exports

to third countries gained slightly over the preceding year, but the recession of shipments to the yen bloc served to reduce the total exports. Leading importers were Manchoukuo, taking 22,670,000 square yards, Kwantung L.T. buying 16,430,000 square yards and Iraq accounting for 2,440,000 square yards. Detailed export figures of staple fiber items follow:

EXPORTS OF STAPLE FIBER ITEMS BY DESTINATIONS

Destinations	1938	1939
Staple fiber (1,000 lbs.)		
Kwantung L.T.	2	17,276
U. S. A.	5	7,743
Manchoukuo	123	7,152
British India	—	480
Total (including others)	289	32,843
Staple fiber yarns (1,000 lbs.)		
British India	2,010	5,983
Dutch Indies	1,430	4,634
U. S. A.	—	728
Kwantung L.T.	289	385
Manchoukuo	405	194
Syria	20	191
Sweden	31	104
China	253	23
Total (including others)	3,609	11,948
Staple fiber tissues (1,000 sq. yds.)		
Manchoukuo	25,336	22,673
Kwantung L.T.	19,406	430
Iraq	251	16,430
China	8,473	1,446
Sweden	859	1,192
Australia	396	1,013
Thailand	457	814
Hong Kong	1,192	792
St. Settlements	291	228
Kenya, etc.	145	172
British India	212	172
Total (including others)	60,357	48,286

Artificial Silk Demand The demand for artificial silk, both for domestic consumption and for export, totalled 248,810,000 pounds last year, dwindling by 20 per cent from 1938. In 1938, the demand was divided into 40 per cent for export and 60 per cent for home use. Last year, however, the demand was almost equally divided, exports being slightly the heavier. Details follow:

DOMESTIC DEMAND FOR ARTIFICIAL SILK

	(In 1,000 lbs.)	
	1938	1939
Production of yarns	209,676	238,340
Imports of yarns	10	—
Released from joint-stocks	11,094	—
Exports of yarns	21,985	36,742
Exports of tissues	60,663	56,269
Exports of yarns and tissues from Chosen	4,185	4,443
Exports of miscellaneous items	16,900	23,971
Export total	103,828	121,425
Stocks of yarns	*24,310	*1,296
Stocks of tissues	*3,720	*3,596
Domestic demand	144,982	118,558
Total demand	248,810	239,983

(*) down
(Note: tissues converted into yarns at rate of 0.18 pound per 1 sq. yd.)

Staple Fiber Demand The domestic supply of staple fiber last year totalled 259,640,000 pounds, down by about 30 per cent from the preceding year. Production for domestic consumption fell by about 20 per cent, while the output for export was more than twice as large as in 1938. The ratio of export items to total production in the staple fiber industry last year was far smaller than in the artificial silk industry. In the total production, export staple fiber accounted for only 10 per cent, tissues for 4 per cent and yarns for 4 per cent, making a total of only 18 per cent of the total domestic production, a situation far different from that in the artificial silk industry where more than one-half was exported. Relative figures follow:

SUPPLY AND DEMAND OF WOOD PULP FOR RAYON
(Compiled by the Ministry of Agriculture and Forestry)
(In metric tons)

	Supply		Total	Rayon	Demand		Total
	Production	Imports			Staple Fiber	Cellophane	
1932	3,600	60,000	63,600	36,273	319	527	37,119
1933	5,900	85,000	90,900	50,200	558	1,704	52,462
1934	17,160	102,932	120,092	78,092	2,739	2,184	83,015
1935	33,435	126,351	159,786	112,227	5,576	3,011	120,814
1936	55,209	169,368	224,577	152,263	29,410	4,299	185,972
1937	57,294	290,599	347,892	181,222	97,933	7,970	287,125
1938	103,353	114,112	217,465	—	—	—	321,852
1939 (Estimated)	160,000	141,799	301,799	—	—	—	—

SUPPLY-DEMAND OF STAPLE FIBER

	(In 1,000 lbs.)	
	1938	1939
Staple fiber production	387,928	317,097
Exports	25,934	57,454
Staple fiber exports	289	32,843
Yarn exports	10,556	12,539
Tissue exports	15,089	12,072
Balance (For domestic use)	361,994	259,043

(Note: tissues converted into yarn at rate of 0.25 pound per 1 sq. yd.)

Estimating that staple fiber accounted for 50 per cent of the yarns mixed with other fibers and that 95 per cent of the resultant products were actually consumed at home, the following figures may be obtained:

ESTIMATED CONSUMPTION OF STAPLE FIBER

	(In 1,000 lbs.)	
	1938	1939
Pure staple fiber yarns	367,778	191,067
Staple fiber yarns mixed with other fibers	124,549	58,422
Total	492,327	249,489

Thus, it is seen that the domestic consumption of staple fiber last year totalled 249,000,000 pounds, including 191,000,000 pounds used for manufacturing pure staple fiber yarns and 58,000,000 pounds used for mixing with other fibers, declining by about 50 per cent from the 1938 consumption of 492,000,000 pounds.

In a word, the rayon industry last year continued comparatively prosperous, while the staple fiber industry, though belonging to the same artificial fibers family, suffered greatly.

IMPORTS OF PULP FOR FIBER BY ORIGIN

(Compiled by the Ministry of Commerce and Industry)

From	Quantity (Unit: picul)			Value (Unit: ¥1,000)		
	1936	1937	1938	1936	1937	1938
U.S.A.	2,603,407	3,185,610	872,310	31,758	49,181	15,111
Sweden	952,184	2,060,596	420,803	9,735	26,993	6,276
Norway	944,566	1,025,406	307,269	14,621	17,071	5,400
Canada	469,888	879,390	284,278	4,150	12,619	5,046
Finland	524,417	639,770	211,921	6,401	9,497	3,339
Czechoslovakia	29,328	71,816	8,538	391	1,157	132
Total including others	5,528,532	7,901,727	2,386,181	67,107	116,720	41,059

Woollen Industry

Since 1937 the woollen industry in Japan has been placed under strict State control. On the one hand the imports of wool is restricted under the Foreign Exchange Control Law and on the other hand the manufacture of woollen goods for general domestic use is sacrificed in favor of those for military use and for exports.

Formerly serges and woollen cloth made in Japan were used mostly in this country in place of the imported ones, but now the manufacturers are producing them for export purposes.

At the end of 1938 compulsory curtailment was necessitated by virtue of an order for restricting the manufacture of woollen goods. According to orders issued in April and May 1939 the card system was introduced to regulate the supply of woollen yarns; now it is functioning properly. The outbreak of the second European war shed a hopeful light on the woollen industry in Japan, but the consumption in foreign countries has not yet shown the expected increase. On the other hand, unfavorable conditions appeared in this country because of the State restrictions and the shortage in the supply of labor and fuel to the factories.

The production of wool in Japan is insignificant and more than 90 per cent of the wool consumed in Japan was imported. However, in 1936 commercial friction between Japan and Australia slashed the volume of imports from that country at one-third, and imports from South Africa, South America and China have increased accordingly as shown in the following tables.

SUPPLY AND DEMAND OF WOOLLEN YARN

(In 1,000 pounds)

	Production by Associat-ed Co's.	Imports	Total	Exports	Balance
1931	77,586	9,550	87,136	698	86,438
1932	89,660	3,219	92,879	1,249	91,630
1933	101,361	1,638	102,999	3,168	99,831
1934	103,145	919	104,064	5,919	98,145
1935	112,775	1,088	113,863	5,319	108,544
1936	123,263	934	124,197	7,141	117,056
1937	125,072	576	125,648	7,402	118,246
1938	88,784	84	88,868	7,847	81,021
1939	147,181	0	147,181	8,417	138,765

Note: The balance represents domestic consumption.

IMPORTS OF RAW WOOL:

	Quantity in 1,000 lbs.	Value in ¥1,000	Quantity in 1,000 lbs.	Value in ¥1,000
1930	115,999	73,919	1936	221,382
1931	191,374	86,518	1937	261,182
1932	206,858	88,321	1938	117,895
1933	242,620	165,818	1939	107,497
1934	184,379	187,667		
1935	247,275	193,092		

Note: (1) Including tops and goat and camel hair.

IMPORTS OF SHEEP'S WOOL BY ORIGIN

(Compiled by the Ministry of Commerce and Industry)

From	Quantity (Unit: picul)			Value (Unit: ¥1,000)		
	1936	1937	1938	1936	1937	1938
Yen-bloc	5,953	65,498	202,859	908	5,809	12,802
China	2,984	44,000	185,452	382	3,327	11,163
Manchoukuo	2,969	21,458	17,407	527	2,478	1,639
Third countries	1,947,882	816,431	598,829	297,498	88,617	59,788
Australia	737,195	591,136	512,149	118,196	64,882	51,428
New Zealand	296,050	85,671	48,855	42,822	8,272	4,351
Union of South Africa	559,015	39,666	14,372	82,763	4,260	1,599
Argentina	126,548	55,265	8,169	17,713	5,946	686
Great Britain	6,252	3,716	4,179	1,073	677	618
Total including others	1,953,835	881,889	801,688	298,407	94,426	72,590

WOOLLEN YARN AND TEXTILE MANUFACTURING FACILITIES

(At the end of the year)

	1933	1934	1935	1936	1937	1938
Number of woollen textile factories	1,178	1,226	1,421	1,528	1,648	1,650
Number of weaving machines	26,923	27,162	29,421	31,220	30,317	28,311
Number of operatives	41,311	44,347	47,142	50,046	49,890	47,288
Number of worsted spindles ¹	667,390	763,878	873,066	991,140	1,127,802	1,169,120
Number of weaving machines ¹	9,871	10,257	10,248	10,261	7,868	7,829
Number of woollen spindles ¹	88,403	91,272	97,917	119,048	121,114	134,687

Note: ¹ Only member companies of the Woollen Industrial Association.

PRODUCTION OF WOOLLEN TEXTILES

(Compiled by the Ministry of Commerce and Industry)

Year	Muslin		Flannel		Serge for Japanese Clothes		Serge for Foreign Clothes		Woollen Cloth		Blankets (including travelling rugs)	
	Quantity in meters	Value in yen	Quantity in meters	Value in yen	Quantity in meters	Value in yen	Quantity in meters	Value in yen	Quantity in meters	Value in yen	Quantity in meters	Value in yen
1931	147,817,541	49,476,288	3,460,173	3,393,080	35,937,088	30,831,866	19,670,151	33,959,069	8,209,882	18,497,529	1,171,422	4,272,580
1932	164,580,936	51,379,813	4,132,697	4,224,307	32,481,305	29,727,708	23,977,240	43,847,243	10,393,521	21,930,632	1,025,485	3,644,158
1933	132,953,959	48,276,271	3,744,062	3,782,949	31,244,644	29,161,570	30,382,977	63,850,283	11,985,167	29,927,479	1,446,639	5,898,423
1934	121,576,277	50,848,485	2,396,756	3,062,003	28,989,058	29,627,172	53,811,981	114,432,693	14,813,572	36,710,705	1,982,235	6,579,557
1935	134,241,500	54,807,185	2,648,911	3,454,219	36,169,643	36,989,712	50,142,258	127,489,700	16,152,943	41,100,367	2,038,922	7,750,958
1936	99,935,993	47,077,830	2,511,902	2,985,476	22,922,705	23,297,322	63,840,711	180,491,190	15,306,305	43,541,494	2,803,726	10,912,080
1937	59,877,557	29,779,752	2,655,534	3,903,127	26,946,554	28,103,978	66,027,071	169,152,963	18,434,104	58,774,401	2,950,069	12,892,153
1938	26,303,788	15,868,154	2,721,379	5,116,903	27,798,949	28,380,897	56,528,115	162,895,714	21,079,679	78,018,254	2,663,553	13,654,300

Year	Carpets	Rugs	Plush and Velvet	Others	Total
	Value in yen	Value in yen	Value in yen	Value in yen	Value in yen
1931	106,779	124,701	356,363	12,806,187	153,824,442
1932	17,280	120,391	363,382	11,755,140	167,010,054
1933	236,021	171,718	690,744	19,142,291	201,137,749
1934	52,000	240,975	1,049,304	21,528,276	264,131,170
1935	344,363	236,832	1,050,537	23,002,975	296,226,848
1936	381,474	230,903	1,416,589	29,521,825	339,857,083
1937	952,367	231,527	2,741,100	21,418,317	328,009,685
1938	670,359	260,958	3,049,401	39,592,129	347,507,709

Note: This table is revised according to the report of the Ministry of Commerce and Industry, the figures of which differ from those in the "Factory Statistics," because the former includes production by small factories where less than 5 persons are employed:

EXPORTS OF WOOLLEN TEXTILES BY KIND

Muslin	1937	1938	1939	1937 1938 1939			
	Quantity in 1,000 sq. yards	1,573	1,122	1,117	Value in ¥1,000	41,229	35,367
Value in ¥1,000	1,024	749	661	Total including others			
Cloth and Serge				Quantity in 1,000 sq. yards	35,058	28,071	—
Quantity in 1,000 sq. yards	28,212	20,812	20,034	Value in ¥1,000	50,082	46,845	51,821

Hemp Industry

Since the outbreak of the China Affair, the Government has come to attach great importance to the hemp industry, and has placed hemp factories as well as the distribution of raw materials and finished products under military control. Naturally, the supply of hemp products for private consumption has fallen for short of the demand, while the value of hemp fiber for strengthening miscellaneous substitute fibers has been more strongly recognized than ever. It is accustomed to think of hemp as hard and stiff, hardly connecting it with the soft and charming touch of some linens, a way of thinking that has greatly influenced the flax industry of Japan, as proved by the excessive inclination of the military to turn to flax. Hemp is many and various in kinds. In addition to Oasa (commonly called hemp) and ramie, there is jute, from which Hessian cloths and gunny bags are manufactured; Manila hemp, for making fishing nets and other nets; flax, which serves as the principal material for the linen industry; Nanking hemp, imported from China and Maoran hemp, produced in New Zealand. In the early days of the Meiji era, the hemp industry was greatly neglected because of the remarkable advance of the cotton industry, and its

progress was slow. Yet, at the time just preceding the outbreak of the China Affair, Japan was self-sufficient in flax and Oasa hemp, though dependent largely on China and India for the supply of jute. Manila hemp was completely supplied from the districts surrounding Manila. The manufacturers of Japan have found it advisable to produce thick yarns instead of fine ones, and have specialized mostly in this line for manufacturing export hemp materials and fishing-net yarns, besides finding a favorable market with the military and manufacturers of export goods. Ramie concerns, especially, have devoted themselves to the production of thicker yarns, and concentrated on export ramie materials and fishing-net yarns.

Hemp Industry Under Wartime Situation Hemp fiber, which was more or less neglected in the past, has, through the stringency of supply of other fibers, now come to the fore, especially in military quarters. Because of the suspension of imports of ramie materials from China and the supply of jute and other hemp materials from other parts of the world since the outbreak of the European War, supplies have become very low, but domestic production is now being pushed to overcome any

deficiency, and little worry is being felt by the industrialists concerned as there is also an abundant supply of hemp plants along the banks of the Yulu and other rivers and lakes in China, though at present, the available raw materials in China and Manchoukuo are under the control of the military, and are almost exclusively supplied to the Imperial Hemp Company and Nichiman (Japan-Manchoukuo) Flax Company. It is considered, however, that after the restoration of peace and order in those regions, unlimited supplies can be imported. The production of hemp is shown by the following tables:

DOMESTIC PRODUCTION OF HEMP (In 1,000 Kan)

Years	Japan Proper		Chosen Production		Taiwan	Total
	Japan Proper	Chosen Production	Taiwan	Total		
1926	11,310	6,065	1,322	18,696		
1927	4,891	5,867	1,282	12,040		
1928	6,231	5,710	1,489	13,430		

SUPPLY AND DEMAND OF HEMP IN JAPAN 1938 (In 1,000 kin)

	Production	Imports	Imports from Colonies		Exports to Colonies	Domestic Consumption
			Imports from Colonies	Exports to Colonies		
Hemp	7,439.6	4,203.7	—	—	—	11,643.3
Flax	10,260.1	4,284.0	812.9	—	—	15,357.0
Ramie	3,681.2	3,528.9	187.6	—	—	7,397.7
Jute	1,145.5	34,879.8	1,701.4	—	—	37,736.7
Manilla hemp	—	62,235.0	—	1,524.4	—	60,710.6
Sisal hemp	—	—	679.3	—	—	679.3
Total	22,526.4	109,131.4	3,381.2	1,524.4	—	133,514.6

IMPORTS OF HEMP BY ORIGIN

(Quantity in 100 kin: Value in ¥1,000)

Origin	1937		1938		1939	
	Quantity	Value	Quantity	Value	Quantity	Value
Manchoukuo	60,945	1,273	170,171	5,587	187,880 (13.5%)	11,363 (29.7%)
China	215,738	5,127	117,648	3,116	266,255 (18.7%)	9,139 (23.8%)
British India	449,591	8,344	202,476	3,769	252,307 (17.8%)	5,766 (15.1%)
Dutch Indies	47,575	1,279	14,702	399	12,784 (0.9%)	264 (0.6%)
Philippines	967,854	23,224	647,889	11,889	621,033 (43.8%)	10,550 (27.6%)
England	296	46	6,453	973	227 (—)	28 (—)
Others	124,654	1,701	102,458	1,573	75,460 (5.3%)	1,156 (3.1%)
Total	1,866,653	40,995	1,261,597	27,306	1,415,946 (100%)	38,266 (100%)

Because of limited supply of other fibers, domestic hemp manufacturers catering to private consumption have come to need spinning machines suitable for spinning fibers similar in nature to hemp into soft and good-looking

yarns, and the invention of a method for "cottonizing" hemp mechanically rather than chemically so that it may become sufficiently soft to be worked on the ordinary cotton spinning machines has become a matter of urgent

Years	Japan Proper	Chosen	Taiwan	Total Production
1929	7,114	5,544	1,314	13,973
1930	6,733	5,353	1,352	13,437
1931	6,859	5,444	1,283	13,587
1932	5,630	5,492	1,455	12,577
1933	8,706	5,484	1,635	15,825
1934	10,327	5,026	2,795	18,148
1935	9,597	5,291	3,649	18,537
1936	9,846	4,966	2,742	17,554
1937	9,840	5,666	2,840	17,400
1938	16,985	5,460	3,953	26,398

PRODUCTION OF HEMP BY KINDS IN 1938 (In 1,000 Kan)

	Japan Proper		Chosen		Taiwan	Total
	Japan Proper	Chosen	Taiwan	Total		
Flax	13,680	1,084	—	—	—	14,764
Hemp	2,383	4,255	—	—	—	6,638
Jute	333	1	3,746	—	—	4,080
Ramie	589	89	207	—	—	885
Blue hemp	—	31	—	—	—	31
Total	16,985	5,460	3,953	—	—	26,398

need.

Government Hemp Measures The Ministry of Agriculture and Forestry in 1938 drafted a plan for the increased production of hemp, and for this purpose unified the standards of various hemp fibers in an endeavor to control their sales, and has exercised control over the distribution of imported hemp raw materials. Because Japan is well nigh self-sufficient in hemp and flax, the production increase plan has been applied mostly to the production of ramie, the present plan calling for an increase in the ramie-planted fields by 2,000 chobu (1 chobu—about 1 hectare) annually or by a total of 10,000 chobu by 1942, thereby increasing the total ramie-planted area in Japan to 14,000 chobu, inclusive of existing ramie fields, and making the country self-supplying as far as the domestic consumption of ramie, amounting to 28,000,000 kin (1 kin=0.6 kg.), goes. To carry out this scheme, the Agriculture Ministry has reserved an annual appropriation of about ¥400,000, the different measures adopted by it being summarized as follows:

1. A production allotment to be given to prefectures in which an increase of ramie production is certain and in which future production will be large.
2. Encouragement of the mass cultivation of ramie in prefectures in which there is plenty of space for ramie plant-

ing and the soil is fit for ramie.

3. Cultivating bodies shall be ramie planting associations or agricultural executive associations classified by villages.

4. The area allotted to members of the associations for cultivation shall be more than 5 se (1 se—about 1 are) per family and that of one organization shall be more than 1 chobu (about 1 hectare).

Thus, in selecting districts for the cultivation of ramie, the authorities concerned will exclude as far as possible the provinces in which ramie cultivation is less profitable than the cultivation of other agricultural products, even if they are naturally fit for ramie planting. In this connection, it is noted that Kyushu and West Japan are fit for planting ramie while the Kwanto and Tohoku districts are ideal for hemp. Hokkaido is fit for the cultivation of flax. Flaxen fibers thus produced are allotted as raw materials for the manufacture of munition materials, for use by aircraft, as materials for manufacturing fishing nets, and to the Aviation Bureau of the Communications Ministry. Free transactions by producers are being strictly restricted by the Government. The distribution of imported hemp items is generally controlled and managed by the trade associations or federations of trade associations, the control routine differing according to the different kinds of hemp materials imported.

DOMESTIC PRODUCTION OF HEMP TISSUES 1937—1938

	1937		1938	
	Quantity	Value	Quantity	Value
Broadcloths:				
Jute tissues				
Sailcloths	9,510	1,998	8,934	2,917
Others	—	3,834	—	6,094
Total	—	5,832	—	9,011
Others				
Sailcloths	2,403	2,804	3,442	4,356
Mosquito-net materials	3,154	1,120	3,280	1,867
Others	—	8,812	—	11,561
Total	—	12,736	—	17,784
Broadcloths total	—	18,567	—	26,795
Narrow-cloths:				
Grey and bleached hemp tissues	651	1,478	431	1,472
Striped or patterned hemp cloths	195	1,440	213	1,882
Mosquito-net materials	2,605	1,516	1,986	2,418
Others	—	682	—	444
Total	—	5,516	—	6,217

	1937		1938	
	Quantity	Value	Quantity	Value
Special items:				
Belts and hoses	1,794	2,193	1,819	2,448
Others	—	1,192	—	800
Total	—	3,295	—	3,248
GRAND TOTAL	—	26,978	—	36,259

(Note: Quantity in 1,000 meters, narrow-cloths alone given in 1,000 tan of 10 to 12 yards; value in ¥1,000).

EXPORTS OF HEMP ITEMS 1938-1939

	1938		1939	
	Quantity	Value	Quantity	Value
Hemp tissues—				
Canvases (a)	94	103	345	457
Others (a)	2,953	1,607	8,938	6,353
Total (a)	3,047	1,710	9,283	6,810
Hemp bags (b)	6	1,660	24	14,850
Flax, hemp and other like materials (c)	636	107	225	38
Flax yarns (c)	—	—	60	6
Ramie yarns (c)	204	41	4	2
Hemp threads and cords (c)	4,604	674	8,258	1,595
Hemp ropes (c)	25,683	1,129	44,390	2,232
Total exports		5,321		25,533

(Note: (a) given in 1,000 sq. yds.; (b) given in 1,000 pieces; (c) given in 100 kin; value in ¥1,000).

