Table 13. Demand and Supply of Rice

(Koku=0.1803 kilolitre)

	From previous year (1,000 koku)	Output of Previous year (1,000 koku)	Import (1,000 koku)	Export (1,000 koku)	Consumption (1,000 koku)	Cons mption per capita (Koku)	Consumen for sake brewing (1,000 koku
1929.....	7,840	60,303	8,909	557	69,468	1.100	3,825
1930.....	7,028	59,558	8,602	558	68,910	1.077	4,048
1931.....	5,719	66,876	11,522	1,998	72,978	1,128	4,474
1932.....	9,140	55,215	11,603	678	66,374	1.014	3,593
1933.....	8,907	60,390	12,748	624	72,414	1.095	....
1934.....	9,008	70,829	14,249	901	76,754	1.146	....
1935.....	16,431	51,840	13,018	815	70,538	1.042	....
1936.....	9,936	57,457	14,193	540	73,040	1.039	....
1937.....	8,006	67,340	11,877	647	79,151	1.111	....

Table 14. Cost of Rice Cultivation

(Average per "tan"; in yen)

	1931	1932	1933	1934	1935	1936	1937
Manures	8.56	8.27	10.07	9.74	10.32	11.30	12.27
Seeds bought	0.45	0.46	0.51	0.53	0.62	0.66	0.80
Miscellaneous materials	1.24	1.40	1.42	1.38	1.49	1.69	1.88
Wages	16.97	17.69	18.96	19.46	21.07	21.52	22.20
Cattle and other feeds	2.14	2.07	2.26	2.26	2.48	2.45	2.70
Depreciation of farming implements	1.53	1.53	1.71	1.69	1.81	1.93	2.22
Depreciation of farm-sheds	1.37	1.36	1.47	1.51	1.50	1.62	1.72
Total including others	58.95	58.40	63.57	64.93	69.18	71.11	71.75

Note: "Tan"=0.09917354 Hectare.

Table 15. Average Price of Medium Rice Quoted at Fukagawa Market, Tokyo

(Per Koku or 0.1803 kilolitre)

1868	¥ 5.98	1928	¥29.09
1872	3.88	1930	25.56
1877	5.55	1931	18.47
1887	5.00	1932	21.17
1897	11.98	1933	21.51
1907	16.48	1934	24.79
1918	45.99	1935	29.86
1927	19.84	1936	30.66
		1937	32.44

Table 16. Rice Stock

Unit: 1,000 koku (Koku=0.1803 Kilolitre)

End o' October	Domestic rice	Chosen rice	Taiwan rice	Imported rice	Total
1931	8,642	330	97	72	9,140
1932	8,146	505	161	96	8,907
1933	8,253	288	405	62	9,008
1934	15,594	619	208	9	16,431
1935	9,189	563	152	32	9,936
1936	7,457	254	204	92	8,007
1937	7,006	183	184	51	7,424
" (in 1,000 kilotre)	1,263.2	33	33.1	9.2	1,338.5

Table 16—A Government Godowns

	Number of Godowns	Accommodating Capacity (koku)		Number of Godowns	Accommodating C pacity (koku)
Tokyo	18	294,030	Moji	10	100,800
Osaka	10	296,550	Niigata	4	50,301
Sakata	6	98,828	Nagoya	4	57,172

OTHER CEREALS

The area under cultivation of the other important cereals, or barley, rye and wheat is slightly less than one-half that of rice. In 1936 the area under cultivation was 1,484,277 cho and the crop was valued at ¥386,253,000. Of these three cereals wheat accounts for over one-half of the total in value and its importance is becoming more emphasized yearly as may be observed from an accompanying table. The demand for wheat is larger than production and as a consequence an amount ranging from 4 to 6 million koku is annually imported.

Table 17. Area Under Barley and Crop

(Koku=0.1803 kilolitre; Cho=2.45 Acres)

	Area		Production		Production per tan			
	Paddy (Cho)	Upland (Cho)	Paddy (Koku)	Upland (Koku)	Paddy (Koku)	Upland (Koku)	Aver. (Koku)	Production in value (Yen)
1918.....	139,318	390,726	1,954,419	6,413,879	1.403	1.641	1.578	106,683,652
1923.....	119,914	357,894	1,698,926	5,896,370	1.417	1.647	1.589	68,569,897
1928.....	105,229	298,495	1,816,319	5,789,297	1.725	1.939	1.883	67,789,880
1933.....	98,369	248,926	1,678,717	5,237,882	1.707	2.104	1.992	44,127,198
1934.....	94,173	237,573	1,709,775	5,086,613	1.815	2.142	2.049	51,146,562
1935.....	97,823	244,125	1,861,688	5,426,310	1.903	2.223	2.131	57,100,667
1936.....	99,504	241,269	1,685,217	4,669,940	1.694	1.936	1.865	60,871,161
1937.....	96,774	233,408	1,822,849	5,056,531	1.884	2.166	2.084	75,185,874