IMPORTS OF HEMP ITEMS 1938-1939

	1938		1939	
	Quantity	Value	Quantity	Value
Hemp tissues—				
Jute cloths (a)	890	233	346	60
Others (a)	57	81	10	3
Total (a)	946	315	355	63
Gunny bags	31,235	751	—	398
Flax	43,000	2,441	66,046	2,755
Ramie	25,984	931	204,484	7,909
Hemp	78,600	3,751	141,840	8,792
Jute	321,380	6,387	287,162	7,028
Manila hemp	622,350	11,398	623,842	10,433
Others	170,283	2,397	92,572	1,350
Total imports		28,371		38,728

(Note: (a) given in 1,000 sq. yards; others given in 100 kin; value in ¥1,000).

HEMP INDUSTRIAL PLANTS, MACHINES AND OPERATIVES

1928-1938

Years	Plants	Machines	Operatives	Year	Plants	Machines	Operatives
1928	17,468	23,997	24,774	1934	12,062	18,413	18,679
1929	15,316	21,871	21,940	1935	10,926	17,854	19,313
1930	14,222	20,704	21,261	1936	10,880	17,315	18,371
1931	14,375	20,414	20,519	1937	9,352	17,055	19,091
1932	13,821	19,192	19,593	1938	8,229	17,382	18,006
1933	12,775	18,139	18,675				

(a) WHOLESALE PRICE INDICES OF HEMP YARNS AND TISSUES
(1933 as 100)

	Hemp Hemp Hemp Fibrous				Hemp Hemp Hemp Fibrous				
	Yarns	Tis-	Raw	Raw	Yarns	Tis-	Raw	Raw	
		sues	Materials	Materials		sues	Materials	Materials	
1936 average	144	95	105	102	July	121	166	149	124
1937 average	170	114	109	116	August	121	166	149	121
1938 average	132	156	144	104	September	135	166	149	142
1939 average	132	166	149	130	October	158	166	149	151
1939:					November	164	166	149	155
January	120	166	149	107	December	158	166	149	175
February	121	166	149	110	1940:				
March	121	166	149	113	January	155	166	149	179
April	121	166	149	115	February	151	166	149	162
May	121	166	149	124					
June	121	166	149	123					

(a) Survey by the Bank of Japan.

PRODUCTION OF HEMP TISSUES

(Compiled by the Ministry of Commerce and Industry)

Year	No. of Mills	No. of Looms	No. of Operatives	Broad Weave	Narrow Weave		Total
					Weave	Others	
(At the end of year)				(Unit: ¥1,000)			
1930	14,222	20,708	21,261	6,131	5,500	2,991	14,623
1931	14,375	20,414	20,519	6,118	5,363	1,954	13,436
1932	13,821	19,192	19,593	8,002	6,279	1,299	15,580
1933	12,775	18,139	18,679	7,550	5,728	2,197	15,477
1934	12,062	18,413	18,675	9,530	7,116	1,868	18,515
1935	10,926	17,854	19,313	10,686	7,052	2,481	20,220
1936	10,880	17,315	18,371	12,533	5,115	2,203	19,851
1937	9,352	17,055	19,091	18,567	5,116	3,295	26,978
1938	8,229	17,382	18,006	26,795	6,217	3,247	36,259

Hosiery

In 1938, hosiery produced underweaves, stockings, gloves, etc. to the amount of ¥118,891,464. The production

of underweaves reached 7,242,068 dozens valued at ¥48,782,440; stockings 13,533,674 dozens valued at ¥29,395,601; gloves 6,392,539 dozens valued at ¥14,467,117.

VALUE OF PRODUCTION BY HOSIERY

(Compiled by the Ministry of Commerce and Industry)

Year	No. of Mills	No. of Operatives	Value of Products
1933	5,243	38,241	73,476
1934	5,853	41,658	85,632
1935	6,198	45,605	84,931
1936	6,250	46,947	91,551
1937	6,776	51,332	115,501
1938	6,437	49,039	118,891

Dyeing and Bleaching

In 1938, bleaching houses earned ¥46,916,557. In the same year dyeing houses

earned ¥168,921,654, consisting of ¥78,976,280 for dyeing cloth, ¥77,000,063 for printing and ¥12,945,311 for dyeing miscellaneous articles.

EARNINGS OF DYEING AND BLEACHING HOUSES

(Compiled by the Ministry of Commerce and Industry)

Year	No. of Bleaching Houses (At the end of year)	No. of Operatives	Earnings (In ¥1,000)	No. of Dyeing Houses (At the end of year)	No. of Operatives	Earnings (In ¥1,000)
1933	521	6,350	19,336	11,659	57,674	105,193
1934	578	8,031	17,099	11,613	61,776	120,795
1935	632	8,114	19,822	11,570	65,986	134,107
1936	619	9,432	22,795	11,784	74,580	168,676
1937	571	9,496	24,545	11,778	75,757	168,934
1938	579	7,360	46,916	10,774	68,126	168,921

CHAPTER XIX

MACHINERY AND ENGINEERING

Machinery

Introduction

The manufacture of machinery in Japan started after the Restoration. The progress at first was very slow, and it was only after the Russo-Japanese War of 1904-1905 that the public began to take any real interest in investments in this kind of industry. Improvement was gradually being made before the Great War, but with the outbreak of war the situation completely changed. Prior to the War Japan had to import large quantities of machinery, but during the War imports were stopped, and a great stimulus was thereby given to home production. During the war years Japan became able to supply not only most of her own needs, but also some of those of foreign countries. Factories for manufacturing arms and various kinds of machinery, as well as ship-building-yards, were established in many parts of the country, and these profited both financially and in the experience they acquired in skilled mechanical work of various kinds. The great boom in shipbuilding stimulated the establishment of many new works for turning out engines and other equipment for steamers, while the difficulty of obtaining imported machines for spinning, weaving, papermaking, etc., caused a rapid establishment of new works for their manufacture. This cutting off of imports also served to encourage the manufacture of motors, electrical machinery, automobiles and aeroplanes. With the great post-war slump, naval disarmament, general depression the

world over, embargo on gold, high tariffs, and all the other ills from which industry suffered the machinery production industry was heavily hit. The outbreak of trouble in Manchuria in September 1931, and the military operations which followed, created a new demand for arms, while the reimposition of the gold embargo, and subsequent decline of the value of the yen served to revive the industry.

Recent Developments in the Machinery Industry

The first World War gave the initial impetus to Japan's machinery industry, but in company with other trades it saw a setback during the business depression of 1930-31. The Manchurian Incident and the present China Incident, however, proved fresh stimuli, and with the transition from light to heavy industry to meet the increasing military demand and productivity expansion drive the machinery industry has become the most important of all national industries. Japan's machinery industry is extremely wide-scaled, its products ranging from machine tools, steam engines, Diesel engines, chemical industrial machinery, electric appliances, spinning machines and mining machinery to medical instruments and rolling stock, so that today, Japan manufactures almost all kinds of machines she needs at home, some special items excepted, and exports a certain amount to foreign markets, principally to the yen bloc. The remarkable expansion in recent years may be shown by the following tables:

GROWTH OF NUMBER OF OPERATIVES IN MACHINERY INDUSTRY

Years	(a) Total Number of Operatives in all Industries (In 1,000 Operatives)	(b) Number of Operatives in Machinery Industry	Ratio of (b) against (a) (Percentage)
1929	1,825	190	10.4%
1930	1,684	168	10.0%
1931	1,662	158	9.5%
1932	1,734	195	11.2%
1933	1,901	249	13.1%

Years	(a) Total Number of Operatives in all Industries (In 1,000 Operatives)	(b) Number of Operatives in Machinery Industry	Ratio of (b) against (a) (Percentage)
1934	2,163	315	14.6%
1935	2,369	367	15.5%
1936	2,593	457	17.6%
1937	2,937	602	20.5%
1938	3,201	847	26.4%

INCREASE IN NUMBER OF MACHINERY FACTORIES

1929-1938

Years	(a) Total Number of Industrial Factories	(b) Number of Machinery Factories	Ratio of (b) against (a) (Percentage)
1929	59,887	5,296	8.8%
1930	62,234	5,604	9.0%
1931	64,436	5,850	9.1%
1932	67,318	6,738	10.0%
1933	71,940	7,850	10.9%
1934	80,311	9,181	11.4%
1935	85,174	10,354	12.2%
1936	90,602	11,766	13.0%
1937	106,005	14,636	13.8%
1938	112,329	17,576	15.6%

The recent expansion of investments in joint-stock companies, inclusive of limited partnerships, and the increase in the number of machinery companies is remarkable. At the end of 1939, the total amount of paid-up capital of the machinery companies aggregated ¥4,000,000,000. In the first half of 1939,

the number of machinery concerns was more than doubled and the total amount of paid-up capital increased four and a half times, compared with the second half of 1938. In that period, some 70 machinery firms expanded their capital. Production in the machinery industry also jumped in 1938, as shown below:

EXPANSION OF PRODUCTION IN MACHINERY INDUSTRY

1929-1938

(In millions of yen)

Years	(a) Total Industrial Production	(b) Production in Machinery Industry	Ratio of (b) against (a) (Percentage)
1929	7,959	808	10.2%
1930	5,963	695	11.7%
1931	5,175	498	9.6%
1932	5,982	599	10.0%
1933	7,871	888	11.3%
1934	9,390	1,159	12.3%
1935	10,837	1,463	13.5%
1936	12,258	2,716	14.0%
1937	16,356	2,557	15.6%
1938	19,487	3,801	19.5%

It is noted that the number of machinery factories in 1938 accounted for 15.6 per cent of the total number of industrial factories; the number of operatives amounted to 26.4 per cent of the total number of industrial work-

ers and the value of production accounted for 20.0 per cent of the total industrial production of the nation. The phenomenal expansion of the machinery industry in the face of different adverse factors, including the limited supply of

materials, is largely attributable to the remarkable planning and manufacturing technique on the part of machinery industrialists and research on substitute machines.

The trade in machinery and tools in the past was usually marked with an import excess, principally because of large imports from the United States, Germany, etc. In 1939, however, the tables were finally turned and an export excess was registered, a sharp increase of exports to the yen bloc because of the progress of the five-year industrial plan of Manchoukuo and operations for constructing a new order in China, and the strict import restriction exercised by the Government in order to econo-

mize overseas payments being the two dominant causes. Although the machinery trade last year recorded an export excess, it should be noted that exports to third countries were still very small, those to Thailand sharply advanced, but were a very insignificant amount of the total. Imports of machinery and tools from Europe, mostly Germany and England, have dropped sharply since the outbreak of the European hostilities, and Japan must still depend largely on the United States for the supply of certain categories, about 10 per cent have still to be imported each year. In other words, Japan is about 90 per cent self-sufficient in those items.

Relative figures follow:

SUPPLY AND DEMAND OF MACHINERY AND TOOLS

1929-1938

(In millions of yen)

Years	Production	Imports	Exports	Demand	Import excess	Imports against Demand (Percentage)
1929	682	187	39	830	148	22.5%
1930	616	125	35	706	70	17.7%
1931	443	81	30	494	51	16.4%
1932	544	94	35	603	59	15.6%
1933	805	107	68	844	39	12.7%
1934	1,082	144	125	1,101	19	13.1%
1935	1,381	159	141	1,399	18	11.4%
1936	1,609	153	175	1,587	*22	9.6%
1937	2,380	243	228	2,395	15	10.1%
1938	—	313	267	—	46	—
1939	—	288	370	—	*82	—

(Note: *—Export excess)

EXPORTS OF MACHINERY AND TOOLS BY DESTINATIONS

(Value in ¥1,000)

Destinations	1936	1937	1938
Yen bloc			
Kwantung L.T.	76,878	82,389	123,051
China	31,701	36,057	52,060
Manchoukuo	13,409	26,655	47,859
Yen bloc total	121,988	145,101	222,970
Third countries			
Thailand	3,131	11,585	15,287
British India	8,231	12,592	8,508
Dutch Indies	6,429	9,990	4,645
Asiatic Russia	10,894	16,893	2,969
Philippines	1,634	3,045	2,206
Third-country total (including others)	52,553	82,598	44,267
Grand total	174,541	227,699	267,237

IMPORTS OF MACHINERY AND TOOLS BY ORIGINS

(Value in ¥1,000)

Origins	1936	1937	1938
U.S.A.	79,505	126,647	158,110
Germany	32,971	55,999	84,298
Czechoslovakia	114	428	1,145
England	20,783	31,017	38,849
Switzerland	7,118	12,183	10,575
Sweden	5,772	9,277	8,663
Canada	109	169	3,019
France	5,366	3,856	2,230
Italy	265	290	1,687
Norway	63	803	1,295
China	33	18	1,194
Total including others	153,087	242,235	313,362

NUMBER OF COMPANIES AND AMOUNT OF CAPITAL IN MACHINERY INDUSTRY

	General Machinery Industry	Elec- tric Ma- chinery	En- gines	Ship- building	Rolling Stock	Machine Tools	Metal Items (including others)	Total
No. of companies at end of 1939	1,468	595	94	88	198	616	1,564	4,683
Combined authorized capital at end of 1939 (a)	1,003	644	99	386	480	413	1,723	4,801
Combined paid-up capital at end of 1939 (a)	764	502	68	309	480	413	1,723	4,801
New companies established:								
2nd half, 1938	171	40	6	4	6	66	151	459
1st half, 1939	372	86	16	5	18	115	334	958
Increase	201	46	10	1	12	49	183	495
Authorized capital of newly-established companies:								
2nd half, '38 (b)	50,021	5,555	550	1,515	2,245	17,124	36,841	116,788
1st half, '39 (b)	123,951	14,676	1,985	792	32,518	98,906	303,954	381,591
Increase (b)	73,930	9,121	1,435	*723	30,273	81,782	267,103	464,803
Paid-up capital of newly-established companies:								
2nd half, '38 (b)	33,550	4,705	412	1,515	1,262	9,882	24,259	77,735
1st half, '39 (b)	87,765	10,511	1,755	433	19,806	61,445	167,836	351,937
Increase (b)	54,215	5,806	1,343	*1,082	18,544	51,563	143,577	274,202
Capital expansion:								
Companies, 2nd half, 1939	69	19	4	3	12	15	93	216
Companies, 1st half, 1939	88	38	7	4	7	38	104	286
Increase	19	19	3	1	*5	23	11	70
Increase in capital authorized:								
2nd half, '38 (b)	72,692	14,433	4,695	3,607	26,375	19,228	86,099	231,880
1st half, '39 (b)	65,040	112,333	3,645	2,400	25,200	22,236	75,088	305,942
Increase (b)	*7,652	97,900	*1,050	*1,207	*1,175	3,008	*11,011	74,062

	General Machinery Industry	Elec- tric Ma- chinery	En- gines	Ship- building	Rolling Stock	Machine Tools	Metal Items (including others)	Total
Increased capital paid-up:								
2nd half, '38 (b)	33,362	5,959	1,645	3,357	7,875	5,433	34,496	1,187
1st half, '39 (b)	33,858	34,633	3,645	1,325	7,075	9,732	35,855	126,123
Increase (b)	496	28,674	2,000	*2,032	*800	4,299	1,359	32,807
Shareholders' payments:								
Companies, 2nd half, 1938	65	35	10	8	12	14	72	220
Companies, 1st half, 1939	113	33	9	4	12	42	117	333
Increase	48	*2	*1	*4	—	28	45	113
Shareholders' payments:								
Amount, 2nd half, '38 (b)	19,445	19,801	3,790	4,557	14,432	16,988	56,294	136,265
Amount, 1st half, '39 (b)	47,349	11,994	6,815	17,072	18,550	9,233	78,999	190,148
Increase (b)	27,904	*7,807	3,055	12,515	4,118	*7,755	22,705	53,883

(a) In millions of yen. (Note: Survey by the Hypothec Bank of Japan).
(b) In ¥1,000.

GROWTH OF MACHINERY INDUSTRY

Year	No. of Mills	No. of Operatives	Value of Production (unit: ¥1,000)
1930	8,458	205,308	615,682
1931	8,513	—	443,340
1932	9,388	230,896	543,842
1933	10,648	249,323	888,195
1934	12,103	314,669	1,159,167
1935	13,659	367,263	1,462,539
1936	15,052	456,963	1,716,352
1937	18,609	601,684	2,557,201
1938	22,149	860,431	3,821,881

Note: The number of mills is revised. In addition to the above there were 461 governmental factories with 33,216 operatives and 72 public factories with 5,128 operatives in 1938.

TOTAL VALUE OF PRODUCTION OF THE MACHINE MANUFACTURING INDUSTRY ACCORDING TO MANUFACTURERS, IN 1938

	Value of Production in yen
Manufacturers of	
Bollers	33,564,043
Gas producing apparatuses	5,816,522
Power engines	271,940,393
Electric machines and tools	348,391,552
Manufacturers of	
Insulated wire and cable	248,522,695
Telegraphic machines and tools	121,971,395
Electric batteries	42,316,376
Farming machines and tools	23,748,909
Machines and tools for civil engineering and building	15,286,882
Mining machines and tools	58,579,013
Spinning and weaving machines and tools	134,558,937
Machines and tools for the kiln industry	2,265,876
Paper manufacturing machines and tools	4,975,665
Machines and tools for the chemical industry	89,176,045
Machines and tools for the food-stuff manufacturing industry	14,523,409
Printing and book-binding machines and tools	11,191,300
Machines and tools for other manufacturing industries	76,195,177
Elevators	4,195,326
Cranes	80,934,634
Pumps	42,426,594
Compressors	15,913,238

Manufacturers of	Value of Production in yen	Manufacturers of	Value of Production in yen
Measuring and weighing instruments	8,718,834	Vehicles (excluding locomotives, cars and automobiles)	82,440,934
Gas and water meters	3,472,520	Tools for vessels	857,219
Electric meters, thermometers and other meters	46,905,865	Safes	2,732,587
Clocks and watches	30,991,270	Gas utensils	2,384,869
Scientific machines and tools	5,532,650	Water service utensils	1,165,869
Medical machines and tools	8,858,405	Valves and cocks	30,610,408
Land survey and drawing instruments	1,832,548	Wheels	72,216,767
Typewriters and counters	10,438,426	Ships, arms, vehicles, machine tools, etc.	1,769,609,050
Photographic instruments	15,664,237	Total	3,821,881,276
Instruments for lighting	65,249,449		
Optical instruments	3,961,970		
Eye glasses	104,950		
Musical instruments	10,897,845		
Gramophones	740,803		

Note: Manufacturers are grouped according to their principal works so that the value of production by makers of boilers, for instance, does not mean the value of boilers produced. Figures for various articles are given in the following tables.

The publication of figures for ships, arms, automobiles, etc. is stopped, except in a summary way.

PRODUCTION OF ENGINES

(Value in yen)

Year	Steam Engines		Steam Turbines		Gas Engines		Light Oil Engines	
	No. Produced	Value	No. Produced	Value	No. Produced	Value	No. Produced	Value
1930	74	298,341	42	2,220,460	575	340,416	1,337	11,852,363
1931	97	80,769	17	1,458,889	10	8,800	778	5,008,217
1932	77	150,006	86	1,022,760	103	76,472	2,371	20,587,302
1933	162	580,519	51	7,269,146	142	116,780	5,546	32,360,597
1934	105	617,215	102	6,893,407	54	15,948	4,866	19,784,471
1935	144	1,308,033	187	10,551,116	14	43,260	8,439	21,092,789
1936	129	2,405,409	106	8,352,713	4	7,850	8,354	30,948,045
1937	130	486,027	229	13,552,628	168	235,110	7,456	54,149,245
1938	121	1,081,443	199	18,299,794	484	1,125,108	5,355	93,737,398

Internal Combustion Engines

Year	Oil Engines		Heavy Oil Engines		Total
	No. Produced	Value	No. Produced	Value	
1930	104,854	9,671,130	2,274	6,759,923	29,723,832
1931	15,295	5,228,870	2,002	8,248,660	18,494,447
1932	16,558	4,420,307	1,783	5,790,541	30,874,682
1933	17,229	4,049,818	3,961	11,618,068	46,605,230
1934	53,889	6,856,672	4,151	15,267,978	41,925,069
1935	35,603	8,832,063	4,310	17,680,899	47,649,011
1936	37,291	8,485,516	12,510	20,987,381	60,428,792
1937	40,263	9,417,941	12,762	27,602,967	91,405,263
1938	44,347	14,450,145	10,274	33,438,388	143,751,039

PRODUCTION OF ENGINES (Continued)

(Value in yen)

Year	Turbine Water Wheels		Pelton Water Wheels		Total	Production of Fittings Value	Grand Total Value
	No. Produced	Value	No. Produced	Value			
1930	115	1,890,568	17	35,811	1,926,376	2,207,825	36,377,837
1931	111	765,540	7	81,521	847,063	1,333,930	22,215,098
1932	173	575,847	1	1,492	577,339	1,493,765	34,118,552
1933	91	183,076	57	318,189	501,265	2,867,389	59,365,582
1934	164	1,319,476	21	133,348	1,452,824	3,483,848	54,372,263
1935	124	1,541,528	5	298,999	1,840,527	7,558,079	68,906,766
1936	202	4,419,243	26	425,778	4,845,021	10,433,286	86,465,221
1937	163	6,223,151	10	325,668	6,548,819	15,440,838	127,433,575
1938	185	8,035,457	7	156,581	8,192,038	20,105,692	191,430,006

PRODUCTION OF BOILERS

(Value in yen)

Year	Water-Tube Style		Cast Iron		Others		Fittings and Accessories value	Total value	Machinery for Producing Gas value
	No. Produced	Value	No. Produced	Value	No. Produced	Value			
1930	143	2,573,598	374	249,798	844	1,097,745	1,283,860	5,169,731	952,585
1931	86	2,388,832	89	50,330	1,180	1,197,505	2,724,523	6,369,190	727,929
1932	86	1,185,444	264	178,000	1,257	2,384,306	701,659	4,449,409	586,440
1933	120	2,071,541	281	217,976	2,020	5,817,207	3,647,849	11,554,573	1,210,160
1934	155	8,327,410	14	386,254	1,531	5,965,028	6,413,992	21,092,684	1,092,612
1935	255	19,863,758	382	437,146	1,743	3,942,038	10,226,313	34,469,255	1,594,975
1936	309	16,084,129	426	587,000	1,794	6,939,190	8,122,970	31,733,289	1,805,807
1937	826	19,243,758	5	458,630	2,376	8,279,781	11,730,879	39,713,048	3,479,325
1938	687	21,611,515	8	6,300	4,061	17,373,476	16,159,856	55,151,147	8,414,440

PRODUCTION OF PUMPS, COMPRESSORS AND FANS

(Value in yen)

Year	Pumps		Hydraulic Compressors		Gas Compressors		Blowing Machines (Fans)	
	No. Produced	Value	No. Produced	Value	No. Produced	Value	No. Produced	Value
1930	515,642	8,002,940	1,084	452,580	9,239	3,152,991	1,475	599,142
1931	398,632	6,837,801	686	358,938	2,230	1,627,198	13,266	748,891
1932	290,480	6,510,822	1,102	720,903	2,199	1,123,213	28,433	755,241
1933	290,477	9,669,019	833	810,502	1,969	1,721,220	4,152	1,143,718
1934	427,999	13,027,236	1,152	1,175,656	3,323	3,993,231	5,425	2,410,354
1935	322,667	15,153,628	1,166	1,346,068	5,026	5,350,943	12,369	3,914,662
1936	461,113	19,680,578	1,479	1,828,575	3,664	6,278,294	11,231	3,634,164
1937	358,232	27,896,976	1,669	3,574,041	9,900	11,692,697	15,112	6,887,000
1938	353,610	41,269,114	979	5,247,250	16,210	21,795,491	25,092	13,535,463

PRODUCTION OF OPTICAL INSTRUMENTS

(Value in yen)

Year	Lenses, including Prisms		Microscopes	Telescopes	Field-glasses	Glasses
	No. Produced	Value				
1931	433,338	72,076	20,885	98,741	230,338	
1932	572,961	54,750	182,302	227,325	360,114	
1933	787,249	261,727	1,433,169	3,304,068	126,050	
1934	954,515	328,834	2,160,119	5,539,078	62,400	
1935	1,276,617	391,474	5,488,746	2,235,208	90,483	
1936	1,536,575	553,498	4,319,450	2,109,484	52,644	
1937	1,675,576	428,472	89,136	4,859,539	71,099	
1938	1,813,526	549,335	624,839	2,727,849	514,575	

PRODUCTION OF MEASURING AND WEIGHING INSTRUMENTS

(Value in yen)

Year	Rules	Measures	Scales	Gas Meters	Water Meters	Accessories & Fittings	Total
1930	794,776	298,269	3,033,458	2,998,262	1,379,397	411,724	8,915,886
1931	581,717	248,705	2,443,134	1,998,534	1,345,382	264,173	6,881,645
1932	705,516	175,568	2,228,220	1,870,250	1,485,165	466,348	6,931,071
1933	869,288	298,100	3,692,690	2,042,099	1,391,487	467,937	8,761,607
1934	1,019,479	228,432	3,848,631	2,064,405	1,141,105	508,076	8,810,128
1935	1,224,720	580,202	4,200,844	2,236,139	1,660,923	642,901	10,545,729
1936	1,318,589	709,227	4,597,311	3,938,352	1,660,144	896,845	13,120,468
1937	1,365,288	900,049	5,456,722	4,865,278	1,941,244	1,161,861	15,690,442
1938	2,188,261	910,399	5,935,019	3,042,025	2,169,071	1,653,465	15,898,240

PRODUCTION OF VARIOUS METERS

(Value in yen)

Year	Thermometers		Clinical Thermometers		Electricity Meters		Others	Total
	No. Produced	Value	No. Produced	Value	No. Produced	Value		
1930	745,307	381,415	1,046,500	841,766	209,287	2,772,177	2,984,421	6,979,779
1931	676,743	310,924	1,237,192	777,377	213,011	2,657,049	3,066,257	6,811,607
1932	511,786	273,356	1,388,859	883,335	395,298	3,997,290	2,622,110	7,776,091
1933	750,742	431,194	1,518,544	839,151	439,268	7,312,489	4,696,288	13,279,122
1934	987,023	393,973	1,884,875	1,095,826	539,273	7,247,533	7,838,757	16,576,086
1935	1,024,870	388,441	1,880,433	1,088,657	517,888	8,901,676	12,851,744	23,230,418
1936	1,064,192	341,085	2,069,867	1,137,237	719,498	8,175,176	19,637,206	29,290,707
1937	1,326,141	270,932	2,338,080	1,449,331	928,835	12,582,718	24,113,695	38,416,676
1938	563,167	382,131	2,049,098	1,650,278	812,433	17,259,007	32,992,478	52,283,894

PRODUCTION OF CLOCKS AND WATCHES

(Value in yen)

Year	Electric Clocks		Stand Clocks		Clocks
	No. Produced	Value	No. Produced	Value	
1930	11,699	579,919	1,155,988	2,055,593	474,565
1931	11,250	366,148	993,287	1,350,822	362,011
1932	6,151	216,019	857,594	1,552,117	436,513
1933	7,654	240,388	1,270,467	2,047,417	514,626
1934	51,373	574,365	1,728,567	2,637,488	876,747
1935	78,675	892,791	1,930,234	3,076,711	543,069
1936	92,352	978,035	2,155,829	3,378,601	1,057,501
1937	411,493	2,720,009	2,244,210	4,176,048	892,221
1938	170,151	2,064,868	1,457,599	3,894,882	609,639

Year	Clocks Value	Watches		Fittings Value	Total Value
		No. Produced	Value		
1930	1,911,182	181,233	1,013,042	5,846,179	11,405,915
1931	1,390,718	169,358	657,528	2,310,248	6,075,464
1932	1,629,130	160,288	681,156	2,590,187	6,668,669
1933	2,122,065	153,247	794,183	3,160,690	8,364,743
1934	2,748,623	158,520	936,942	4,684,064	11,581,482
1935	3,000,328	165,962	952,875	5,136,344	13,059,049
1936	3,279,386	235,666	1,435,043	5,755,982	14,827,047
1937	3,950,736	1,131,901	6,576,064	3,341,156	20,764,013
1938	3,738,873	1,447,529	7,654,735	4,082,474	21,435,832

PRODUCTION OF CRANES, ELEVATORS, etc.

(Value in yen)

Year	Cranes		Hoists, Conveyors, etc.		Elevators	
	No. Produced	Value	No. Produced	Value	No. Produced	Value
1930	3,138	5,834,200	3,254,024	815	1,800,499	
1931	396	1,828,835	2,174,962	519	1,502,950	
1932	637	2,303,674	2,269,622	691	1,509,437	
1933	1,278	5,402,508	4,607,460	614	1,238,638	
1934	1,078	8,306,927	7,716,384	904	2,889,608	
1935	1,339	12,961,504	10,134,238	640	2,118,757	
1936	1,509	14,642,286	10,961,871	1,232	3,845,689	
1937	2,943	18,846,957	21,146,541	1,724	4,210,432	
1938	6,828	33,668,506	31,866,971	2,148	8,071,068	

PRODUCTION OF VARIOUS MACHINERY FOR INDUSTRIAL PURPOSES

(Value in yen)

Year	Agricultural Machines	For Building and Civil Engineering Work	Instruments for Farming, etc.	For Mining	For Spinning and Textile Industries	For Ceramic and Cement Industry
1931	2,914,996	981,111	2,459,796	2,047,128	22,756,086	709,668
1932	4,297,720	898,830	3,187,430	3,060,091	27,478,898	1,044,278
1933	4,756,029	1,559,468	5,023,786	6,190,028	44,151,201	4,351,629
1934	5,720,304	1,351,098	5,178,072	9,672,126	64,653,507	5,258,333
1935	8,599,530	1,639,373	5,814,536	14,326,438	86,016,362	3,869,844
1936	11,021,222	2,793,359	5,171,958	13,405,110	99,338,746	5,216,179
1937	14,157,224	5,320,806	8,448,974	31,771,077	129,100,591	4,748,478
1938	19,584,886	8,486,273	8,678,116	53,435,763	110,726,371	3,668,802

Year	Printing	For Saw-mills	For Paper Manufacturing	For Various Chemical Industries	For Food Manufacturing	Printing Type	Miscellaneous
1931	5,320,524	1,419,285	695,861	2,638,421	3,443,043	2,462,696	3,696,522
1932	6,615,661	1,354,372	509,207	4,869,055	3,563,442	1,855,639	5,271,977
1933	6,992,743	1,976,830	1,642,611	14,341,447	5,495,501	2,085,210	6,788,473
1934	7,498,270	2,336,224	2,731,426	21,062,391	7,447,799	1,988,371	8,835,473
1935	7,333,681	3,171,813	3,890,798	29,577,954	9,421,217	2,251,215	11,331,071
1936	9,470,848	—	4,184,929	28,563,890	12,697,653	2,590,738	15,177,776
1937	12,438,256	—	5,558,253	48,236,336	14,827,568	3,640,077	40,713,451
1938	11,649,324	—	4,286,866	80,193,416	16,197,385	5,045,685	92,147,043

PRODUCTION OF MISCELLANEOUS INSTRUMENTS

(Value in yen)

Year	Safes	Gas Utensils	Water-service Apparatus	Valves, Cocks, etc.	Fly Wheels, Gears, Axles, etc.	Fittings and Other Accessories	Others
1931	1,200,092	406,968	1,130,255	1,641,080	5,962,705	11,660,398	32,121,271
1932	1,264,764	723,906	2,019,744	2,369,581	7,714,205	29,484,929	48,954,102
1933	1,486,533	1,049,967	1,610,242	3,623,998	14,310,795	38,256,100	72,104,704
1934	1,588,840	970,178	1,899,536	7,155,687	14,622,842	46,770,100	89,859,874
1935	1,785,588	1,013,606	1,571,606	8,270,095	21,680,987	85,077,533	98,318,435
1936	2,353,585	1,219,673	1,972,493	12,037,373	18,503,304	99,472,973	299,660,394
1937	2,741,006	1,895,527	3,004,867	20,338,559	35,858,286	161,883,655	465,386,885
1938	2,602,225	1,840,087	1,473,012	30,920,760	67,144,351	331,910,568	1,384,485,596

PRODUCTION OF MUSICAL INSTRUMENTS, etc.

(Value in yen)

Year	Pianos	Organs	Violins, etc.		Total	Gramophones	Arms
			Mandolins,	Others			
1930	1,878,800	1,016,210	119,188	1,147,472	4,161,670	2,096,439	13,141,067
1931	2,078,406	1,199,649	77,464	910,694	4,266,213	2,811,850	13,443,520
1932	1,907,456	941,951	52,184	994,383	3,868,974	3,110,057	23,185,829
1933	2,325,781	961,622	96,027	1,421,028	4,804,458	4,657,102	32,217,961
1934	2,465,038	931,591	134,802	1,943,023	5,474,454	6,355,129	42,162,028
1935	2,619,122	991,996	179,771	2,353,701	6,144,590	5,347,772	59,914,364
1936	2,788,388	929,808	249,192	2,600,399	6,567,787	5,614,129	57,179,357
1937	2,985,431	1,019,772	260,031	2,980,118	7,245,352	5,667,568	86,772,732
1938	1,559,997	551,679	267,601	2,626,727	5,006,004	5,659,690	—

PRODUCTION OF SCIENTIFIC AND MEDICAL INSTRUMENTS AND TESTING MACHINES, etc.

(Value in yen)

Year	Experimental and Testing Machines	Scientific Instruments	Surgical, or Orthopaedic Instruments	Surveying and Drawing Instruments	Registers,	Cameras,
					Typewriters, Adding Machines, etc.	Magic Lanterns, Movie Cameras, etc.
1930	496,019	918,322	2,284,228	564,193	1,274,223	746,914
1931	481,364	476,407	1,902,771	427,924	1,388,942	1,126,227
1932	428,942	585,089	2,372,813	978,680	2,021,363	917,335
1933	1,414,604	871,644	4,572,566	778,229	2,157,272	1,085,272
1934	1,604,568	1,063,271	4,167,285	925,448	3,590,114	1,587,971
1935	1,469,971	1,879,028	4,970,556	1,153,736	3,697,656	2,570,575
1936	1,908,867	1,671,733	6,124,429	1,231,638	5,222,226	3,270,352
1937	4,124,885	2,635,676	6,503,048	1,866,674	8,152,960	5,183,197
1938	5,454,593	4,710,674	13,125,623	3,548,253	10,341,336	7,943,095

PRODUCTION OF ELECTRICAL MACHINERY

(Value in yen)

Year	Dynamos		Electric Motors		Rotary Converters	
	No. Produced	Value	No. Produced	Value	No. Produced	Value
1930	10,914	4,415,105	115,420	14,795,641	136	1,578,456
1931	3,953	4,865,869	88,083	10,369,400	1,161	1,082,559
1932	9,748	4,638,302	99,809	9,886,162	1,461	599,177
1933	58,600	7,720,547	195,005	21,553,794	1,269	1,470,000
1934	26,378	11,243,516	387,750	34,750,828	703	1,358,357
1935	13,285	14,784,166	374,319	43,914,591	10,042	1,776,216
1936	46,457	19,059,308	397,242	45,081,810	1,622	1,695,975
1937	51,085	21,067,519	281,302	50,951,124	1,944	1,385,897
1938	44,140	30,842,787	498,877	97,576,181	3,914	1,275,187

Year	Frequency Changers		Transformers		Rectifiers	
	No. Produced	Value	No. Produced	Value	No. Produced	Value
1930	8	109,278	387,333	9,307,652	3,628	160,218
1931	6	22,251	341,561	5,883,660	275	315,327
1932	11	12,184	290,887	6,618,334	2,881	156,547
1933	3	14,006	324,167	9,976,642	1,097	278,657

Year	Frequency Changers		Transformers		Rectifiers	
	No. Produced	Value	No. Produced	Value	No. Produced	Value
1934	2	6,280	416,970	15,400,423	3,640	238,892
1935	2	13,276	288,774	19,936,149	19,588	523,097
1936	21	242,815	202,606	26,259,229	11,277	781,886
1937	18	4,260	261,737	35,126,286	10,482	915,674
1938	—	—	341,809	51,700,997	35,191	2,602,907

Year	Electric Fans		Electric Heaters		Insulated Wires	Cables
	No. Produced	Value	No. Produced	Value	Value	Value
1930	88,047	1,855,294	218,797	989,583	27,134,916	18,051,756
1931	44,019	761,538	535,869	1,130,569	21,441,985	10,421,985
1932	35,328	610,008	542,766	1,311,409	26,329,442	10,189,503
1933	46,041	866,070	733,819	1,415,757	39,487,609	17,850,301
1934	76,234	1,188,010	985,948	2,124,990	42,929,887	16,185,546
1935	45,342	911,892	912,524	2,646,725	56,721,405	21,920,622
1936	97,484	1,670,406	722,452	2,527,817	65,799,222	36,591,859
1937	110,434	2,592,883	772,140	3,986,756	98,875,009	61,054,819
1938	84,862	2,647,497	663,326	3,311,395	135,088,936	44,264,407

PRODUCTION OF ELECTRICAL INSTRUMENTS

(Value in yen)

Year	Instruments for Wireless Communication	Instruments for Telegraphic & Telephonic Communications	Electric Batteries Storage Batteries	
	Value	Value	No. Produced	Value
1930	6,357,315	9,109,054	205,753	4,144,403
1931	9,582,428	6,284,448	206,278	3,337,901
1932	11,552,221	7,034,435	281,980	3,425,373
1933	19,293,426	7,696,588	358,871	4,819,752
1934	26,420,734	13,143,143	415,111	6,575,986
1935	24,591,013	12,824,613	101,984	7,566,928
1936	59,816,291	—	131,520	8,235,060
1937	80,746,200	—	185,746	15,283,967
1938	123,796,247	—	190,067	20,515,763

Year	Dry Cells		Electric Batteries	Other Electrical Instruments
	No. Produced	Value	Total Value	
1930	70,576,043	9,658,359	13,802,762	29,294,850
1931	23,552,992	4,242,700	7,580,601	21,929,303
1932	33,032,783	5,172,392	8,597,765	24,167,329
1933	41,729,522	6,636,878	11,456,635	39,175,923
1934	51,425,306	7,268,713	13,844,699	50,722,078
1935	69,600,657	8,513,616	16,080,544	78,233,349
1936	79,696,249	8,267,764	16,502,824	79,232,599
1937	84,883,948	11,165,184	26,449,151	99,511,612
1938	104,344,675	16,987,542	37,503,305	143,810,983

PRODUCTION OF ELECTRIC BULBS, SEARCHLIGHTS, etc.

(Value in yen)

Year	Electric Bulbs		Searchlights		Others	Total
	No. Produced	Value	No. Produced	Value	Value	Value
1930	114,811,775	15,192,305	20,752	2,400,744	3,539,177	21,132,225
1931	202,054,444	18,038,888	—	968,606	3,459,829	22,467,323
1932	286,653,068	19,685,338	169	831,379	4,692,485	25,209,302
1933	340,392,875	21,970,879	174	679,973	6,942,939	29,593,791
1934	310,750,142	19,997,704	154	893,804	7,115,004	28,006,512
1935	308,683,271	21,209,930	283	100,473	9,040,724	30,351,127
1936	294,034,025	21,357,909	—	108,897	10,732,675	32,190,481
1937	332,822,266	28,820,274	116	351,477	17,868,915	47,040,666
1938	259,869,778	29,386,419	150	73,300	17,589,997	47,049,716

PRODUCTION OF LOCOMOTIVES AND ROLLING STOCK

(Value in yen)

Year	Steam Locomotives		Electric Locomotives		Gas Locomotives		Fittings, etc. Value	Total Value
	No. Produced	Value	No. Produced	Value	No. Produced	Value		
1930	233	9,400,067	41	884,035	129	1,192,624	270,255	11,748,481
1931	109	5,029,536	47	1,506,247	163	1,454,003	216,223	8,206,009
1932	60	2,976,606	47	503,464	223	1,333,485	298,250	5,111,805
1933	167	6,270,177	29	609,386	288	1,486,822	1,340,408	9,706,793
1934	192	12,485,274	71	2,392,319	236	824,323	1,091,564	16,793,481
1935	347	21,878,540	51	846,003	336	2,196,869	812,492	25,733,904
1936	424	26,190,414	56	1,619,549	490	3,289,994	5,461,250	36,633,207
1937	435	25,009,198	50	1,775,408	725	4,557,331	8,802,674	40,144,611

Year	Coaches & Freight Cars		Electric Cars		Rikisha		Waggons		
	No. Produced	Value	Fittings for No. Produced	Value	Fittings of No. Produced	Value			
1930	3,831	9,306,425	1,582,700	355	3,607,416	3,672,732	947	75,610	161,005
1931	1,508	3,881,066	221,088	180	2,019,861	1,492,455	1,448	72,060	165,710
1932	1,106	3,980,922	181,345	178	1,259,789	213,153	489	50,400	458,515
1933	1,452	8,064,776	853,179	129	1,663,722	501,857	550	58,220	341,099
1934	2,640	15,070,988	2,703,857	189	1,530,634	285,731	848	64,561	118,757
1935	4,804	18,986,601	3,035,150	237	2,783,499	225,086	760	62,660	216,087
1936	6,201	21,547,844	10,854,654	199	2,353,285	2,684,690	40	8,000	67,249
1937	8,882	20,092,279	13,010,064	383	5,951,990	5,404,922	650	64,750	183,674
1938	—	—	—	—	—	—	470	56,156	97,054

Note: In all the tables given above the value does not represent the value of the given number produced, because it includes value for production the number of which is not clearly reported.

Aircraft

Introduction Captain Tokugawa was the first pilot to fly a heavier than air machine in Japan. This was in 1910. The manufacture of aircraft was commenced in the Army and Navy arsenals and manufacture under licence was carried out by private companies. In this way the manufacture of aeroplanes was greatly encouraged and military

and naval aircraft can now be satisfactorily manufactured in the country.

History Dr. Ichita Kishi, a physician constructed at his own expense various workshops in his own residence at Tsukiji, Tokyo, and, in 1914, with the help of several expert engineers, succeeded in constructing an aeroplane engine, the first to be manufactured in this country. A trial flight of the aero-

plane using this engine was very successful, so he manufactured his second aeroplane in 1916. In 1917, Mr. Nakajima, a retired engineer captain of the Navy, manufactured various kinds of aeroplane with the help of Messrs. Mohel Ishikawa and Seibei Kawanishi. In 1920, the Aichi Tokai Denki Kaisha, Ltd. (Aichi Clock Electric Machinery Co., Ltd.) established an aeroplane department and in the same year turned out a seaplane. From that time this department has developed rapidly. In 1921, the Kawanishi Machine Company established an aeroplane factory in Hyogo, and started the manufacture of seaplanes in 1923. Also, in 1921, the Mitsubishi Aircraft Co., Ltd., brought nine experts in aeroplane manufacturing from Great Britain and began to manufacture both aeroplanes and engines on a large scale. The Kawasaki Shipbuilding Co., Ltd., following in the steps of the Mitsubishi Aircraft Co., Ltd., began manufacturing aeroplanes in 1922.

Present State of the Industry The aircraft manufacturing industry has shown considerable activity in recent years. Aside from military requirements, manufacturers have received good orders from public bodies who have raised subscriptions to donate aeroplanes to the army and navy. Japanese manufactured civil planes have had many successes of late and orders have been coming in for these. Manufacturers of aircrafts at present are as follows:

MANUFACTURES OF AIRCRAFT

Year	Makers of	Makers of
	Bodies and Motors	Balloons and Airships
1930	6	3
1931	7	2
1932	7	2
1933	8	2
1934	8	2
1935	8	2
1936	9	2

Automobile Manufacturing

History The first automobile to be manufactured in Japan was by the Tokyo Motor Car Works, under the management of Mr. S. Yoshida, in the

Note: Conditions of aircraft and automobile industries since 1937 are not made public.

year 1909, but until the present progress has been very slow. In 1910, several military motor cars were manufactured for the Army in the Osaka Arsenal, and in 1911, the Tokyo Automobile Factory commenced the manufacture of "DAT" cars.

The Tokyo Gas and Electric Co., Ltd., began to manufacture military automobiles "T.G.E." in 1916, and trucks in 1917. In 1918, the Military Automobile Subsidy Act was put into force and this company was the first to get a subsidy from the Army Ministry under the act. In 1920 the Tokyo Ishikawajima Shipbuilding Co., Ltd., began to manufacture passenger cars. Companies other than the above which are making automobiles are Hakuyosha, Ltd., and the Oriental Automobile Co.

Present State of the Industry The motor car industry is perhaps the only one of all the heavy industries in Japan of which the country has nothing to its credit today. While there were, in 1936, more than 176,000 cars, buses and trucks of all kinds in the country, almost all of them were imported, about 80 per cent of them being Chevrolet and Ford. Of the balance, a considerable number are other American and European makes.

Passenger Cars The "Atsuta-go," modelled after the Nash and White, and from this year, the "Nissan" are the only passenger cars manufactured in Japan aside from the baby cars.