Table 18. Demand and Supply of Barley

	Output (1,000 koku)	Import (1,000 koku)	Export (1,000 koku)	Consumption (1,000 koku)	Consumption per capita (Koku)
1928	7,605.6	64.5	63.1	7,606.9	0.121
1929	7,116.8	83.1	62.5	7,137.3	0.112
1930	7,088.9	56.0	23.7	7,123.6	0.110
1931	7,378.1	8.9	48.0	7,339.0	0.101
1932	7,574.0	2.3	137.9	7,438.2	0.112
1933	6,916.6	91.2	12.9	6,994.4	0.104
934	6,796.4	45.4	418.4	6,423.4	0.094
935	7,287.9	32.8	707.9	6,612.9	0.095
1936	6,355.1	191.9	469.5	6,077.6	0.086

Table 19. Area Under Rye and Crop

	Area		Production		Production per Tan			
	Paddy (Cho)	Upland (Cho)	Paddy (Koku)	Upland (Koku)	Paddy (Koku)	Upland (Koku)	Aver. (Koku)	Value of Production (¥)
1918.....	369,782	267,838	4,645,284	3,132,146	1.255	1.169	1.219	132,769,186
1923.....	323,128	239,294	3,460,837	2,395,317	1.071	1.185	1.115	75,867,548
1928.....	308,925	202,036	4,554,403	2,571,632	1.474	1.273	1.394	94,561,837
1933.....	267,656	170,003	3,336,110	2,012,422	1.246	1.184	1.222	55,518,156
1934.....	261,704	162,681	3,956,322	2,204,087	1.512	1.355	1.452	71,293,670
1935.....	273,172	166,542	4,364,325	2,252,030	1.598	1.353	1.505	77,303,560
1936.....	271,045	168,525	3,776,897	2,060,799	1.393	1.223	1.328	84,165,931
1937.....	263,327	166,167	3,880,405	2,132,224	1.474	1.252	1.388	100,130,993

Table 20. Area Under Wheat and Crop

	Area		Production		Production per Tan			
	Paddy (Cho)	Upland (Cho)	Paddy (Koku)	Upland (Koku)	Paddy (Koku)	Upland (Koku)	Aver. (Koku)	Value of Production (¥)
1918.....	220,729	346,393	2,788,304	3,643,167	1.263	1.052	1.134	121,189,386
1923.....	183,618	304,247	2,068,268	3,122,351	1.126	1.026	1.064	74,344,166
1928.....	209,328	280,638	3,053,557	3,335,557	1.458	1.189	1.304	101,540,977
1933.....	291,258	325,218	3,742,323	4,270,718	1.285	1.313	1.300	114,032,716
1934.....	309,419	339,079	4,744,508	4,706,246	1.533	1.388	1.457	121,743,980
1935.....	310,252	353,616	4,836,049	4,819,775	1.559	1.363	1.454	131,115,603
1936.....	320,182	368,777	4,548,108	4,413,221	1.420	1.197	1.301	173,215,048
1937.....	345,502	379,099	5,090,800	4,905,248	1.473	1.294	1.380	210,937,714

Table 21. Demand and Supply of Wheat (inclusive of flour)

	Production (1,000 koku)	Import (1,000 koku)	Export (1,000 koku)	Consumption (1,000 koku)	Consumption per capita (Koku)
1928	6,389.1	5,628.0	2,713.6	9,303.6	0.148
1929	6,323.5	3,864.3	1,749.5	8,528.3	0.134
1930	6,124.7	5,059.9	2,097.5	9,087.2	0.140
1931	6,405.7	5,987.7	2,029.6	10,363.8	0.158
1932	6,497.4	3,888.0	3,485.0	6,900.4	0.104
1933	8,013.0	3,454.4	2,881.2	8,586.2	0.127
1934	9,450.8	3,598.5	4,012.8	9,036.5	0.132
1935	9,655.8	3,074.0	2,885.7	9,844.1	0.142
1936	8,961.3	1,773.0	1,617.9	9,116.4	0.129

Table 22. Production of Miscellaneous Grains

		1927	1932	1933	1934	1935	1936
Millet	(koku)	1,073,531	995,290	988,591	629,621	745,378	866,704
Barnyard millet	(")	615,810	501,512	553,969	294,366	371,582	536,931
Proso millet	(")	244,349	157,590	309,885	185,677	158,078	253,610
Maize	(")	641,423	423,144	584,678	504,791	439,261	599,861
Buckwheat	(")	923,254	731,730	918,810	670,283	606,764	744,028

Table 23. Beans, Potatoes and Sweet Potatoes

		1927	1932	1933	1934	1935	1936
Soya beans	(hectolitres)	5,886,469	4,351,814	5,064,566	3,902,976	4,079,387	4,751,420
Red beans	(")	1,582,322	1,002,990	1,710,725	1,126,612	961,545	1,247,840
Peas	(")	812,307	587,899	768,796	995,104	754,776	677,363
Horse beans	(")	873,490	883,618	778,893	797,568	793,953	681,271
Sweet potato	(1,000 kgs.)	3,296,250	3,471,448	3,511,724	3,037,049	3,571,386	3,748,481
Irish potato	(")	937,955	1,003,420	1,374,455	1,270,116	1,250,048	1,675,180