Buses and Trucks Bus and truck manufacturing is slightly better than passenger car making. The "Chiyoda" manufactured by the Tokyo Gas and Electric Co., and the "Sumida" made by the Jidosha Kogyo Kaisha have long histories. These companies are also jointly making the "Isuzu," designed by the Ministry of Commerce and Industry. These three classes of buses and trucks are supplied to the market in considerable numbers. Kyodo Koku-sai Jidosha, which was established in 1933 by these two companies, is selling domestic trucks and buses of five classes. The Mitsubishi Heavy Industry Co., Ltd. is making the large-sized bus "Fuso-go" at its Kobe plant, the Kawasaki Sharyo Kaisha, Ltd. the truck and bus "Rokko."

Baby Cars and Motor Cycles Small motor cars are defined, in dimensions

and power, by the "Regulations of Motor Cars" and include such small-sized cars as the "Datsun" car, rear cars, etc. Rear cars have made a marvellous development in Japan as a means of carrying small parcels. Their production totals 15,000 a year, for they are not only in use throughout Japan but are exported to Manchoukuo, the South Sea Islands, etc. The sales of small-sized cars like the "Datsun," are rapidly increasing.

Accessories and Parts Accessories and parts of motor cars used in Japan were almost exclusively of American make before replacement of the embargo on gold in 1931. Owing to the low exchange rate which followed thereafter their importation became very difficult and domestic makes took their place. At present, even Chevrolet and Ford parts are being replaced by domestic makes. They are also being exported.

PRODUCTION OF AUTOMOBILES AND MOTOR CYCLES

(Value in yen)

Year	Imported Parts Assembled		Others		Accessories and Parts		Total		Motor Cars	
	No.	Value	No.	Value	Value	Value	No.	Value	No.	Value
1930	20,596	34,903,822	1,254	3,626,252	4,493,958	43,024,032	793	413,808		
1931	19,935	32,099,506	971	2,576,231	6,535,494	41,211,231	1,451	826,320		
1932	13,853	28,869,297	710	4,748,008	6,095,992	39,703,897	2,113	1,619,279		
1933	14,373	37,690,059	1,657	9,493,251	10,960,059	58,143,369	4,013	3,651,570		
1934	29,889	75,955,529	2,770	15,671,197	22,730,076	114,362,802	7,750	6,029,283		
1935	27,021	69,928,985	5,307	22,908,967	28,234,962	121,072,914	8,845	7,342,114		

Imports of Automobiles In 1914 imports barely amounted to ¥500,000, but by 1929, they amounted to ¥30,000,000. Owing to the depression there was a drop to ¥20,000,000 in 1930, and to ¥14,-

000,000 in 1933. The figures then took an upward course, rising to ¥32,302,000 in 1934, ¥32,589,000 in 1935, ¥37,036,000 in 1936, and ¥30,682,000 in the first half of 1937.

IMPORTS OF AUTOMOBILES AND ACCESSORIES

(Value in yen)

Year	No. of Automobiles	Value	Value of Accessories	Total Value
1930	2,591	4,896,992	15,178,000	20,773,000
1931	1,887	3,378,000	12,951,000	16,329,000
1932	997	2,894,000	11,927,000	14,821,000
1933	491	1,864,392	12,517,753	14,382,145
1934	896	3,357,061	28,945,163	32,302,224
1935	943	3,302,241	29,387,106	32,589,347
1936	1,117	3,577,000	33,459,000	37,036,000
1937 (Jan.-July)	895	3,009,000	27,673,000	30,682,000

Note: Details of conditions of the industry and the trade in automobiles are not published since 1937.

Bicycle Manufacturing

History A bicycle was first introduced into Japan in 1881 by an Englishman. In 1889, an American brought a bicycle with him from America. In 1904, frames and other accessories were imported from Great Britain, and the making of bicycles at a lower cost became comparatively easy and bicycles became very popular.

Before 1913, accessories other than

saddles, rims, and chains were being manufactured at home. Factories capable of manufacturing these latter articles on a large scale did not exist and it was impossible for small scale producers to compete against foreign products. From 1913 on, however, the demand for bicycles increased at great speed, and as the manufacturing of each of the above parts on a large scale became possible, bicycles came to be produced at a very low cost, though until

the World War, those manufactured in Japan could not compete with European-made ones. During the War, the art of manufacturing advanced so much that domestic bicycles could well compete in both quality and price with imported ones, and not only were home demands satisfied, but the Japanese product was exported to China, Russia, India and other countries.

Conditions Suitable for Bicycles Conditions in this country are well suited to the use of this vehicle. The factors which have made for the increased demand are:

(1) Individual wealth is comparatively small and the use of automobiles has not yet become universal.

(2) Roads are mostly too narrow, though greatly improved of late, to take automobiles.

(3) The making of bicycles, especially accessories like rims, is purely artisans' work, and is a type of work in which the Japanese manufacturers excel.

PRODUCTION OF BICYCLES IN JAPAN

(Value in yen)

Year Produced	No.	Value	Value of Accessories Produced
1930	136,985	2,790,331	12,206,374

Year	No. Produced	Value	Value of Accessories Produced
1931	105,088	2,022,013	13,747,235
1932	63,988	1,315,748	20,666,605
1933	118,405	2,164,804	26,396,495
1934	152,920	2,542,376	34,462,225
1935	90,885	2,260,889	38,889,853
1936	145,791	5,210,056	44,044,488
1937	138,895	2,977,815	50,889,157
1938	92,084	4,528,251	48,534,553

The principal places of production are Tokyo, Osaka, Aichi, Hyogo, Gifu and Fukuoka prefectures.

Imports and exports of cycles and accessories since 1930 are as follows:

Year	Imports	Exports
(In yen)		
1930	1,563,000	5,274,000
1931	1,153,000	7,119,000
1932	795,000	6,028,000
1933	619,000	12,114,000
1934	73,308	18,904,257
1935	85,545	17,436,446
1936	27,000	20,575,000
1937	—	23,451,000
1938	—	13,650,000
1939	—	18,063,000

Note:—Tyres are not included.

SHIPBUILDING

Introduction

The mercantile shipbuilding industry in Japan developed with the shipping business, while the development of warship building was mainly due to the urgent demands created by the Sino-Japanese and the Russo-Japanese Wars.

Owing to the construction of new vessels to be placed on subsidized lines, easy money and low interest rates, the shipbuilding industry which had been depressed since the close of the World War, revived and boomed temporarily in 1928. Tonnage output, which in 1919 amounted to as much as 674,000 tons, dropped to 53,000 tons in 1926. This was increased to 112,583 tons in 1928 and to 167,365 tons in 1929. However, as the improvement was brought about artificially and not by general improvements in economic conditions, the industry soon became dull again,

and was further depressed by the enforcement of the conditions of the London Disarmament Agreement. Naval orders to private shipbuilding companies were reduced by 30%, which, together with the decreased orders from private transportation companies reduced the 1931 output to 84,004 tons and in 1932 to 58,763 tons.

Owing, however, to the subsidies granted by the Ministry of Communications since 1932 for the improvement of steamers, the shipbuilding industry has been fairly active. The subsidies were granted with an aim of constructing 200,000 tons of new steamers, and closed at the end of March 1935. In addition to this, due to the low exchange rate, enquiries for steamers are forthcoming from Brazil, Thailand, Italy, France, Sweden, Soviet Russia, Manchoukuo, China, etc. (See Chapter XXVI, Sea Transportation.)

PRODUCTION OF VESSELS

(Value in yen)

Year	Steel Vessels		Ships Other Classes		Total Value	Fittings of Ships
	No.	Value	No.	Value		
1930	269	111,590,483	2,376	3,547,239	115,137,722	507,727
1931	245	34,991,786	1,840	3,184,897	38,176,683	638,378
1932	509	44,224,579	1,987	1,880,400	45,104,979	475,363
1933	335	37,208,750	2,558	2,767,288	38,976,038	316,170
1934	277	53,481,053	2,588	3,994,369	57,475,422	448,353
1935	328	81,875,746	2,234	4,875,522	86,751,268	836,511
1936	355	104,184,841	2,864	6,541,823	110,926,664	949,253
1937	581	208,820,307	4,578	16,503,625	225,323,932	2,472,764
1938	—	—	—	—	—	829,049

NUMBER OF DOCKYARDS, EMPLOYING MORE THAN 5 PERSONS
AND THOSE EMPLOYED

End of	Dockyards	Officials	Technicians	Operatives	Others	Total
1930	—	2,224	3,002	38,036	3,675	46,937
1931	—	2,053	2,805	33,439	1,207	39,514
1932	—	1,832	2,495	33,611	1,262	39,200
1933	360	2,069	2,677	39,068	1,878	45,692
1934	394	2,267	3,026	50,116	1,520	56,929
1935	395	2,302	3,416	53,918	1,692	61,328
1936	444	2,636	3,520	70,053	2,046	78,255
1937	559	3,874	5,019	89,736	2,532	101,161

Note: The publication of figures for most of the items has ceased.

Trade in Machinery

Imports of Machinery

Imports of machinery in 1939 totalled ¥288,212,000 against ¥313,362,000 for 1938.

Imports of machinery by Japan, excluding automobiles and their accessories, from 1919 to 1928, were some-

where between ¥100,000,000 and ¥140,000,000. There was a sharp reduction in 1930, and in 1931 the bottom was reached, but since then there has been a yearly increase, although the year 1939 showed a decrease by ¥25,000,000 from the previous year. (See Chapter XI.)

IMPORTS OF MACHINERY

(In ¥1,000)

Articles	1934	1935	1936	1937	1938	1939
Watches, and parts thereof	2,684	4,021	3,742	5,645	2,893	562
Clocks, and parts thereof	191	170	299	338	192	66
Microscopes, etc.	230	279	301	394	156	168
Ammeters, voltmeters, etc.	64	60				
Wattmeters	63	74	2,711	3,263	1,694	2,129
Other meters	1,479	2,246				
Surgical or orthopaedic instruments	200	238	118	249	129	161
Surveying and drawing instruments	97	515	256	385	790	957
Registers, calculating machines, typewriters, etc.	1,020	1,247	2,001	2,012	150	—
Scientific instruments	1,003	1,529	1,265	2,698	1,414	3,008
Cameras, and parts thereof	1,418	2,582	3,949	6,392	1,209	427
Musical instruments	182	197	240	319	119	—
Telegraphic and telephonic instruments	1,468	1,513	1,292	1,939	3,478	1,787

Articles	1934	1935	1936	1937	1938	1939
Fire-arms	1,031	1,117	—	—	—	—
Railway carriages, and other vehicles	—	—	44,677	58,791	63,517	31,732
Bollers	4,090	6,109	3,930	5,286	5,560	3,476
Fuel economizers	393	732	329	166	462	754
Steam turbines	430	1,331	1,385	1,055	411	671
Internal combustion engines (weighing not more than 250 kg.)	3,253	343	—	—	—	—
Internal combustion engines (weighing not more than 2,500 kg.)	17,277	14,801	—	—	—	—
Internal combustion engines (others)	247	413	—	—	—	—
Water-turbines and Pelton wheels	150	90	15	8	163	—
Dynamos, motors, etc. (weighing not more than 100 kg.)	829	1,044				
Dynamos, motors, etc. (weighing not more than 5,000 kg.)	145	209				
Dynamos, motors, etc. (others)	248	1,003	1,805	1,841	2,766	2,089
Transformers	85	75				
Dynamos combined with motive machinery	2	6				
Cranes	12	7	—	14	397	226
Capstans and other winding machines	35	90	86	193	—	—
Gas compressors	1,742	1,053	1,815	2,318	2,522	942
Sewing machines and accessories	5,866	6,473	7,939	10,574	386	153
Pumps	999	711	760	1,257	1,947	1,987
Blowing machines	231	192	591	790	400	263
Hydraulic presses	54	1,480	31	146	445	3,598
Pneumatic tools and machines	638	587	634	789	433	391
Metal or wood-working machines	21,433	18,295	—	—	—	—
Spinning machines	6,394	4,612	2,278	3,103	1,635	—
Tissue-finishing machines	62	264				
Weaving looms	40	224	238	384	—	103
Knitting machines	1,773	1,645	410	709	234	—
Paper-making machine	—	616	284	418	1,325	—
Printing machines	224	502	400	754	331	—
Card clothing	—	3,869	1,911	2,309	441	157
Felt for paper making	—	1,250	1,340	1,547	838	587
Rolls and rollers	—	916	576	473	482	1,329
Milling-cutters, gear-cutters, etc.	—	417	434	757	844	1,733
Handicraft and agricultural machines	—	1,287	1,451	2,285	428	—
Total including others	—	—	153,087	242,235	313,358	288,212

Note: Figures for fire-arms, internal combustion engines and metal or wood working machines are not made public.

Exports of Machinery

In 1939 Japan witnessed the highest record in exports of machinery of her own making. The value of exports was ¥370,323,000. The future of Japan's machinery manufacturing depends upon the degree to which her exports expand, and especially upon the development of the market in Asiatic countries. The invasion of Japanese products into the Dutch East Indies, British

India and other foreign markets is a matter of future prospect. The exportation of Japanese made spinning and weaving machines is very promising. The Toyoda Automatic Weaving Machines are very much in demand wherever the spinning industry is prosperous. Diesel-engines to be fitted into fishing vessels are built in Japan and shipped to the Dutch East Indies. Japanese made machines exported during the last 4 years follow:

	1936	1937	1938	1939
	(In ¥1,000)			
Hanging clocks	1,584	2,083	1,333	2,064
Table clocks	1,916	2,442	1,096	679
Surgical instruments	2,516	3,390	3,330	3,757
Electric batteries	1,909	2,262	3,233	3,999
Meters	1,543	2,270	3,097	4,980
Physical and chemical instruments	1,204	2,553	1,486	2,341
Musical instruments	693	850	786	1,037
Telephonic instruments	5,562	6,663	10,043	11,502
Phonographs	4,491	5,225	5,384	6,029
Measuring instruments	1,239	2,104	1,570	2,073
Steam boilers	1,731	3,580	4,405	5,514
Motors and dynamos	15,963	15,773	26,613	34,764
Transformers				
Switch boards				
Other electrical machinery	1,952	2,917	5,246	7,895
Pumps	4,907	6,233	10,324	25,532
Metal or wood working machinery	15,121	25,440	29,984	24,413
Spinning machinery				
Weaving machines				
Printing machines	1,000	1,448	2,197	2,561
Locomotives	15,087	9,314	16,338	24,468
Railway carriages and other vehicles	58,810	61,478	57,148	100,793
Ships	8,165	23,148	16,756	13,211
Cranes	1,417	1,740	3,868	4,948
Internal combustion engines	4,058	4,685	4,995	5,755
Sewing machines	575	1,037	651	916
Total including others	174,541	227,699	267,237	370,322

CHAPTER XX

PUBLIC UTILITIES

Electricity

Important items of the electric industry are not made public since October 1937.

But, at the end of October 1939, the number of companies engaged in the electric business was 618, consisting of 439 suppliers, 143 electric railways and 36 electric railways supplying electricity to others. Private electric plants numbered 10,765 at the end of 1937. The aggregate capital of the 618 companies was ¥5,892,121,824.

ELECTRIC POWER CAPACITY FOR INDUSTRIAL PURPOSES

(In kw.)

End of	Hydro-electric	Thermal	Others and Total
1930	2,797,637	1,601,677	4,399,314
1931	3,056,936	1,599,588	4,656,524
1932	3,105,930	1,827,131	4,933,061
1933	3,168,705	1,912,037	5,080,742
1934	3,268,834	2,223,113	5,491,947
1935	3,407,997	2,638,572	6,046,569
1936	3,759,334	2,924,778	6,777,422
1937	3,978,000	3,297,000	7,277,000
1938 (Oct.)	—	—	7,529,673

TOTAL VOLUME OF ELECTRIC POWER GENERATED FOR LIGHTING AND INDUSTRIAL PURPOSES

(In kw. h.)

		Rate of Increase
1930	12,160,082,885	—
1931	11,892,215,264	—
1932	12,557,696,988	5.6
1933	16,961,724,058	35.1
1934	18,793,610,146	10.8
1935	21,548,700,173	14.7
1936	24,132,870,000	8.9
1937	26,582,570,000	—

GROWTH OF DEMAND FOR POWER FOR LIGHTING

End of	No. of Consumers	No. of Lamps
1930	11,352,372	36,839,607
1931	11,446,539	37,413,988
1932	11,530,440	38,048,413
1933	11,383,235	38,382,771
1934	11,715,694	40,532,219
1935	11,948,953	42,477,828
1936	12,176,098	44,405,699
1937	12,568,725	46,969,219
1938	12,872,071	49,351,160

ELECTRIC LIGHTING IN VARIOUS PREFECTURES AT THE END OF 1935

(Number of lights per 100 persons)

Prefecture	No.	Prefecture	No.	Prefecture	No.	Prefecture	No.
Tokyo	123.8	Yamanashi	36.4	Osaka	87.4	Hiroshima	61.9
Kanagawa	87.2	Aichi	70.6	Kyoto	125.6	Tottori	47.8
Saitama	43.4	Miyé	50.3	Hyogo	83.0	Shimané	50.0
Gumma	45.4	Gifu	54.3	Nara	64.7	Okayama	60.8
Chiba	40.6	Nagano	49.3	Shiga	57.0	Yamaguchi	55.8
Ibaraki	27.9	Fukui	75.4	Wakayama	59.4	Kagawa	50.6
Tochigi	35.7	Ishikawa	70.7	Tokushima	44.0	Ehimé	47.2
Shizuoka	57.0	Toyama	58.5	Kochi	45.1	Kumamoto	51.2
Nagasaki	38.9	Miyazaki	39.7	Nilgata	50.4	Yamagata	36.4
Fukuoka	57.4	Kagoshima	29.0	Fukushima	31.5	Akita	29.9
Oita	54.9	Okinawa	6.8	Iwaté	26.0	Hokkaido	37.7
Saga	48.0	Miyagi	40.2	Aomori	37.2	Average	61.3

POWER SUPPLYING COMPANIES

Year	Generating Water	Steam	Purchasing	Total
1933:				
Opened	345	56	417	818
Unopened	7	3	15	25
Total	352	59	433	843
1934:				
Opened	331	60	413	804
Unopened	11	3	12	26
Total	342	63	425	830
1935:				
Opened	319	59	410	788
Unopened	12	3	15	30
Total	331	62	425	818
1936:				
Opened	307	64	396	767
Unopened	13	7	14	34
Total	320	71	410	801
1938 (Oct.)				
Opened	—	—	—	829
Unopened	—	—	—	32
Total	—	—	—	861
1939 (Oct.)				
Opened	—	—	—	618
Unopened	—	—	—	23
Total	—	—	—	641

CONSUMPTION OF ELECTRIC POWER BY INDUSTRIES

(Compiled by the Ministry of Communications)

(In 1,000 k.w. h.)

	1934	1935	1936	1937	1938
Fiber Industry	1,424,818	1,689,579	1,802,421	2,638,405	2,244,899
Metal Industry	1,200,700	1,666,182	2,219,902	2,796,626	4,850,078
Machine & tool manufacturing	292,408	373,872	466,466	988,677	1,327,433
Chemical Industry	4,044,205	5,051,275	5,895,349	7,143,505	7,747,379
Ceramic Industry	587,993	745,254	822,819	1,048,449	1,077,842
Foodstuffs	74,819	99,171	122,051	419,919	471,938
Total including others	9,264,568	11,380,327	13,265,696	15,666,012	18,587,369

Note:—Consumption by the mining industry is not included in the figures for 1937 and 1938.

Electricity in 1938 and 1939

The Nippon Has-so Den Kabushiki Kaisha (Japan Electric Power Generation and Transmission Company) The proposed plan of the new semi-Governmental electric company revealed by the Government on February 7, 1938 at the special committee of enquiry on the power control bill of the House of Representatives was as follows:

1. The company shall be capitalized at ¥880,000,000, of which ¥780,000,000 shall be obtained through conversion

PROFITS OF ELECTRIC INDUSTRY

Year	Paid-up Capital	Profit	Rate of Profit against Paid-up Capital
	(In Yen)		
1926	2,453,588,000	279,331,000	11.0
1927	2,677,153,000	279,541,000	10.5
1928	2,868,717,000	282,880,000	10.0
1929	3,019,222,000	301,900,000	10.0
1930	3,180,810,000	255,800,000	8.0
1931	3,234,181,000	227,061,830	7.0
1932	3,326,834,000	195,887,000	5.9
1933	3,494,202,000	183,100,000	5.2
1934	3,956,686,518	205,005,470	5.2
1935	4,124,389,526	225,730,583	5.5
1936	4,296,018,000	289,414,000	6.8

According to the report of the Ministry of Commerce and Industry on the business conditions of 337 power supplying companies in 1938 the aggregate capital amounted to ¥3,168,957,885, reserve fund ¥224,456,595, net profit ¥202,823,832, dividend ¥178,293,972.

of the fixed assets and rights of the existing companies and equipment and the new equipment to be installed in the first 2 years of the establishment of the company. The remaining ¥100,000,000 shall be raised from among the general public.

2. The construction plan of the company includes the establishment of the following plants over a period of ten years: Hydraulic generating plants with a capacity for 3,200,000 kw.; Thermal generating plants with a capacity for 4,500,000 kw.; Transmission

lines 13,000 km.; Transformer stations for 10,400,000 k.v.a. The expenses for the construction of the new plants and stations will amount to ¥1,890,000,000 during the 10 years after the establishment of the company in accordance with the 10-year program.

Business Plan When the 10-year program is complete the company will be able to supply electric power to the quantity of 7,300,000 kw. or over 45,000,000,000 kw. h. The income will be ¥528,640,000; the expenditure ¥446,900,000; net profit ¥79,650,000; dividend ¥60,200,000 (at 7 per cent); and reserves ¥19,450,000.

The capacity of generating and transmitting power will be as stated in the construction plan mentioned above in addition to 3,500,000 kw. of purchased electric power. The fixed assets of the company will be ¥2,670,000,000.

Start of the New Company The special commission for the valuation of the fixed assets and rights of the existing companies came, on December 14, 1938, to the conclusion that the total amount of their value for 33 electric companies reached ¥653,100,000, and decided on the capital of the new company as ¥753,100,000, adding to the above, another ¥100,000,000 which is to be obtained by flotation of shares. Of the 33 companies those companies which were valued at surpassing ¥10,000,000 were as follows:

Tokyo Electric Light Co.	¥136,700,000
Daido Electric Power	102,300,000
Nippon Electric	100,600,000
Kwansai Kyodo Electric	57,800,000
Toho Electric Power	40,600,000
Ujigawa Electric Power	35,800,000
Sanyo Central Electric	18,000,000
Kyushu Electric	17,000,000
Hiroshima Electric Power	16,500,000
Showa Electric Power	15,800,000
Yamaguchi Prefecture Electric	15,600,000
Chugoku Godo Electric	12,600,000

On April 1, 1939, the members of the Board of Directors were appointed and the arrangements with other companies involving the taking-over of staffs and employees and the transfer of assets and equipment were completed. The important contract in respect of the taking-over of electric power amounting to 2,200,000 kilowatts from fifty-two companies and of the supply of 3,400,000 kilowatts of electric power to 70

companies has been executed smoothly. The company enjoys no privilege in the way of exemption from taxes but debentures it issues have the guarantee of the Government, so that the company will have no difficulties in matters of finance.

Five-Year Plan In concert with the four-year plan for the expansion of industrial production and the plan for the mobilization of material resources, the Ministry of Communications, which controls the Japan Electric Power Generation and Transmission Company, formulated a five-year plan for the generation and transmission of electric power with a view (a) to develop electric power resources preferentially for military requirements, (b) to economize on materials used in the development of electric power resources and (c) to co-ordinate the technical installations which are in existence to increase their combined value. The plan is to be executed by the Japan Electric Power Generation and Transmission Company under the control of the Ministry of Communications. According to the plan, preference has been given to the development of electric power resources in Northern Kyushu, and other developments have been limited to localities where the transmission wires are at hand and can be co-ordinated and utilized because of being already in use by the member companies of the Japan Electric Power Generation and Transmission Company.

Attention has been paid also toward a co-ordinated development of water power resources, not only to generate electric energy economically but also to enhance the standard of efficiency in electric power generation. The minimum power capacity of generation for a new coal-power plant has been decided to be 25,000 kilowatts. The capacity of the trunk transmission wires has been increased from 150,000 to more than 250,000 volts. It has been decided, also, to make the primary cost of generation and transmission the basis of reduced electric power rates without leaving any margin for profits. The new rates are to be decided by a committee specially organized.

The First Program The Japan Electric Power Generation and Transmission Company worked out a plan for generating electric power at seventeen sites scattered throughout the country. This

project, aiming at generating 450,000 kilowatts of electricity, was begun in 1939 and is expected to be completed in 1943. Moreover, the electric power companies, which have become members of the Japan Electric Power Generation and Transmission Company, have already started work on the construction of water power plants that will generate about 1,000,000 kilowatts when completed in 1942. In four years, therefore, the output of electric power will be increased by some 1,500,000 kilowatts. The annual increase in the output of electricity has averaged 300,000 kilowatts, but hereafter it will average 400,000 kilowatts every year until 1943, thus meeting the increased demand for electric power due to the expansion of industrial production.

The first program for electric power generation of the Japan Electric Power Generation and Transmission Company calls for the development of water power resources at the following seventeen sites: two sites on the Ishikari River and one on the Tokachi River in Hokkaido; one on the Aga River, three on the Tone River, one on the Oi River

and one on the Kuzuryu River in Central Japan; one on the Ota River, two on the Ezawa River and one on the Takatsu River in Western Japan; and one on the Watahigawa River in Shikoku and one on the Itsuse River in Kyushu.

Shortage of Electric Power In the latter half of 1939 and the early months of 1940, Japan greatly suffered from a shortage of electric power caused by the insufficient supply of coal for thermal generation and the scarcity of rainfall for hydro-electricity. Factories operated by electric power were required to shorten their working hours or to have extra holidays in order to save electric power by 10 to 45 per cent according to different branches of industry, while homes were urged to decrease the number of electric lamps. The factories in the Kansai district, including those in the great industrial city of Osaka, were miserably paralyzed, provoking a question in regard to the responsibility of the calamity to the Japan Electric Power Generation and Transmission Company and its supervising office, the Board of Electricity of the Communications Ministry.

Gas Industry

Introduction

When compared with the electric industry, the gas industry has been very slow in its development. The introduction of gas took place in 1885, when it was used in Yokohama for street lighting purposes. Later in the same

year Tokyo adopted it for the same purpose. The capital invested in 1885 was ¥54,000, and a slow but steady increase took place until 1925, when the invested capital stood at ¥276,373,000. After that year the industry made great strides as the following figures show:

CONDITIONS OF GAS PRODUCING COMPANIES

	Coal Consumed Metric Ton	Output Thousand Cubic Meters	Amount Supplied to Consumers Thousand Cubic Meters	No. of Consumers	No. of Lights & Burners	Byproducts	
						Coke (Unit: Metric Ton)	Coaltar (Unit: 1,000 Liters)
1934	1,401,000	1,046,639	741,787	1,906,409	4,242,215	971,242	75,923
1935	1,522,000	1,219,746	771,534	1,995,000	4,453,919	1,012,443	83,865
1936	1,614,000	858,965	810,095	2,112,000	5,771,537	1,068,968	86,204
1937	1,719,519	940,871	859,424	2,233,000	6,173,970	1,134,220	90,162
1938	2,172,765	1,104,531	976,030	2,333,203	—	1,460,855	112,245

Business Results

(In ¥1,000)

End of March	No. of Companies	Paid-up Capital	Fixed Assets	Profit	Percentage of Profit against Fixed Capital	Dividend Rate
1935	104	440,210	585,998	60,295	13.6	7.6

End of March	No. of Companies	Paid-up Capital	Fixed Assets	Profit	Percentage of Profit against Fixed Capital	Dividend Rate
1937	111	460,403	608,919	78,232	12.8	8.4
1938	116	332,100	402,211	54,035	13.4	8.4
1939	122	338,359	—	—	—	—

CONSUMPTION OF GAS BY INDUSTRIES

(Compiled by the Ministry of Commerce and Industry)
(In 1,000 cubic meters)

	1937	1938
Fiber Industry	24,092	27,528
Metal Industry	8,140,967	10,384,371
Machine and Tool Manufacturing	184,811	134,040
Chemical Industry	211,502	377,417
Ceramic Industry	776,434	714,588
Foodstuffs	13,515	14,223
Total including others	9,399,887	11,705,671

Note: Figures include those for gas produced by factories themselves. The number of gas motors in operation was 653 with 42,977 horse power in 1937, 649 with 46,217 horse power in 1938.

Gas Industry In 1938 and 1939

In 1938 the number of gas-producing companies, including the newly established companies, totalled 122. The new plan of the gas industry, unaffected by the various emergency control measures, is being carried out suitably, promoted by the expansion of each industrial district and the increase in the number of construction works and heavy industries. Together with an amazing increase in the number of consumers, the results of 1938 show increases in output and supply of gas which was approximately 1,104,000,000 cubic meters, an increase of 163,000,000 cubic meters and approximately 976,000,000 cubic meters, an increase of 116,000,000 cubic meters, respectively. Although the Temporary Fund Adjust-

ment Law was applied to capitalistic interests, the capital increased by approximately ¥11,000,000 (2.4%) and paid-up capital by approximately ¥6,000,000 (1.6%).

The gas industry in Japan, stimulated by wartime economy, has launched upon a new field of activity. Gas has been manufactured hitherto mainly as a fuel for home use, but since hostilities began with China there has been a sudden demand for the use of gas as a motive power to cope with the development of the heavy industries and the restrictions on the use of heavy oil. Another important departure for the gas industry has been the manufacture of chemical by-products. This advance into the chemical field has been limited to the large and well-equipped gas plants, the leading gas companies having organized subsidiary concerns for the purpose. The Tokyo Gas Company, Ltd. organized the Tokyo Gas Chemical Industry, capitalized at ¥10,000,000, while the Toho Gas Company, Ltd. set up a subsidiary concern in the form of the Showa Gas By-Products Company. The Osaka Gas Company, too, amended part of its charter on July 28, 1938 to provide for the manufacture of chemical by-products.

However, the Ministry of Commerce and Industry decided to control the manufacture and sales of coke, and advised the Imperial Gas Association to form a joint-sales coke company. By the good offices of Naotaka Kataoka, president of the Osaka Gas Company and chairman of the Imperial Gas Association, and other leaders of the gas industry, the Imperial Coke Company, Ltd., capitalized at ¥5,000,000, was organized on February 27, 1939.

Waterworks

Waterworks in Japan were for the first time established in Osaka under the Waterworks Law of 1895 and thereafter developed remarkably all over the country. The Law was revised in 1911

to give sanction for the construction of waterworks to private associations as public bodies. By March 1938 places which already obtained permission to construct waterworks were as follows:

PUBLIC UTILITIES

Established by	No. of Waterworks Sanctioned	No. of Waterworks in Operation	Established by	No. of Waterworks Sanctioned	No. of Waterworks in Operation
Cities	120	117	Prefecture	4	4
Towns and Villages	405	368	Private persons	115	108
Town or Village Associations	8	7	Total	652	604

NUMBER OF WATERWORKS IN OPERATION BY DISTRICTS

(March 1938)

Prefecture	Established by Cities	Established by Towns or Villages	Established by Towns & Village Unions	Established by Prefecture	Established by Private Persons	Total
Hokkaido	5	20	—	—	4	29
Aomori	2	1	—	—	1	4
Iwaté	1	6	—	—	7	14
Miyagi	2	17	—	—	3	22
Akita	1	—	—	—	—	1
Yamagata	4	14	—	—	—	18
Fukushima	4	9	—	—	—	13
Ibaraki	1	1	—	—	3	5
Tochigi	2	4	—	—	—	6
Gumma	3	1	—	—	—	4
Saitama	—	5	1	—	—	6
Chiba	—	2	—	—	—	2
Tokyo	2	5	—	—	4	11
Kanagawa	3	10	1	1	1	16
Nilgata	4	10	—	—	—	14
Toyama	2	3	—	—	—	5
Ishikawa	1	4	—	—	—	5
Fukui	1	2	—	—	—	3
Yamanashi	1	9	1	—	2	13
Nagano	5	27	1	—	—	33
Gifu	2	15	—	—	3	20
Shizuoka	4	19	—	—	1	24
Aichi	6	1	—	—	2	9
Mié	3	4	—	—	—	7
Shiga	1	—	—	—	—	1
Kyoto	2	24	—	—	—	26
Osaka	4	16	—	—	4	24
Hyogo	5	13	—	—	7	25
Nara	1	6	—	—	2	9
Wakayama	2	4	—	—	8	14
Tottori	2	8	—	—	1	11
Shimané	1	7	—	—	7	15
Okayama	3	12	1	1	—	17
Hiroshima	5	6	—	—	14	25
Yamaguchi	4	6	—	1	9	20
Tokushima	1	3	—	—	—	4
Kagawa	2	3	1	—	6	12
Ehimé	3	20	—	—	1	24
Kochi	1	7	—	—	3	11
Fukuoka	10	6	—	—	1	17
Saga	2	4	—	—	—	6
Nagasaki	2	10	—	—	5	17
Kumamoto	1	7	—	—	—	8
Oita	3	4	—	—	1	8

WATERWORKS

Prefecture	Established by Cities	Established by Towns or Villages	Established by Towns & Village Unions	Established by Prefecture	Established by Private Persons	Total
Miyazaki	1	4	—	—	1	6
Kagoshima	1	8	1	—	2	12
Okinawa	1	—	—	—	—	1
Total	117	367	6	4	108	603

NUMBER OF HOUSEHOLDS SUPPLIED

Prefecture	Number of Households Supplied	Number of Households Supplied per 100 Households	Prefecture	Number of Households Supplied	Number of Households Supplied per 100 Households
Hokkaido	98,784	18.11	Osaka	632,961	70.50
Aomori	21,675	13.39	Hyogo	251,883	41.23
Iwaté	9,313	5.32	Nara	10,705	8.64
Miyagi	37,692	18.82	Wakayama	24,787	13.42
Akita	9,382	5.35	Tottori	13,656	14.36
Yamagata	19,045	10.30	Shimané	15,708	9.97
Fukushima	29,884	10.96	Okayama	46,867	16.63
Ibaraki	8,223	2.86	Hiroshima	111,290	29.11
Tochigi	14,466	6.79	Yamaguchi	39,615	15.29
Gumma	22,391	9.94	Tokushima	16,121	11.05
Saitama	8,789	3.17	Kagawa	15,861	10.42
Chiba	7,306	2.49	Ehimé	14,758	6.07
Tokyo	933,528	72.78	Kochi	14,458	9.25
Kanagawa	214,101	59.76	Fukuoka	140,131	26.27
Nilgata	45,068	12.67	Saga	10,857	8.50
Toyama	6,661	4.30	Nagasaki	68,550	27.09
Ishikawa	16,731	10.58	Kumamoto	22,760	8.70
Fukui	20,402	15.28	Oita	20,005	10.24
Yamanashi	23,683	19.08	Miyazaki	6,566	4.14
Nagano	47,419	14.25	Kagoshima	23,787	7.15
Gifu	17,404	7.12	Okinawa	3,576	2.83
Shizuoka	35,199	10.11	Total	3,549,831	26.30
Aichi	207,783	36.47			
Mié	18,731	7.81			
Shiga	5,730	3.79			
Kyoto	165,539	46.82			

Note: Percentage is taken on the number of households in prefectures on October 1, 1935.

NUMBER OF HYDRANTS AND VOLUME OF WATER SUPPLIED

Year	No. of Waterworks	Private	Hydrants without Meters			Fire-hydrants
			Common	Public on Streets	Hydrants with Meters	
1934	546	424,118	41,490	2,055	2,172,284	123,299
1935	553	459,142	34,142	2,041	2,194,401	130,869
1936	600	458,846	32,558	2,468	2,391,338	136,328
1937	631	495,329	31,835	2,813	2,514,355	123,337

Year	District Water Meters		Total	Volume of Water Supplied (1,000 cubic m.)
1934	3,092		2,766,338	936,287
1935	3,002		2,823,957	1,003,549
1936	2,642		3,024,180	1,068,947
1937	2,460		3,170,129	1,216,393

CHAPTER XXI

CHEMICAL INDUSTRY

Paper

Historical and General

Paper-making in Japan remained a handicraft for over twelve centuries after a Korean priest, Doncho, introduced the technique in 610 A.D. (Some writers maintain that paper existed in this country prior to that date.) During this long period of time, various grades of paper were produced from fibers of certain shrubs such as "kozo¹," "mitsumata²," "gampi³," etc.

Foreign-style paper was made for the first time in the 7th year of Meiji, 1874. In a small mill, the Yukosha, Tokyo, through the assistance of an English engineer. Several more mills were established the following year, but the development of the industry was naturally slow on account of the small demand. In the beginning, the raw materials used for foreign-style paper were chiefly rags, but in 1889, wood pulp was used for the first time in a mill which belonged to the Oji Paper Mills, Ltd. At first, the smallness of quantity required and competition from abroad made the industry struggle severely, but as with all other industries, the wars with China in 1894-95 and with Russia in 1904-5 gave it a great chance of development. In 1910, the Tomakomai Mill of the Oji Paper Mills, Ltd., which had been under construction since 1908 began operation. With the establishment of the Tomakomai Mill Japan became selfsupplying with respect to newsprint. Again, the Oji Paper Mills, Ltd., took the initiative in establishing a pulp mill, in 1912, in Odomari, Saghalien Island, but was quickly followed by the Fuji Paper Mills, Ltd., and the Karafuto Industrial Co., Ltd. The industry was just getting well settled when the Great War broke out and prosperity was forced

¹ Paper mulberry. ² Golden flowered Edgeworthia (*Edgeworthia chrysantha*). ³ An indigenous plant (*Wikstroemia sikokiana*).

upon it. Importations of foreign-style paper was practically stopped. Demand at home advanced, exports increased and the industry expanded at a great speed. The production of foreign-style paper in 1881 was only 3,968,000 lbs., it increased to 327,614,000 lbs. in 1914, 519,141,000 lbs. in 1919, 317,383,000 lbs. in 1924, and 1,418,187,000 lbs. in 1929.

In 1932 the Oji Paper Mills, Fuji Paper Mills and Karafuto Industrial Company were merged into one firm under the name of the Oji Seishi Kabushiki Kaisha (Oji Paper Manufacturing Company, Ltd.). It has a subscribed capital of ¥300,000,000, and is virtually monopolistic having control over 80% of the total paper production in the country and producing about 85% of the total foreign-style paper. The real strength of the Oji Paper Manufacturing Co., Ltd. lies in its almost complete monopoly of pulp production. In 1939 it turned out 1,621,200,000 lbs. of paper and 528,586,000 lbs. of pulp, which was equivalent to 80 per cent of domestic production.

Paper Industry in 1939

The economic control since 1937 was aimed at the expansion of the heavy industries at the sacrifice of various peacetime industries. But the paper manufacturing industry in Japan is one of the best organized and voluntarily controlled enterprises in the country and it has been able to cope with the emergency period with the minimum amount of sacrifice on its part. The conditions of paper industry and trade in 1939, were steady, although the profits earned by companies were decreased on account of further strengthening of State control on the manufacture and consumption of high grade papers in the year. The exports increased both for foreign markets and the countries in the yen bloc, and the price remained high in general, but the imports were only 2,730,000 lbs. a great decrease

as compared with 135,092,000 lbs. for 1937 and 14,358,000 lbs. for 1938. The supply of papers of high quality was far short of demand in the publishing world, because of restrictions in manufacture and imports.

Supply and Demand According to the report of the Japan Paper Manufacturers' Association the production of paper during 1939 by 9 member com-

panies reached 2,017,670,000 lbs., the quantity sold being 2,035,900,000 lbs., an increase of 69,215,000 lbs. or 3.6 per cent in the former and 5,493,000 lbs. or 0.3 per cent in the latter as compared with the previous year. But the production and sale of printing papers for the publication of books decreased, while those of papers for daily press rather increased as given in the following table:

PRODUCTION AND SALE OF FOREIGN STYLE PAPERS IN THE PAST FIVE YEARS

(9 member companies of the Japan Paper Manufacturers' Association)
(Unit: 1,000 lbs.)

Year	Printing Paper		Paper for Daily Press		Others		Total	
	Production	Sale	Production	Sale	Production	Sale	Production	Sale
1935	509,259	474,436	736,245	729,585	474,133	476,648	1,719,637	1,680,670
1936	544,194	570,080	768,142	766,534	513,510	536,025	1,825,848	1,872,640
1937	655,573	616,599	825,189	811,291	648,264	604,983	2,129,026	2,032,873
1938	400,799	483,388	857,463	852,806	690,193	694,123	1,948,455	2,030,407
1939	384,839	391,819	873,218	869,757	759,614	774,324	2,017,670	2,035,900

Decrease of Imports The imports of paper in 1939 amounted only to 2,730,000 lbs., a remarkable decrease of 81 per cent as compared with the previous year. The main reason is to be found in the strict trade control by the Government over the peace time goods,

especially in the case of imports.

Increase of Exports But the exports of paper in 1939 amounted to 418,588,000 lbs., an increase of 27.6 per cent over the previous year. Of the total amount, 371,292,000 lbs. or 88 per cent went to the yen bloc areas.

PRODUCTION OF PAPER SINCE 1930

(Factory Statistics by the Ministry of Commerce and Industry)
(Quantity in 1,000 kg. and value in ¥1,000)

Year	Printing Paper		Copying Paper		Drawing Paper		Wrapping Paper	
	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
1930	369,523	74,055	4,661	1,587	731	243	14,557	2,559
1931	321,711	62,416	3,360	1,120	4,074	1,137	9,567	1,839
1932	217,196	54,566	2,366	818	3,374	1,127	22,655	4,369
1933	346,594	68,705	23,563	5,354	3,342	1,462	27,696	6,300
1934	379,062	84,167	11,684	4,216	3,402	1,980	39,180	10,327
1935	408,671	90,263	17,854	5,480	6,678	2,126	49,049	11,028
1936	434,743	94,795	19,850	5,770	5,103	1,563	57,079	14,862
1937	519,898	119,355	27,788	8,723	5,511	2,071	70,706	21,234
1938	495,504	121,371	19,229	9,435	2,986	2,069	57,577	21,550

Year	Match Paper		Cigarette Paper		Art Paper		"Hanshi"	
	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
1930	1,005	247	6,679	5,077	6,348	2,823	4,585	6,084
1931	812	176	4,210	2,452	8,959	3,703	4,394	5,349
1932	2,088	414	3,655	2,641	8,883	3,367	3,122	5,654
1933	1,952	501	7,656	4,633	10,901	4,075	1,347	5,091
1934	2,787	711	5,658	4,410	15,091	5,655	2,838	6,924
1935	6,815	1,825	10,285	7,480	11,268	3,976	1,953	6,690
1936	5,170	1,405	14,165	9,659	12,537	4,081	3,558	6,080
1937	3,455	1,011	14,281	11,547	14,061	5,381	2,154	9,797
1938	5,808	1,975	16,650	13,978	11,696	5,137	5,000	13,263

Year	"Minogami"		"Torinoko" and Imita- tion Paper	Board		Others and Total
	Quantity	Value	Value	Quantity	Value	Value
1930	128	845	4,368	150,215	15,469	154,574
1931	143	776	5,088	146,863	11,414	134,095
1932	168	954	7,120	139,253	11,646	132,170
1933	163	638	4,442	178,151	16,337	168,479
1934	305	1,010	4,174	198,502	20,079	200,923
1935	339	1,755	6,438	256,336	27,004	224,780
1936	358	1,410	6,952	265,238	27,973	250,983
1937	323	1,720	9,853	337,492	38,503	335,646
1938	758	4,030	9,767	247,558	33,688	364,048

CONSUMPTION OF FOREIGN-STYLE PAPER

(Statistics of the Japan Paper Manufacturers' Association)

(Quantity in 1,000 lbs.)

Year	Production	Imports	Exports	Consumption	Consumption per Capita
1930	1,401,711	98,419	169,992	1,281,888	19.9
1931	1,374,899	146,314	141,197	1,338,331	20.4
1932	1,311,315	116,474	87,963	1,391,471	19.0
1933	1,444,104	104,330	105,200	1,480,931	21.2
1934	1,591,474	138,556	101,523	1,643,542	22.6
1935	1,719,637	167,482	112,899	1,764,976	26.8
1936	1,825,848	193,664	126,559	1,889,641	25.6
1937	2,129,026	135,092	135,653	2,041,665	29.0
1938	1,948,455	14,358	146,101	1,859,566	25.4
1939	2,017,670	2,723	230,454	1,774,168	24.3

Note: The figures for consumption are made out by deducting stocks at year end.

PRODUCTION OF CELLOPHANE

Year	Production		Year	Production	
	Qty in kg.	Value in yen		Qty in kg.	Value in yen
1931	64,575	176,170	1935	2,382,433	3,940,716
1932	147,000	473,634	1936	3,458,535	6,118,818
1933	574,029	2,008,057	1937	2,395,974	9,645,146
1934	726,842	3,414,839	1938	2,215,865	7,746,403

Note: The value is included in the total of the above table.

IMPORTS OF PAPER BY KIND

Kind	Quantity (Unit: 1,000 pounds)			Value (Unit: ¥1,000)		
	1937	1938	1939	1937	1938	1939
Printing paper	94,777	7,369	35	9,171	718	8
Imitation parchment, etc.	15,282	1,965	930	3,540	510	182
Packing paper & match paper	19,371	3,851	652	2,609	383	98
Imitation Japanese paper and tissue paper	1,757	445	114	994	350	213
Total including others	185,092	14,358	2,730	18,800	2,886	872

EXPORTS OF PAPER

Kind	By Kind			Value		
	Quantity (Unit: 1,000 pounds)			(Unit: ¥1,000)		
	1937	1938	1939	1937	1938	1939
Printing paper	81,449	89,582	149,818	10,402	12,942	23,748
Paste-board	66,131	95,384	95,469	4,485	6,837	8,370
Cigarette paper	9,565	13,755	11,129	4,440	5,701	4,734
Imitation paper	30,036	21,126	29,619	4,447	4,092	5,625
Paper for photograph	27,392	39,263	48,611	2,054	3,952	8,237
Packing paper	10,973	16,730	31,094	2,101	3,623	7,836
Hanshi and Mino	3,990	4,778	5,679	1,555	2,898	3,897
Toilet paper	9,818	11,015	18,262	1,723	2,331	4,162
Ganpi and usuyo	2,111	2,091	4,190	2,003	1,996	3,160
Yoshino and Tengujo	595	389	467	978	927	957
Total including others	268,387	327,868	418,588	38,708	52,127	77,946

By Countries

To	Quantity (Unit: 1,000 pounds)			Value (Unit: ¥1,000)		
	1937	1938	1939	1937	1938	1939
Kwantung L. T.	111,894	133,977	141,510	13,814	19,393	26,024
China	40,268	97,326	152,505	6,940	16,149	27,663
Manchoukuo	35,061	49,476	77,277	5,931	8,857	16,128
U.S.A.	2,231	1,122	1,210	1,773	1,497	1,797
British India	26,459	23,649	20,587	1,613	1,123	1,333
Dutch East Indies	11,108	4,055	7,377	1,830	808	1,241
Australia	7,634	4,112	5,480	1,176	787	861
Hongkong	16,075	6,473	5,109	1,777	718	535
Thailand (Siam)	7,853	4,141	5,415	921	572	547
Great Britain	547	376	287	802	541	454
Germany	354	399	232	372	529	294
Philippines	3,310	2,616	1,424	404	328	208
Straits Settlements	4,163	720	935	564	101	125
Total including others	268,387	327,868	418,588	38,708	52,127	77,946

PRODUCTION OF PULP

(Forest Bureau, Ministry of Agriculture and Forestry)

(In tons)

Year	In			Year	In		
	Japan	In Man- choukuo	Total		Japan	In Man- choukuo	Total
1934	708,996	13,737	722,733	1937	886,978	15,011	901,989
1935	757,477	13,718	771,195	1938	955,229	37,672	992,901
1936	802,565	13,171	815,736	1939 (estimate)	1,007,000	44,400	1,051,400

IMPORTS OF PULP

Country of Origin	Quantity (in ton)				Value (in ¥1,000)		
	1936	1937	1938	1939	1936	1937	1938
U.S.A.	153,735	188,115	51,511	49,319	31,758	49,181	15,111
Canada	27,748	51,929	16,787	9,209	4,150	12,619	5,046
Sweden	56,228	121,681	24,849	14,064	9,735	26,993	6,276
Norway	55,778	62,146	18,145	26,731	14,621	17,071	5,400
Others	32,979	42,737	29,616	68,128	6,842	10,855	9,227
Total	326,467	466,608	140,908	167,451	67,107	116,720	41,059

SUPPLY AND DEMAND OF PULP FOR PAPER
(Forest Bureau, Ministry of Agriculture and Forestry)

(Unit in ton)

	Production	Imports	Consumption		Production	Imports	Consumption
1931	565,209	75,194	645,124	1936	747,355	157,358	900,576
1932	547,520	64,208	676,256	1937	829,684	176,131	1,003,215
1933	614,139	107,774	738,458	1938	851,876	29,705	882,000
1934	691,836	140,261	786,399	1939*	847,000	26,946	870,000
1935	724,042	143,534	843,945				

Note: (*) Estimate.

Fertilizers

The problem of food in Japan is a serious one. The Japanese population is increasing yearly by about a million, but the amount of food produced in the country is not enough to feed them. Besides, the arable land in the country is so small and limited that hardly any space is left to effect any further increase, and the only method left, beyond extending abroad, is to increase the yield of crops through intensive farming. For this fertilizers are necessary and the demand has steadily been increasing.

General Condition of the Industry

Chemical Fertilizers. Of all the chemical fertilizers, superphosphate of lime and sulphate of ammonia are the two representative ones, and because of the largeness of their demand and supply the market trend of these two is practically the market trend of the rest.

Superphosphate of Lime The principal raw material for the manufacture of superphosphate of lime is phosphate rock. During 1930 some 570,000 tons were imported, while some 63,385 tons were produced at home, and during 1937 and 1938 imports were 922,317 and 564,175 tons respectively. This rock is imported from the U.S.A., Egypt, and the South Sea Islands.

Superphosphate production has been gaining steadily, but decreased in 1938 to 1,234,060 metric tons valued at ¥64,152,000. Production during the past few years is reported by the Ministry of Agriculture and Forestry as follows:

PRODUCTION OF SUPER-PHOSPHATES

(In metric ton)

1930	957,159
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1931	862,401
1932	1,041,497
1933	1,116,573
1934	1,126,149
1935	1,331,616
1936	1,437,196
1937	1,582,985
1938	1,234,060
1939 (estimate)	1,468,224

Supply and demand of superphosphate in recent years follow:

	Production (1,00 tons)	Exports and Re-exports	Consumption in Japan Proper
1930	957	35	922
1931	862	32	808
1932	1,041	61	960
1933	1,116	106	1,009
1934	1,126	121	1,004
1935	1,331	151	1,150
1936	1,437	168	1,242
1937	1,582	170	1,379
1938	1,234	197	1,036
1939 (estimate)	1,468	191	1,276

Sulphate of Ammonia The demand for sulphate of ammonia has steadily increased for years. Consumption in 1930 was 488,000 tons, in 1936 it showed a remarkable increase to 1,050,388 tons. The decrease in imports was made good by the increase in domestic production, which in 1938 passed the 1,000,000 ton mark. Japan, in this manner, has become self-supporting in sulphate of ammonia.

Supply and demand of ammonium sulphate in Japan in recent years follow:

	Production	Imports	Imports from Territories (In metric ton)	Exports	Exports to Territories	Consumption in Japan Proper
1932	459,663	118,735	125,123	17,956	67,440	618,125
1933	471,398	108,449	83,722	50,061	62,244	551,264
1934	494,350	160,901	84,749	1,526	88,058	650,416
1935	611,751	238,598	71,551	5,992	103,294	812,614
1936	880,262	314,131	56,436	18,417	182,024	1,050,388
1937	931,821	224,208	17,315	7,512	180,840	934,995
1938	1,107,933	295,823	23,666	24	209,559	1,217,839
1939 (estlm.)	1,392,814	82,339	129,355	30	197,429	1,407,049

Lime Nitrogen While lime nitrogen was a fertilizer difficult to make farmers use it, they now recognize the merit of this nitrogenous fertilizer, and owing perhaps to its reasonableness in price, its consumption increased with a great stride. In 1931 its consumption was 168,448 tons and in 1938 it increased to 286,583 tons. Production increased rapidly too. While in 1924, it barely amounted to about 121,000 tons, it increased up to 290,398 tons in 1936, more than two times as large. 1938 production was 306,846 tons valued at ¥24,968,000.

Year	Quantity	Consumption
1936	290,398	240,119
1937	323,508	286,251
1938	306,846	286,583
1939 (estimate)	212,375	—

Vegetable Fertilizers Vegetable fertilizers are many in kind. Bean cake, rape-seed cake, cotton-seed cake, rice bran, etc., come into this class of fertilizers, bean cake being the most important.

Bean Cake The domestic production of bean cake is very small when compared with the quantity imported, the greater part of which comes from Manchoukuo. In 1916 the consumption of bean cake was 807,975 tons, which, by 1926, increased to 1,510,088 tons, but since then no increase can be noted as the development of the synthetic nitrogen industry has cut deeply into the development of vegetable fertilizer industry.

Supply and demand of bean cake for 1932-1939 were:

SUPPLY AND DEMAND OF LIME NITROGEN

(In metric ton)

Year	Quantity	Consumption
1932	180,583	177,632
1933	223,409	216,525
1934	197,252	169,071
1935	260,632	223,171

SUPPLY AND DEMAND OF BEAN CAKE

(In metric ton)

	Production	Imports	Imports from Territories	Exports	Exports to Territories	Consumption in Japan Proper
1932	221,369	629,407	9,394	9,094	—	813,983
1933	244,768	539,586	27,573	2,357	—	770,029
1934	283,241	646,032	88,411	3,051	800	978,277
1935	226,876	431,978	87,051	2,431	368	714,373
1936	248,733	376,783	121,931	2,384	848	722,165
1937	261,738	394,815	41,262	3,747	584	693,484
1938	327,716	623,054	27,152	2,428	432	975,062
1939 (estimate)	—	849,202	32,083	2,530	62	—

Fish and Animal Fertilizers In Japan fish is indispensable as food, but at the same time they are caught for oil extraction and the refuse is con-

verted into manure. (See Chapter XV.) In addition to chemical, vegetable and animal fertilizers, a great quantity of self-supplied fertilizers are supplied and

consumed, the figures for which are given also in statistics attached at the end of this subject.

Statistics

According to the report of the Min-

istry of Agriculture and Forestry the value of production and consumption of various kinds of fertilizers were as follows:

VALUE OF FERTILIZERS PRODUCED IN JAPAN PROPER

(Fertilizers which require a licence for production)

(Unit ¥1,000)

Year	Animal	Vegetable	Chemical	Mixed	Miscellaneous	Total
1932	19,678	25,806	81,798	30,659	47	157,989
1933	25,891	31,563	102,026	42,408	47	201,936
1934	30,026	33,338	109,867	42,812	86	216,129
1935	27,612	36,395	150,988	53,528	100	268,625
1936	34,738	41,271	179,178	57,802	113	313,105
1937	38,687	53,676	221,177	70,631	830	385,003
1938	34,525	63,729	239,261	105,895	1,112	444,522

CONSUMPTION OF FERTILIZERS IN JAPAN PROPER

(Unit: ¥1,000)

Year	Fertilizers Sold on the Market				Total	Self-supplied Fertilizers	Grand Total
	Manufactured under Licence	Manuf'd without Licence	Balance of Exports & Imports	Raw Materials for mfg. Fertilizers			
1932	157,989	26,000	56,690	44,907	195,772	260,270	456,042
1933	201,936	26,000	57,824	62,936	222,824	297,900	520,724
1934	216,130	26,000	58,320	71,609	228,841	299,920	528,761
1935	263,625	22,000	71,014	84,938	276,701	328,560	605,261
1936	313,105	27,000	76,434	91,594	324,945	354,200	679,145
1937	385,003	33,000	70,314	117,524	370,794	387,740	758,534
1938	444,522	48,000	81,847	142,590	431,779	441,530	873,309

SUPPLY AND DEMAND OF FERTILIZERS SOLD ON THE MARKET 1938

(Quantity in 1,000 metric tons)

	Production	Imports from Overseas	Imports from Colonies	Consumed as Raw Materials	Exports to Overseas	Exports to Colonies	Estimated Consumption in Agriculture
Fish-fertilizers							8.8
Herring cake	0.7	—	8.5	—	—	—	82
Sardine cake	115	—	4	37	—	—	2.7
Dried sardines	4	—	—	1	—	—	
Total including others	224.9	—	262	119	40.5	—	327.5
Oil cake							39
Bone meal	22	22	0.5	5.5	—	—	833
Soya bean cake	327.7	623	27	141.7	2	—	38.8
Rapeseed cake	61	2	—	22.5	—	2	47.9
Cotton seed cake	40	19	2	13.8	—	—	
Total including others	630.5	675.8	29.7	263.9	18	2.6	1,051

Production Imports Imports Consumed Exports Exports Esti-
from from as Raw to to Consum-
Overseas Colonies Materials Overseas Colonies tion In
Agriculture

Superphosphate of lime	1,234	—	—	454	8	189	582
Ammonium sulphate	1,107.9	295.8	23.6	503	—	209.5	714
Nitrogen of lime	306.8	—	—	75.7	2	18	210.8
Sodium nitrate	—	26.7	—	0.7	—	—	25.8
Potassium sulphate	13.5	112	—	27	—	3.7	95
Potassium chloride	0.1	57.6	—	42.8	0.9	—	13.8
Compound fertilizers	1,215.5	—	—	—	13.9	88	1,113

PERSONS ENGAGED IN THE FERTILIZER BUSINESS

Year	Manu- fac- turers	Im- porters	Importers of Fertilizers from Traders	
			Colonies	Traders
1929	23,924	1,132	436	45,644
1930	23,564	1,105	432	45,098
1931	23,334	1,072	428	43,913
1932	23,218	1,052	434	42,131
1933	23,083	1,035	453	41,614
1934	23,529	1,004	451	40,856
1935	23,683	995	470	40,563
1936	23,788	991	456	40,548
1937	23,890	968	455	39,816
1938	23,844	952	451	39,257

State Control in 1939-1940 An extreme stringency of supply has prevailed in fertilizer circles in Japan in recent years. Chemical fertilizers such as ammonium sulphate, nitrogen of lime, superphosphate of lime and the potassic manures have become particularly short as the China Affair has progressed.

Last year was extremely difficult for chemical fertilizers in this country; the demand increased because of the deficient supply of labor in agricultural communities and different agricultural production expansion schemes. On the other hand, little increase was noted in production because of the restricted supply of power and coal, the aggravating profit situation of fertilizer concerns and the paucity of raw materials. Thus, supply and demand relations have got out of balance and an acute shortage of fertilizers has ensued. Since the outbreak of the European War the fertilizer trade of Japan has been greatly hit for, while almost completely self-sufficient in nitrogenous fertilizer because of supplies from the yen bloc, it had depended largely on imports from

foreign sources for its supply of potassic fertilizers. Following the outbreak of the European War, imports from Germany and France, which supplied about 70-80 per cent of Japan's imports of potassic fertilizers, were immediately suspended. In 1939, however, the effect was not so acute, as speculative imports had been made before the outbreak of the hostilities. In 1940, however, the situation has become strained, and the Ministry of Agriculture and Forestry has had to restrict their consumption. As was the case with potassic fertilizers, phosphorite supplies have also been affected by the European War. Japan has depended on imports for more than 70 per cent of her supplies, Egypt having accounted for about 20 per cent of these. During the European War, however, Japan can expect little phosphorite from foreign sources though the war influence is apparently not so acutely felt as on potassic fertilizers. The official prices of ammonium sulphate and nitrogen of lime for 1939 were left intact because of the low-price policy of the Government. That of superphosphate of lime, was fixed for the first time in January, 1939, the establishment having been delayed because of the technical difficulty caused by the import restriction imposed on phosphorite. Manufacturers asked the Government to raise the official price of ammonium sulphate, which had been in operation three years, in January and August 1939, but the Government refused. The same was the case with nitrogen of lime. The rising cost of production, however, served to aggravate the profit situation of fertilizer companies, and naturally production dwindled. The reduced supply of chemical fertilizers served to stimulate the demand for organic fertilizers

unrestricted in price such as soya bean cake and oil cake and to sharply advance their prices, giving much impetus to illegal dealings. Relative figures follow:

MARKET PRICES OF MAJOR FERTILIZERS IN 1939

(In yen)

Month	(a) Ammonium Sulphate	(b) Nitrogen of Lime	(c) Superphosphate of Lime
January	3.84	1.91	2.01
February	3.84	1.93	2.00
March	3.84	1.96	2.00
April	3.87	2.00	2.48
May	3.86	1.94	2.48
June	3.86	1.93	2.48
July	3.86	1.93	2.48
August	3.86	1.93	2.48
September	3.84	1.92	2.43
October	3.82	1.92	2.43
November	3.82	1.91	2.38
December	3.82	1.91	2.38
Year average	3.85	1.93	2.33

Note: (a) per 10 kwan; (b) per 22.5 kgs; (c) per 7.5 kwan.

Governmental control over fertilizers since the outbreak of the China Affair has been exercised in various forms. Of those measures taken in 1939, the prefectural distribution quota system is certainly the most noteworthy. Under this, the Government started, as from August 1, 1939, a distribution quota for ammonium sulphate, nitrogen of lime, superphosphate of lime and potassium salt with the object of controlling the supply on a well-planned basis and rationalizing the distribution in order to stabilize the production of foodstuffs. First prefectural governments receive reports on the estimated consumption of the respective fertilizers from cities, towns and villages and make out a combined demand. The total demand of each prefecture is then reported to the Ministry of Agriculture and Forestry, on the basis of which, in turn, the ministry fixes the volume of allotment

to the different prefectures. By this system, the State restricts the supply volume of fertilizers. The allotted volume is passed to the prefectures, then to towns and villages and from there to different executive associations, from which the distribution is made to farmers. The fertilizer companies sell to distribution companies, who then deliver through two major distribution systems, namely, the industrial association system (All-Japan Co-operative Association, Sales-and-Purchasing Association, town and village industrial associations, executive associations and farm houses), and the trade association system (Japan Wholesalers' Association, wholesalers' trade associations, fertilizer retailers, executive associations and farm houses) by instructions of the Ministry of Agriculture and Forestry. But the system did not work well and the Ministry of Commerce and Industry decided to create a distribution control company. Bills concerning its establishment were submitted to the 75th session of the Imperial Diet, and the Japan Fertilizer Company Administration Law was promulgated on April 8, 1940. The proposed Japan Fertilizer Company is to be capitalized at ¥50,000,000 (to be subscribed equally by the Government and private industrialists), and to attend to the sale control of inorganic fertilizers.

The State compensation system for fertilizer production also starts from 1940. The official prices of fertilizers, which were not increased last year, will not be raised during the first seven months of 1940 in accordance with the low-price policy of the Government. Instead, the Government has decided to grant a loss compensation to fertilizer manufacturers at the rate of ¥17.06 per ton for ammonium sulphate, ¥4.40 for superphosphate of lime and ¥8.06 for nitrogen of lime. In addition to which the Government is expected to subsidize the supply of power. Thus, the Government's appropriations for subsidizing the fertilizer industry during 1940 total ¥50,000,000.

Caustic Soda, Soda Ash, Bleaching Powder

Soda Ash Soda ash occurs in its natural state in some parts of the world, but in this country it has to be prepared from salt, and as salt is a Government monopoly the price is high,

so when the Asahi Glass Company, in order to attain self-sufficiency, started the production of soda ash after the World War it did so on uneconomic basis, but the Government came along

and by granting liberal subsidies to this and other concerns saved the industry and put it on a paying basis. Brunner, Mond and Company (British) and H. Ahrens and Company (German), who used to be the largest importers, were hit hard by this development in home production. The history of the growth of the soda ash industry in Japan is the history of strife between the Asahi Glass Company, backed by the Mitsubishi interests and protected by the Government, and these foreign concerns.

Caustic Soda In the past the commercial production of caustic soda was

only possible if a good price was obtained for bleaching powder. The industry, therefore, was greatly dependent on this latter commodity for quantity production. As soda ash is now being produced cheaply, caustic soda is being manufactured from it so domestic production is increasing.

Bleaching Powder The demand for bleaching powder has become active since an improvement was registered by the paper manufacturing companies. The business solely depends on the rise and fall of the foreign-style paper manufacturing industry.

PRODUCTION AND IMPORTS OF SODA ASH

Year	Production (In metric ton)		Imports (In metric ton)	
	Production	Imports	Production	Imports
1930	57,233	65,206		
1931	93,244	54,336	1935	364,613
1932	134,807	46,434	1936	367,205
1933	272,135	46,447	1937	377,000
1934	170,622	37,139	1938	443,521
			1939 (estimate)	294,931
				19,232

PRODUCTION, IMPORTS AND EXPORTS OF CAUSTIC SODA

Year	Production (In metric ton)	Exports (In metric ton)		Imports	Supply
		Exports	Imports		
1930	34,736	17	37,592	72,313	
1931	48,536	10	41,595	90,121	
1932	75,116	2,288	28,185	101,063	
1933	110,953	5,116	12,477	118,314	
1934	177,771	12,293	9,928	175,406	
1935	233,288	17,495	19,936	235,729	
1936	284,999	23,911	11,587	272,677	
1937	362,141	3,676	27,429	384,005	
1938	440,316	11,615	266	428,967	
1939	423,182	24,283	0	398,899	

Note: As to the value see the table given at the end of this chapter.

PRODUCTION AND EXPORTS OF BLEACHING POWDER

Year	Production (In metric tons)			Exports (In metric tons)			
	Production	Exports	Supply	Production	Exports	Supply	
1930	49,471	3,446	46,025	1935	77,080	6,489	70,591
1931	45,005	3,544	41,461	1936	79,228	8,505	70,723
1932	47,485	2,858	44,627	1937	91,283	6,990	84,293
1933	61,142	3,392	57,750	1938	77,286	2,950	74,336
1934	66,155	4,247	61,908	1939	83,258	6,479	76,779

Soap Making

Development and Production

The industry was started early in the Meiji Era, but no great progress was made until after the Russo-Japanese

War of 1904-1905, when machinery was introduced from abroad. During the World War, the industry enjoyed great prosperity, but the reaction was also very severe when it came in 1920. How-

ever, during those difficult times, the foundation of the industry became more consolidated and the quality of soap improved a great deal.

Production of soap in Japan is as per the accompanying table. Tokyo and Osaka are the two principal places

of production, the former producing about 50% of the total production in the country, while Osaka produces about 30%. Exports of soap amounted to ¥17,413,000 in 1939, against ¥7,837,000 of the previous year.

PRODUCTION OF SOAP BY KIND

(In ¥1,000)

Year	Toilet	Industrial	Medical	Laundry	Powdered	Others	Total
1929	22,690	2,370	5	10,199	1,767	1,908	38,942
1930	18,564	2,863	397	11,098	1,833	605	35,362
1931	17,246	1,480	173	7,561	2,083	1,355	29,900
1932	19,164	1,450	268	8,389	2,642	428	32,344
1933	21,243	2,558	194	9,584	2,992	1,118	37,691
1934	21,407	1,932	377	13,756	3,331	2,037	42,843
1935	23,326	3,295	477	15,537	4,127	3,491	50,258
1936	23,249	3,742	306	18,223	3,470	2,915	51,908
1937	27,229	4,527	338	18,410	3,987	594	55,087
1938	29,717	4,524	619	29,355	5,800	2,179	72,196

Vegetable and Animal Oils and Tallow

Introduction

For lighting purposes vegetable oils have been used in Japan for centuries. In earlier days perilla oil was used but this was later replaced by rapeseed oil. The production of these oils on an industrial basis only developed after the Russo-Japanese War of 1904-1905.

Production of hardened oil in Japan during 1938 amounted to 108,058 metric tons in contrast to 97,132 metric tons in 1937. It is used mostly for soap making, candles and dietary purposes. Even during the time that Japan was on gold, hardened oil was exported, so after the gold embargo was imposed exports increased.

The principal vegetable oils produced are soya bean and rapeseed oils. Linseed oil, perilla oil, hempseed oil, wood oil, sesame oil, cotton-seed oil, castor oil, groundnut oil, copra oil, camellia oil, etc., are also produced in considerable quantities. The production of soya bean oil in 1938 was 65,710 metric tons and rapeseed oil was 23,674 metric tons.

Of the principal vegetable oils produced in Japan, only wood and camellia oils and vegetable wax are pressed from domestically grown seeds, all the others are pressed from materials from abroad, the amount of imports in 1939 reaching ¥31,982,000.

Statistics for the vegetable and animal oil industry follows:

PRODUCTION OF VEGETABLE OILS

(Compiled by the Ministry of Commerce and Industry)

(In yen)

Year	Rapeseed Oil	Sesameseed Oil	Groundnut Oil	Cottonseed Oil	Copra Oil	Soya Bean Oil
1932	8,398,297	3,122,444	244,834	1,165,868	1,991,043	10,570,255
1933	10,123,029	2,662,503	385,639	2,731,458	2,657,171	13,115,461
1934	13,676,703	2,610,393	487,009	3,169,850	2,648,436	14,054,936
1935	20,019,129	2,835,750	595,030	7,129,750	5,376,497	15,329,198
1936	22,722,629	4,093,982	383,134	1,304,904	5,658,785	18,986,848
1937	15,187,205	4,282,440	795,892	11,203,765	6,605,668	21,406,556
1938	14,430,848	3,662,453	3,845,874	4,131,408	8,999,893	22,297,902

(In yen)

Year	Linseed Oil	Perilla Oil	Paulownia Oil	Camellia Oil	Other Oils	Total
1932	1,015,617	2,358,302	152,654	336,860	2,434,947	31,944,837
1933	3,775,357	5,518,011	184,427	378,188	2,487,087	44,018,331
1934	3,903,933	4,998,884	250,286	402,232	3,402,745	49,605,407
1935	3,691,897	10,494,970	227,418	439,392	6,743,334	72,882,365
1936	3,874,551	17,929,318	344,452	470,853	9,432,094	91,201,550
1937	2,257,634	10,851,487	362,480	532,615	21,782,918	95,268,660
1938	1,968,843	6,655,260	526,778	502,743	10,612,821	77,634,823

PRODUCTION OF ANIMAL OILS AND TALLOW

(In yen)

Year	Cod Oil	Herring Oil	Sardine Oil	Whale Oil	Other Fish Oils
1932	95,774	59,296	802,350	614,915	1,147,833
1933	296,362	35,854	456,752	498,194	2,018,732
1934	300,741	23,547	602,816	672,638	980,416
1935	1,158,270	19,770	829,438	989,018	5,257,055
1936	2,366,108	16,506	6,056,412	1,617,192	4,669,603
1937	1,714,517	41,720	3,549,421	1,956,365	12,792,003
1938	1,627,459	14,814	4,294,824	2,111,815	7,865,834

(In yen)

Year	Puna Oil	Beef Tallow	Pork Tallow	Other Animal Tallow	Total
1932	75,714	666,015	143,921	52,698	3,653,516
1933	90,439	859,306	312,733	508,665	5,077,037
1934	110,803	630,051	287,470	791,678	4,400,160
1935	200,569	2,696,112	378,103	889,938	12,418,273
1936	262,013	943,558	450,064	387,030	16,768,476
1937	349,630	1,508,276	534,257	411,113	22,857,302
1938	1,174,886	1,174,494	409,128	1,379,296	20,055,550

PRODUCTION OF VEGETABLE WAX, CANDLES, AND MANUFACTURES OF OILS

(In yen)

Year	Wood Wax	Candles	Boiled Oil	Hardened Oil	Hardened Wax	Oleine	Stearine	Total Manufactures
1932	1,249,913	4,952,548	2,924,753	10,039,127	623,182	437,644	4,246,838	15,713,722
1933	1,440,017	5,410,628	3,339,737	13,594,028	513,571	552,401	2,561,846	20,561,585
1934	1,705,148	5,095,485	3,373,463	13,223,601	404,608	693,608	3,895,385	21,590,665
1935	2,228,715	5,201,888	5,837,861	19,173,264	254,064	563,137	5,480,962	31,309,288
1936	2,463,958	7,057,847	7,172,709	21,849,043	440,692	605,173	5,028,891	35,096,508
1937	1,694,821	7,250,847	4,337,093	27,545,731	101,094	684,425	7,209,146	39,877,489
1938	2,554,768	9,099,999	6,625,830	30,670,785	434,635	491,444	4,656,372	42,979,066

IMPORTS OF VEGETABLE AND ANIMAL OILS, TALLOW AND MANUFACTURES THEREOF

(In yen)

Year	Olive Oil	Other Vegetable Oils	Beef Tallow	Hardened Oil	Total including Others
1932	327,622	—	2,453,516	—	—
1933	357,324	—	3,411,534	—	—

Year	Olive Oil	Other Vegetable Oils	Beef Tallow	Hardened Oil	Total including Others
1934	563,411	—	3,380,160	—	—
1935	908,625	—	2,340,363	—	—
1936	749,000	6,891,000	1,644,000	124,000	197,509,000
1937	1,234,000	9,720,000	1,949,000	104,000	297,878,000
1938	713,000	2,312,000	431,000	848,000	326,934,000
1939	253,000	2,437,000	117,000	1,281,000	262,518,000

EXPORTS OF VEGETABLE AND ANIMAL OILS, WAX, AND MANUFACTURES THEREOF

(In yen)

Year	Perilla Oil	Bean Oil	Rapeseed Oil	Fish Oil	Whale Oil	Vegetable Wax	Hardened Oil
1932	1,100,000	1,010,000	1,308,000	2,768,000	466,000	1,177,101	4,221,000
1933	3,532,000	342,000	2,245,000	2,397,000	131,000	1,139,000	4,939,000
1934	3,709,000	623,000	5,024,000	3,150,000	155,000	1,258,000	5,042,000
1935	10,052,610	1,420,350	11,212,126	6,264,542	628,609	1,444,583	8,920,875
1936	14,981,000	931,000	10,547,000	9,306,000	874,000	1,812,000	10,002,000
1937	5,683,000	1,918,000	3,409,000	14,548,000	751,000	2,244,000	10,195,000
1938	1,287,000	329,000	2,095,000	—6,902,000—	—	1,475,000	4,651,000
1939	4,259,000	3,546,000	5,101,000	—5,802,000—	—	2,809,000	4,393,000

Rubber Industry

The rubber industry in Japan began with the establishment in 1886 of the Mitatsuchi Rubber Company, a limited-partnership concern, in Tokyo. The industry developed steadily through the Sino-Japanese and the Russo-Japanese Wars of 1894-1895, and 1904-1905. In 1909 there were 20 mills, 900 workers and production reached ¥4,000,000 in value. During the World War the industry further developed. The earthquake of 1923 destroyed about 80% of the rubber manufacturing capacity of

Tokyo and Yokohama districts, and many people were gravely doubtful as to whether the rubber factories in those districts would ever revive, but reconstruction quickly took place and the factories rebuilt. In 1937 the total production in the country by mills employing more than 5 persons was as large as ¥184,764,000 in value, but the figure would be much larger if goods produced by people working in their own homes were included.

PRODUCTION OF RUBBER MANUFACTURES IN JAPAN

Soft Rubber Manufactures

(Value in ¥1,000)

Year	Shoes and Other Footwear		Toys	Tyres and Accessories	For Machinery
	Pairs	Value			
1930	47,290,089	20,379	2,313	19,285	1,420
1931	32,266,482	15,929	3,320	19,454	636
1932	34,294,225	17,352	5,027	24,080	1,173
1933	40,867,480	21,827	5,562	31,826	1,000
1934	44,305,294	25,102	3,547	40,588	491
1935	54,802,185	28,973	4,619	45,907	1,132
1936	44,390,727	31,790	4,984	51,066	859
1937	64,636,802	45,820	5,024	75,086	2,521
1938	55,395,702	36,988	4,864	60,459	8,587

Year	Soft Rubber Manufactures			Total	Hard Rubber Manufactures	Grand Total
	Belts	Rubber Pipes	Others			
1930	4,576	1,972	9,551	59,563	1,203	60,766
1931	4,005	1,747	9,898	54,992	1,112	56,104
1932	4,438	2,191	10,563	64,827	1,054	65,882
1933	5,662	2,989	16,061	84,981	1,722	86,704
1934	7,165	3,448	20,159	100,503	2,715	103,218
1935	8,262	4,422	23,113	116,406	2,620	119,026
1936	8,749	5,230	29,047	131,729	3,558	135,287
1937	13,871	7,560	44,011	193,896	7,814	201,710
1938	17,083	10,550	38,387	176,921	7,843	184,764

IMPORTS OF RAW RUBBER AND EXPORTS OF PRINCIPAL RUBBER MANUFACTURES

(In yen)

Year	Imports of Raw Rubber	Exports of Principal Rubber Manufactures			
		Boots & Shoes	Tires for Ricksha, Bicycles & Other Vehicles	Toys	Belts, Hoses, etc.
1934	57,337,000	3,332,000	9,994,000	6,406,000	5,216,000
1935	51,636,065	2,699,337	9,945,667	4,195,171	6,568,000
1936	72,957,000	1,832,000	9,939,000	4,641,000	7,424,000
1937	99,217,000	2,886,000	12,983,000	4,279,000	10,215,000
1938	51,374,000	1,568,000	7,799,000	2,197,000	9,964,000
1939	57,490,000	563,000	9,562,000	2,383,000	13,823,000

Celluloid

General

The Japanese celluloid industry made considerable development during the World War. Owing to a heavy demand coming from European countries, where factories were closed by the War, Japanese celluloid products once dominated the world's markets, but with the termination of the War, foreign products quickly regained their position in the markets captured by Japan during the War, and for some years the industry was in a state of depression. Gradually penetration was effected by traders and exporters, and overseas markets were largely restored, especially after the replacement of the gold embargo in December 1931. The domestic market has been prosperous for many years, without being affected very much by changes in economic conditions.

The Dai Nippon Celluloid Kaisha is the largest manufacturer, with a subscribed capital of ¥20,000,000. 75 per

cent of the total production in Japan comes from this company, while the remaining 25 per cent is divided among about ten small manufacturing concerns. The company, which has a virtual monopoly of celluloid manufacturing in this country, concentrates its energies on exporting. Nearly 80 per cent of Japan's total exports of celluloid are the produce of this company.

The company is also the largest shareholder of the Fuji Photo-Film Company established in 1934 with a capital of ¥10,000,000. This company has a capacity of producing 150 million feet, and nearly monopolizes the manufacture of films in Japan, which amounted to ¥14,270,000 in 1939; the other film producing company being the Oriental Photo Industrial Company capitalized at ¥4,300,000.

Statistics Production of raw celluloid, celluloid manufactures, and exports of the same follow:

PRODUCTION OF CELLULOSE AND MANUFACTURES THEREOF

Year	Raw Celluloid		Toys	Manufactures			Total	Grand Total
	Quantity in metric ton	Value		Combs	Others	Total		
1932	5,700	7,974	1,040	1,056	2,145	4,242	12,217	
1933	8,893	16,674	2,628	1,503	3,395	7,527	24,202	
1934	10,393	20,277	1,636	1,090	4,640	7,367	27,644	
1935	13,033	24,649	1,975	1,208	6,208	9,392	34,042	
1936	13,813	24,439	1,989	1,169	5,790	8,956	33,396	
1937	14,227	25,391	3,408	2,486	6,985	12,879	38,270	
1938	11,902	24,090	1,833	1,979	8,999	12,812	36,902	

EXPORTS OF RAW CELLULOSE AND MANUFACTURES THEREOF

Year	Raw Celluloid		Toys	Manufactures			Total	Grand
	Quantity in metric ton	Value		Combs	Armlets	Others		
1932	511	875	2,527	1,467	—	1,494	5,490	6,366
1933	1,320	2,363	3,178	3,110	—	2,346	8,635	10,993
1934	1,804	3,303	3,708	4,260	—	3,223	11,191	14,494
1935	2,033	3,469	6,054	4,414	1,983	3,089	15,550	19,021
1936	2,242	3,717	6,338	3,857	1,815	4,271	16,280	19,997
1937	2,100	3,952	7,606	4,854	2,711	5,403	20,574	24,576
1938	1,225	2,730	4,841	2,851	1,664	4,044	13,400	16,130
1939	1,203	3,152	4,510	2,596	1,294	4,162	12,562	15,714

Dyestuffs

Through Governmental protection extending over many years, the Japanese dyestuff industry is now well established. Japan supplies 99 per cent of all sulphuric dyes demanded domestically. Concerning ratios of high-grade dye supplies, Japan can supply 86 per cent of miscellaneous dyes, 85 per cent of acid dyes, 88 per cent of mordant dyes and 94 per cent of vat dyes for internal use. Research in producing these dyes is under way by the Mitsui Mining and Japan Dyestuff Manufacturing Companies. The Teikoku Senryo (Imperial Dyestuffs Manufacturing) Company is another producer of dyestuffs capitalized at ¥5,000,000.

On account of the development of the iron manufacturing industry, Japan is now well provided with coal-tar, material required for the production of dyestuffs. Accordingly, efforts are now being made to promote the dyestuff industry with a view to making the country self-sufficient and self-supplied in dyestuffs.

Imports of dyestuffs are decreasing,

because of State control of trade and the advance of the industry in Japan, although somewhat increased in 1939 as shown below:

IMPORTS OF DYESTUFFS

Colours	1937	1938	1939
	(In ¥1,000)		
Basic	1,246	145	217
Direct	4,708	834	1,308
Acid	2,537	644	803
Mordant and intermediate	2,651	389	364
Vat	4,079	366	399
Others	1,707	460	416
Total	16,928	2,838	3,507

Note: The total quantity was 2,257 metric tons in 1937, 253 metric tons in 1938 and 306 metric tons in 1939.

The domestic production of dyes during 1938 compared with the preceding four years and exports of Japan-made dyes since 1934, follow:

PRODUCTION OF SYNTHETIC DYESTUFFS

Year	Basic		Direct		Acid		Mordant	
	Quantity 1,000kg.	Value ¥1,000	Quantity 1,000kg.	Value ¥1,000	Quantity 1,000kg.	Value ¥1,000	Quantity 1,000kg.	Value ¥1,000
1934	765	4,266	2,183	8,816	554	2,091	178	750
1935	677	3,774	2,700	7,726	756	2,781	341	1,400

Year	Basic		Direct		Acid		Mordant	
	Quantity 1,000kg.	Value ¥1,000	Quantity 1,000kg.	Value ¥1,000	Quantity 1,000kg.	Value ¥1,000	Quantity 1,000kg.	Value ¥1,000
1936	994	4,569	2,998	8,808	977	3,984	284	1,206
1937	1,058	5,541	3,812	13,584	775	3,831	493	2,099
1938	892	4,908	4,591	18,985	675	4,509	438	2,765

Year	Sulphide		Artificial Indigo		Vat Colors		Others and Total	
	Quantity 1,000kg.	Value ¥1,000	Quantity 1,000kg.	Value ¥1,000	Quantity 1,000kg.	Value ¥1,000	Quantity 1,000kg.	Value ¥1,000
1934	12,144	5,107	1,724	3,803	28	400	—	27,446
1935	12,450	4,673	2,816	5,760	26	627	—	31,265
1936	11,198	3,684	1,740	4,794	29	506	—	33,721
1937	13,160	5,410	2,228	6,264	323	1,303	—	45,140
1938	18,879	9,148	1,624	4,170	387	2,080	—	50,038

PRODUCTION OF ANILINE AND INTERMEDIATES

Year	Aniline		Others and Total
	Quantity in 1,000kg.	Value in ¥1,000	
1934	3,821	3,033	8,492
1935	4,043	2,924	12,077
1936	3,943	2,328	13,115
1937	4,788	5,081	25,581
1938	7,050	10,676	44,382

EXPORTS OF SYNTHETIC DYESTUFFS

Year	Quantity in metric ton	Value in ¥1,000
	1934	6,423
1935	8,882	7,304
1936	7,000	5,990
1937	6,062	6,269
1938	6,749	7,768
1939	13,218	18,532

Indigo Indigo is one of the indispensable dyestuffs for dyeing Japanese cloth and the material is obtained from

various grasses. The production of this natural material was as follows:

PRODUCTION OF INDIGO BALLS

Year	Coarse Indigo		Indigo Balls		Year	Coarse Indigo		Indigo Balls	
	Quantity Metric ton	Value ¥1,000	Quantity Metric ton	Value ¥1,000		Quantity Metric ton	Value ¥1,000	Quantity Metric ton	Value ¥1,000
1933	1,181	396	298	83	1936	1,169	347	320	109
1934	1,176	314	326	105	1937	1,182	346	322	112
1935	1,128	303	269	87	1938	1,493	408	322	78

Pyrethrum

Hokkaido is noted for producing the pyrethrum flower, the raw material for anti-insect powder largely used for making mosquito incense and anti-bed bug powder. Pyrethrum was formerly exported through Kobe merchants, but owing to inconvenience the Hokkaido Government encouraged direct shipments from Hokkaido, the first direct shipment being made in September 1933. The Hokkaido Government also caused pyrethrum manufacturers to organize the Manufactured Pyrethrum Industrial Guild, as the first step to the export of manufactured pyrethrum

abroad, which had hitherto been exported in the shape of dried flowers. As an international commodity, manufactured pyrethrum is steadily gaining ground, and under the encouragement of their government, the Hokkaido pyrethrum raisers are manufacturing it for direct export to the United States, Saigon, Bangkok, Rangoon, Manila, Singapore, Sourabaya, Batavia, Calcutta and Bombay, and to such European markets as London, Hamburg and Paris. Wakayama prefecture is also noted for raising pyrethrum flowers. Production and exports of pyrethrum during the last

few years follow:

PRODUCTION AND EXPORTS OF PYRETHRUM				
(Quantity in metric ton; value in ¥1,000)				
Production		Exports		
Year	Quantity	Value	Quantity	Value
1934	7,798	10,574	5,630	7,447

Year	Production		Exports	
	Quantity	Value	Quantity	Value
1935	12,746	7,332	7,665	6,400
1936	11,051	5,710	5,608	3,207
1937	9,560	8,214	8,844	7,693
1938	9,477	12,053	4,621	6,103
1939	—	—	3,823	7,149

VALUE OF PRODUCTION OF CHEMICAL INDUSTRY

(Unit: ¥1,000)

Industrial Chemicals	1936	1937	1938	Industrial Chemicals	1936	1937	1938
Sulphuric acid	47,870	68,712	71,075	Others	119,871	207,359	267,404
Hydrochloric acid	4,372	5,775	6,564	Total of Industrial chemicals	329,467	506,949	621,222
Soda ash	23,145	29,227	51,353	Medicines	113,319	123,573	155,308
Washing soda	262	227	497	Dyestuffs	46,836	70,730	94,427
Carbonate of soda	2,253	2,247	1,530	Tannin extract	198	388	403
Caustic soda	34,026	64,197	91,088	Artificial perfumery	4,943	5,250	5,311
Carbide	36,620	43,893	40,572	Paints:			
Chromic acid	930	1,109	1,278	Lacquer	1,072	2,387	2,632
Chromic soda	1,738	1,991	2,655	Varnish	11,318	11,064	16,948
Iodine	260	405	488	Enamel	6,389	5,940	8,848
Iodide of potassium	297	512	498	Paint for boats	1,963	2,178	3,384
Bleaching powder	4,256	5,609	5,792	Paint for nitrate cotton	2,383	915	4,078
Compressed gas:				Shoe-cream	825	1,222	1,689
Oxygen	9,545	9,599	15,447	Total including others	37,804	46,105	65,982
Hydrogen	2,177	1,844	2,903	Colors:			
Chlorine	1,765	1,536	1,879	Colors for painting	2,771	2,119	2,298
Carbon	402	503	606	Indian ink	912	1,347	1,259
Others	496	855	1,299	Printing ink	8,682	8,967	9,348
Total	14,386	14,338	22,137	Other ink	4,348	4,844	5,207
Acetic acid	5,207	6,617	7,554	Flowers of zinc	6,697	11,208	11,621
Salicylic acid	367	1,128	1,037	Total including others	36,715	45,532	44,743
Tannic acid	323	334	555	Soap	51,908	55,087	72,196
Naphthalene	2,109	2,005	2,493	Articles for toilet:			
Acetone	426	641	—	Perfume	1,297	1,446	2,249
Methanol	1,352	2,472	—	Perfume oil	3,904	6,093	6,667
Alcohol	2,595	3,049	6,766	Tooth powder	7,534	11,219	14,865
Ether	987	1,179	1,454	Face-paint	7,809	7,871	8,727
Glycerine	10,508	23,136	13,697	Beauty-wash	3,280	4,684	5,447
Phosphorus	1,379	1,442	1,427	Toilet-cream	9,748	12,217	15,314
Glauber's salt	1,532	2,484	2,947	Total including others	43,438	49,292	60,939
Sulphide soda	2,108	3,894	4,686	Explosives	25,018	35,918	43,750
Silicic soda	1,547	1,798	2,573	Vegetable oil and wax	90,157	100,313	78,951
Chloride of potash	112	101	254	Camphor	8,931	9,676	8,039
Niter	1,024	1,522	2,435	Camphor oil	1,642	1,281	1,232
Ammonium nitrate	536	551	1,632	Peppermint oil and menthol	9,280	11,149	10,219
Magnesium carbonate	3,694	4,097	2,868				
Chloride of lead	824	1,738	2,075				
Alum	897	1,054	1,414				
Sulphuric aluminium	1,639	2,112	2,408				

	1936	1937	1938		1936	1937	1938
Other-vegetable volatile oil	876	1,317	1,707	Negative paper	4,129	5,546	8,491
Animal oil and wax	16,768	22,857	20,055	Fertilizers	291,531	379,883	417,304
Wood-wax	2,463	1,694	2,554	Worked fur	626	1,134	5,336
Candles	7,057	7,250	9,099	Glue and gelatine	5,528	9,084	12,683
Worked oils	35,096	39,877	42,979	Polishing powder	1,860	2,206	2,663
Rubber manufactures	135,288	201,710	184,764	Other articles for polishing	3,428	6,247	12,184
Phenol manufactures	7,447	14,973	19,021	Carbon manufactures (Electrode)	12,455	17,441	30,165
Gramophone disk	19,299	15,263	18,160	Coke	(9,581 12,106)	—	—
Pulp	47,796	65,415	81,567	Grand total including others	2,202,362	3,070,245	3,657,418
Paper	250,983	335,646	364,048				
Celluloid	33,396	38,270	36,902				
Vulcanized fiber	4,017	7,329	8,089				
Rayon yarn	212,974	332,357	407,429				
Film for photograph	4,666	6,715	9,965				
Dry-plate	2,042	1,899	3,714				

Note: Figures are for production of factories where more than 5 operatives are employed, and do not coincide with figures given elsewhere for certain articles.

CHAPTER XXII

MISCELLANEOUS INDUSTRIES

Wheat Flour

Before the Russo-Japanese War it was not until after the Russo-Japanese War (1904-5) that the wheat flour industry made any progress in Japan. Prior to the war there was a fairly large consumption, but manufacturing was only in the infant stage, most of the production being with the help of water-wheels. The daily output by this method was only 10 to 50 or 60 bags; the quality was poor and not uniform and, being packed in straw bags, the product was not at all satisfactory. It was only in the year 1895 that wheat flour was first produced on a modern basis by machinery. In that year, the Nippon Selfun Kaisha, Ltd., began to operate mills with a capacity of 200 koku per day, and gradually, mills with a capacity of 50 to 100 koku a day were established, but progress was very slow. However, the demand for flour increased and as production could not keep pace with it imports naturally increased. In 1895, imports were 280,000 bags, valued at ¥400,000, ten years later imports increased to 4,990,000 bags, valued at ¥9,950,000. Imported and water-mill produced domestic flour together satisfied practically the whole of home consumption, while domestic flour made by machinery formed but a very small part of the supply. The imported flour coming chiefly from the United States of America, was of a far superior quality to the home product.

After the Russo-Japanese War many flour mills were established on a modern basis during the time of the great boom which followed the Russo-Japanese War, and production capacity was greatly expanded, but a contraction was brought about by the closing down of many of the newly established mills when the reaction later set in. In 1914, when the World War started the capacity of production by machinery was 9,000 barrels and this, by 1922, had in-

creased to over 20,000 barrels. During those seven years the industry experienced unprecedented prosperity, and with this development on modern lines, domestic producers who made flour in the old-fashioned way lost nearly all their customers and, further, imported flour was practically shut out of the country.

The Industry at Present After 1918 the demand for wheat flour, keeping pace with the advance in the standard of living, greatly increased. The extended westernization of the country in recent years largely accounts for this and has brought about a consequent heavy demand for wheat. Home production has not increased to meet the demand, the result being, as the following tables show, a heavy annual importation of wheat. An attempt, therefore, has been made by the Government to increase domestic production through tariff and increase of wheat acreage, in which they were highly successful. The production increased very much in 1933 in proportion to the increased acreage, which was further accelerated in 1935, when an all-time record high was established. The production in 1936 decreased by 7.2 per cent as compared with the preceding year. But, 1937 production recorded highest in the history with 9,996,048 koku. In 1938, it decreased to 8,971,563 koku, but the following year again established a new record.

PRODUCTION OF DOMESTIC WHEAT AND ITS ACREAGE

Year	Production koku	Acreage cho
1935	9,655,824	663,868
1936	8,961,329	688,959
1937	9,996,048	724,602
1938	8,971,563	725,100
1939	12,113,058	746,000

WHEAT FLOUR

545

QUANTITIES OF WHEAT IMPORTED

(Quantities in piculs)

Year	Countries from Which Imported					Total Including Others	Value (In ¥1,000)
	China	U.S.A.	Canada	Australia	Manchou- kuo		
1935	3,000	45,994	881,786	5,558,084	—	7,417,300	43,199
1936	321,947	61,818	164,000	2,812,246	236,149	5,171,076	33,650
1937	25,202	18,860	65,500	1,679,998	205,988	3,114,102	29,604
1938	53,665	—	—	510,235	298,172	1,104,416	9,557
1939	279,500	—	13,863	40,100	—	539,090	4,090

EXPORTS OF WHEAT FLOUR

(Quantities in piculs)

Year	Countries to Which Exported					Others and Total	Value (In 1,000 yen)
	Manchoukuo	China	Kwantung L.T.	Dutch East Indies			
1935	2,035,048	29,123	2,366,348	10,323	—	4,819,629	33,699
1936	736,486	89,965	1,065,858	19,500	—	2,165,330	17,621
1937	231,900	1,283,384	1,047,577	9,700	—	2,683,066	30,745
1938	1,198,597	1,880,771	1,679,180	200	—	4,758,869	60,715
1939	1,460,500	436,600	1,554,400	—	—	—	54,227

FLOUR PRODUCTION, CONSUMPTION, ETC.

(In bags)

Year	Production	Import	Export	Home Consumption and in Stock
1935	49,700,000	93,000	13,026,000	36,767,000
1936	38,993,000	104,000	5,852,000	33,242,000
1937	38,335,000	410,000	7,251,000	31,159,000
1938	42,964,000	19,000	12,862,000	30,121,000
1939	37,057,000	122,000	9,328,000	28,951,000

Note: A bag=37 kin. Figures for production are based on the investigation of the Nisshin Flour Company.

Sugar

History and Development The art of making sugar was introduced from China about two hundred years ago, but no great progress is recorded in sugar manufacture until after the Restoration, and even then it remained as a farmers' sideline until the end of the Sino-Japanese War of 1894-5, when Taiwan, well-known for its sugar production, was ceded to Japan by China. This marked a new era in the sugar industry. In 1896, a sugar refining company was organized in Osaka and from that time the industry began to develop.

The Government undertook to levy a duty on raw sugar in 1899, and, by successive steps, this duty has reached the present rate. In 1911, a tariff of a

similar nature was imposed, for the first time, on refined sugar.

In view of the fact that Taiwan is ideal both in temperature and rainfall for cane growing, the Government decided to encourage the establishment of sugar mills in the Island. With this in view it established the Temporary Sugar Bureau as a branch of the Government of Taiwan. The Bureau subsidized sugar companies in establishing sugar mills and purchasing the required machinery. It imported cane seedlings and distributed them to cane growers. It gave, too, subsidies for the purchase of fertilizers, and in various other ways succeeded in dispensing as subsidies, up to 1924, a sum amounting to more than thirteen

million yen. As the result of these subsidies, the industry has developed to the present stage. In 1902, the production of raw sugar in Taiwan was only about 600,000 piculs, but by 1931 this had increased to over 13,000,000 piculs.

In 1901, the Taiwan Sugar Co., Ltd., was organized. Raw sugar mills with all new machines were established and war was declared against the old-fashioned machines which were only able to produce raw brown sugar. Development was destined to be slow, for the plantations and mills were subject to

attacks from the native savages, but this difficulty was gradually overcome and during the prosperity that visited Japan after the Russo-Japanese War, many new companies were organized and the industry developed rapidly.

Present State The sugar industry in Shikoku, Kyushu, and the Loochoo Islands is making no headway, but that in Taiwan and the South Sea Islands is rapidly progressing, and at present it is the Taiwan sugar that controls the sugar market in Japan. Refining is making good progress in Japan proper.

PRODUCTION OF SUGAR

(Unit: 1,000 piculs)

Year	Taiwan	Japan Proper	Hokkaido (Beet)	Chosen	South Sea Islands	Total
1930-1931	13,287	1,273	301	15	642	15,580
1931-1932	16,484	1,651	405	29	696	19,266
1932-1933	10,561	1,712	402	—	729	13,406
1933-1934	10,783	1,551	383	—	750	13,469
1934-1935	16,094	1,752	587	—	1,135	19,568
1935-1936	15,034	1,981	515	—	819	18,351
1936-1937	16,789	1,559	678	—	961	20,037
1937-1938	16,496	1,715	694	—	1,241	20,210
1938-1939	23,645	2,390	681	—	1,170	27,951
1939-1940*	19,150	1,842	410	—	1,050	22,512

* Estimate.

Source: The report of the Japan Sugar Association.

EXPORTS OF REFINED SUGAR BY DESTINATION

(In piculs)

Year	China	Manchou-kuo	Kwan-tung	Total including Others
1930	3,007,528	114,804	326,541	3,637,298
1931	1,895,667	88,922	370,810	2,622,211
1932	466,877	54,790	799,840	1,389,507
1933	901,525	96,703	1,015,941	2,172,317
1934	1,041,527	162,255	715,093	2,019,868
1935	1,481,898	227,389	792,578	2,669,213
1936	905,171	193,222	1,780,225	2,978,643
1937	1,159,358	216,087	1,001,814	2,482,145
1938	701,882	293,775	1,271,668	2,267,853
1939	986,500	236,800	637,400	1,860,800

IMPORTS OF REFINED SUGAR BY ORIGINS

(In piculs)

Year	Java	Total including Others
1930	4,072,494	4,077,603
1931	3,304,251	3,305,275
1932	644,927	671,299
1933	2,184,499	2,210,124
1934	1,727,188	1,732,188
1935	2,323,117	2,341,541
1936	3,396,964	3,900,079
1937	2,698,347	2,845,068
1938	635,183	639,858
1939	13,100	13,600

SUPPLY AND DEMAND OF SUGAR IN JAPAN PROPER

(Compiled by the Taiwan Government-General)

(In 1,000 piculs)

	1933	1934	1935	1936	1937	1938
Production in Japan proper	2,118.7	1,946.1	2,316.8	2,505.2	2,237.4	2,410.3
Imports from foreign countries	2,210.1	1,732.1	2,341.8	3,600.0	2,845.0	639.8

	1933	1934	1935	1936	1937	1938
Imports from territories	10,541.1	11,616.3	15,152.5	13,076.6	13,043.4	12,411.8
Exports to foreign countries	2,172.3	2,019.8	2,669.2	2,978.6	2,482.1	2,267.8
Exports to territories	162.3	211.4	227.9	241.2	236.5	245.0
Consumption in Japan proper	12,535.3	13,063.3	16,014.0	15,962.0	15,407.2	12,949.1
Consumption per capita (Unit: kin)	18.56	19.06	24.30	22.61	21.52	17.85

Note: Readers are referred to Chapter XL, Taiwan, where the conditions of the sugar manufacturing industry in that island are mentioned in detail.

Brewing

Beer

History Beer was brewed in Japan about 85 years ago by a certain scholar, Ko Kawamoto, who, as he learned how to brew it when he visited Admiral Perry's fleet, on the latter's visit to Japan, tried to brew on his own private account. In 1870, beer was brewed for the first time on a modern industrial basis by an American, Gobland, at Amanuma, Yokohama. Four years later, Marquis K. Kuroda saw that the soil of Hokkaido was particularly suitable for barley, so he established a brewery in Sapporo, and soon others were built in Meguro, Tokyo, in Suita, Osaka, in Hodogaya, Yokohama, and other places, and the industry has so developed that at present Japan has 4 brewery companies and fifteen breweries with a total capacity of about 2,000,000 koku. But

in recent years curtailment is required by the Government in connection with the national provision control policy. The consumption of beer in Japan proper in 1938 amounted to 1,180,000 koku.

Brewery Production Value

Year	in koku	in ¥1,000
1934	14	980,175
1935	14	1,047,213
1936	15	1,312,496
1937	15	1,275,055
1938	15	1,472,408
1939 (estimate)	15	1,734,500

Exports of Beer The exports of beer in 1939 amounted to 179,192 koku. Exports to the yen bloc area greatly decreased, while those to third countries increased largely because of trade control.

EXPORTS OF BEER

(Quantity in koku and value in ¥1,000)

Destination	1936		1937		1938		1939	
	Qty	Value	Qty	Value	Qty	Value	Qty	Value
Manchoukuo	28,497	1,158	7,507	308	12,246	525	8,350	364
Kwantung L. T.	41,466	1,750	52,080	1,980	41,481	1,646	26,398	1,096
China	12,679	555	23,523	944	149,811	6,034	106,865	5,148
Hongkong	2,841	149	2,121	106	1,696	56	1,407	71
British India	13,926	650	16,959	753	12,986	639	15,468	787
Straits Stmts.	2,880	140	2,973	141	1,493	63	1,645	99
Dutch Indies	3,108	164	2,481	126	1,338	62	2,119	119
Others and total	132,503	5,912	134,977	5,686	240,488	10,019	179,192	8,602

Japanese Saké

History Japanese saké, brewed from rice, has been the principal alcoholic liquor of the Japanese from olden times. It is brewed everywhere in the country, but the most famous places are the "Nada Gogo," or five villages in Hyogo prefecture, the climatic conditions of which are peculiarly suited for its production. In recent years, Hiroshima and

Fukuoka prefectures have also begun to brew saké of superior grade. The best rice for saké brewing is raised in Kumamoto, Hyogo and Okayama prefectures.

As saké has been the chief drink of the people for many centuries it has been heavily taxed all along. In 1879, a tax of ¥2 per koku was levied and since then the rate has been gradually increased until it now amounts to ¥45

million yen. As the result of these subsidies, the industry has developed to the present stage. In 1902, the production of raw sugar in Taiwan was only about 600,000 piculs, but by 1931 this had increased to over 13,000,000 piculs.

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attacks from the native savages, but this difficulty was gradually overcome and during the prosperity that visited Japan after the Russo-Japanese War, many new companies were organized and the industry developed rapidly.

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1933-1934	10,783	1,551	383	—	750	13,469
1934-1935	16,094	1,752	587	—	1,135	19,568
1935-1936	15,034	1,981	515	—	819	18,351
1936-1937	16,789	1,559	678	—	961	20,037
1937-1938	16,496	1,715	694	—	1,241	20,210
1938-1939	23,645	2,390	681	—	1,170	27,951
1939-1940*	19,150	1,842	410	—	1,050	22,512

* Estimate.

Source: The report of the Japan Sugar Association.

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(In piculs)

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1932	466,877	54,790	799,840	1,389,507
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1934	1,041,527	162,255	715,093	2,019,868
1935	1,481,898	227,389	792,578	2,669,213
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Imports from foreign countries	2,210.1	1,732.1	2,341.8	3,600.0	2,845.0	639.8

	1933	1934	1935	1936	1937	1938
Imports from territories	10,541.1	11,616.3	15,152.5	13,076.6	13,043.4	12,411.8
Exports to foreign countries	2,172.3	2,019.8	2,669.2	2,978.6	2,482.1	2,267.8
Exports to territories	162.3	211.4	227.9	241.2	236.5	245.0
Consumption in Japan proper	12,535.3	13,063.3	16,914.0	15,962.0	15,407.2	12,949.1
Consumption per capita (Unit: kin)	18.56	19.06	24.30	22.61	21.52	17.85

Note: Readers are referred to Chapter XL, Taiwan, where the conditions of the sugar manufacturing industry in that island are mentioned in detail.

Brewing

Beer

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EXPORTS OF BEER

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Kwantung L. T.	41,466	1,750	52,680	1,980	41,481	1,646	26,398	1,096
China	12,679	555	23,523	944	149,811	6,034	106,865	5,148
Hongkong	2,841	149	2,121	106	1,696	56	1,407	71
British India	13,926	650	16,959	753	12,986	639	15,468	787
Strait States	2,880	140	2,973	141	1,493	63	1,645	99
Dutch Indies	3,108	164	2,481	126	1,338	62	2,119	119
Others and total	182,503	5,912	134,977	5,686	240,488	10,019	179,192	8,602

Japanese Saké

History Japanese saké, brewed from rice, has been the principal alcoholic liquor of the Japanese from olden times. It is brewed everywhere in the country, but the most famous places are the "Nada Gogo," or five villages in Hyogo prefecture, the climatic conditions of which are peculiarly suited for its production. In recent years, Hiroshima and

Fukuoka prefectures have also begun to brew saké of superior grade. The best rice for saké brewing is raised in Kumamoto, Hyogo and Okayama prefectures. As saké has been the chief drink of the people for many centuries it has been heavily taxed all along. In 1879, a tax of ¥2 per koku was levied and since then the rate has been gradually increased until it now amounts to ¥45

per koku and brings in an annual revenue to the Government of ¥200,000,000.

No study of brewing saké on a scientific basis was started until as late as 1895. In 1904, a Brewery Experimental Station was established by the Government, at Oji, Tokyo, various experiments were made, and many good experts trained. The art of brewing has now

advanced a great deal and the quality of saké brewed has become practically uniform. The quantity now brewed annually is about 5,000,000 koku nearly all of which is consumed at home, only 90,000 koku being exported to China and several other countries.

Present Condition Production of various kinds of saké in recent years is as follows:

PRODUCTION ON SAKE BY KINDS

(In 1,000 koku)

Year (Oct.-Sept.)	No. of Brew- eries (Sept.)	Refined Saké	Unrefined Saké	White Saké	Sweet Saké	Distilled Saké	Total
1930-31	9,905	3,851	6	6	70	455	4,121
1931-32	9,570	3,284	5	6	87	445	3,829
1932-33	9,236	3,807	5	6	100	509	4,429
1933-34	8,971	4,012	6	6	92	528	4,646
1934-35	8,745	3,772	5	6	87	499	4,371
1935-36	8,580	3,784	5	6	97	534	4,426
1936-37	8,428	3,983	5	5	105	542	4,641
1937-38	8,260	4,069	5	5	92	556	4,720

Supply and Demand According to the report of the Japan Saké Brewers' Association the shipment of refined saké in recent years were as follows:

SUPPLY AND DEMAND OF SAKE (Saké Brewers' Association figures)

(In koku)

Saké Year (October-September)	Production	Shipped	Stock
1932-33	4,094,399	3,685,328	2,300,333
1933-34	4,314,096	3,857,112	2,526,894
1934-35	4,068,794	3,852,846	2,407,572
1935-36	4,282,610	4,098,128	2,366,661
1936-37	4,378,687	3,998,369	2,314,734
1937-38	3,966,915	4,274,244	1,803,502

Wine The following are the annual figures for the production of wine in recent years:

PRODUCTION OF WINE

Year (March-Feb.)	No. of Wineries	Production in koku
1933-34	10,124	13,613
1934-35	11,710	18,424
1935-36	12,190	19,066
1936-37	12,408	19,276
1937-38	12,316	31,449

According to the "Factory Statistics" published by the Ministry of Commerce and Industry the value of all kinds of spirits produced in recent years was as follows, refined saké comprising over 62 per cent of the total.

VALUE OF PRODUCTION OF ALL KINDS OF SPIRITS

Year	Value in yen
1934	384,199,683
1935	404,133,245
1936	435,661,300
1937	492,330,805
1938	508,385,820

Flavours

Oriental flavours are produced in considerable quantities as indispensable for Japanese cooking. The production of soy, or Japanese sauce made of wheat, in factories amounted to 5,566,815 hectoliters valued at ¥94,097,842 in 1938, that of miso, or bean-mash, 243,145 metric tons valued at ¥35,278,295. Saké- lees is used as soup or a soft drink, the production in the same year amounting to ¥9,522,194. The production of vinegar amounted to 661,758 hectoliters valued at ¥2,274,350.

VALUE OF PRODUCTION OF SOY, MISO, ETC.

(Unit: ¥1,000)

Year	Soy	Miso	Vinegar	Saké- lees	Sauce and Ketchup
1933	61,257	16,535	1,953	6,558	3,165
1934	65,477	18,201	2,026	6,114	3,548
1935	65,767	20,124	2,214	6,748	4,163
1936	71,025	22,582	2,051	6,706	4,801
1937	82,118	26,619	2,403	8,371	5,756
1938	94,097	35,278	2,274	9,522	5,123

Soft Drinks

As Japan is geologically blessed with mineral springs, the people were not slow to study their medicinal effects, and hot springs were used as baths from the olden times. As to the utilization of mineral spring water for drinking purposes, mineral water from Rokko Mountain in Hyogo prefecture was the first of its kind that was put on the market.

This was as late as 1833, and the drink was named "Mitsuya Hiranosui." Three years later, some Englishmen taught the making of artificially aerated water and with the importation of Codd's bottles and syphon-bottles the manufacture of sweetened aerated water originated. These drinks soon became very popular and the industry made rapid development. After the Russo-Japanese War, "Champion" cider was put on the market to be soon followed by lemonade, citron, and different kinds of syrup, etc.

At present the total production of soft drinks amounts to 710,000 koku a year, of which sweetened drinks account for 93%, the rest being ordinary unflavoured aerated water or soda-water. Producers of soft drinks may be roughly divided into two classes. The first of these is composed of those who manufacture the drinks along with beer. These have good equipment and produce on a large scale. The second class is made up of those many who produce on a small scale and sell their products locally.

VALUE OF PRODUCTION OF SOFT DRINKS

(In yen)

	Cider	Ramune	Syrup	Others	Total
1931	8,509,936	1,803,975	970,528	2,668,945	13,953,384
1932	6,976,626	1,676,215	1,073,595	3,721,403	13,447,839
1933	14,132,015	1,424,789	1,182,207	2,950,569	19,689,580
1934	7,801,890	1,600,975	1,848,819	5,495,852	16,747,536
1935	10,365,531	1,611,915	1,615,720	4,023,263	17,616,429
1936	8,741,824	1,724,488	2,118,519	6,394,987	18,979,818
1937	10,703,174	2,108,597	2,625,136	6,367,072	21,803,979
1938	22,776,769	3,330,277	3,447,235	8,290,442	37,844,723

Canning

The canning industry in Japan was started as early as 1870, but the real impetus to its development was given by the Sino-Japanese and the Russo-Japanese Wars as they created a great demand for canned provisions for the Army and Navy. The Treaty of Portsmouth also served to further encourage this industry by giving Japan fishing rights in Kamchatka and the Maritime Province of Siberia, and together with the development of can manufacturing and floating canneries, the above have been the cause of the great progress in the canning industry as a whole.

Present Conditions At present, the packing industry in Japan is in a fairly developed state in all of its branches.

Canned meats have reached a stage where the quantity of production cannot be increased. The demand for meat in Japan has expanded so far that supply cannot keep pace with demand, a shortage of cattle is being felt and a plentiful supply for canning is not forthcoming. On the other hand, canned vegetables, such as canned bamboo shoots, are finding good markets in the U.S.A. and China. Of all the fruits procurable in cans pineapples are the most popular with the Japanese. They are produced in Taiwan, and of the 450,000 cases or more that are packed in that island about 400,000 cases are consumed in Japan proper while a greater part of the balance is sold in Taiwan, and only