Table 24. Other Minor Crops

(In thousand of kilogrammes)

	1927	1932	1933	1934	1935	1936
Radish	2,565,525	2,490,743	2,328,281	2,358,375	2,522,867	2,479,412
Carrot (Daucuscarola)	111,440	119,777	123,460	125,959	136,767	147,037
Burdock (Lappa major)	288,446	194,143	193,875	197,182	199,306	209,773
Paper mulberry (bark, dried)	....	13,768	13,583	12,862	....	....
Rush for matting	41,435	52,268	58,233	74,433	12,521	55,463
Flax	8,666	11,690	23,408	29,591	27,150	26,614
Taro	611,502	659,577	618,934	578,006	637,139	659,294
Turnip	156,951	153,629	153,533	154,881	153,894	153,446
Cabbage	118,619	157,158	177,919	197,599	194,606	203,653
Welsh onion	206,372	213,594	241,201	243,684	244,226	258,227
Onion	87,709	136,949	124,670	182,202	188,142	191,444
Peppermint	39,581	32,449	63,799	40,546	42,377	60,690

HORTICULTURE

Formerly, pears, oranges, persimmons, and peaches were principal fruits in Japan. With the introduction of meat-eating custom from abroad, however, fruits of foreign species including apples, oranges, peaches, pears, grapes, strawberries, cherries, etc. began to be extensively cultivated. Generally speaking, apples are grown in the Hokkaido and Aomori, peaches in the neighbourhood of Tokyo, Kanagawa, Okayama and other prefectures, pears in Shizuoka, Okayama, Niigata, Akita, etc., grapes in Yamanashi. Ibaraki, Nagano, etc., oranges in Wakayama, Shizuoka and in southern Japan, apricots, almonds, walnuts and some other fruits in Nagano and a few other prefectures and foreign cherries in Yamagata and Fukushima. Japanese cherry trees are chiefly prized for flowers. Persimmons may be said to grow everywhere, though seldom in orchards. Plums are more generally used as pickle, in which shape they are preserved in almost every Japanese household and plum trees are highly valued both for flowers and fruits.

Table 25. Output of Fruits

(In m. tons)

	* Plums	Peaches	Pears	Persimmons	Apples	Grapes	Oranges
1927	772,806	51,562	146,802	217,853	71,516	41,175	420,567
1932	618,105	50,669	162,162	271,079	97,442	60,826	301,152
1933	637,293	51,900	169,605	236,273	92,353	66,491	341,145
1934	680,426	51,055	149,650	235,592	131,644	60,836	267,678
1935	627,902	48,607	167,034	232,025	159,021	69,363	441,916
1936	695,186	49,680	167,035	269,063	120,676	66,506	373,490
1937	....	....	164,344	230,730	....	69,245	....

Note: * In Hectlitres

INDUSTRIAL CROPS

Despite the importance of the so-called industrial crops the area under their cultivation is only about 4 per cent of the total cultivated area and whatever insufficiency in production is imported. The output of industrial crops for the last five years averaged ¥97,000,000, scarcely sufficing one-seventh of the requirements of Japan proper. Imports of industrial crops from her colonies and from abroad in 1934 amounted to ¥787,533,000.

Table 26. Industrial Crops

		1927	1932	1933	1934	1935	1936
Leaf indigo	(kilograms)	2,195,201	862,072	781,448	703,526	679,676	716,700
Leaf tobacco	(")	68,385,680	60,605,666	66,540,143	65,976,435	64,529,449	60,480,029
Cotton	(")	954,041	514,208	705,968	510,535	502,826	615,679
Hemp	(")	8,460,983	8,283,990	7,869,176	7,749,090	7,067,033	7,919,288
Rape-seed	(hectolitres)	1,073,298	1,374,818	1,319,121	1,624,547	1,824,742	1,820,942

TOBACCO

Among industrial crops the more important are leaf tobacco, hemp, rapeseed, cotton, sugar cane, pyrethrum, and peppermint. Only pyrethrum, peppermint and rush are exported in small quantities. Japan's requirements of sugar cane is now fully met by Taiwan. Cotton output shows a tendency to decline due to strong foreign competition and its place as a supplier of the country's needs is negligible.

The cultivation of leaf-tobacco is permitted to private individuals by the Government which has a monopoly over the industry. The area under tobacco has hovered between 33,000 and 37,000 hectares for the last ten years. Tobacco output in 1937 amounted to 60,490 metric tons. A considerable amount of tobacco is yearly imported to supplant demand.

Table 27. Statistics of Tobacco Monopoly

Year Ending Mar. 31:	Acreage (Hectares)	Output (M. tons)	Quantity collected by Government: New leaf (M. tons)	Old leaf (M. tons)	Total (M. tons)	Amount of Compensation for Tobacco Collected: New leaf (Yen)	Old leaf (Yen)	Total (Yen)
1928	36,930	67,595	66,770	1,416	68,186	50,716,245	812,555	51,528,801
1933	33,809	60,605	60,606	—	60,605	34,023,395	29	34,023,425
1934	33,855	66,539	66,539	1	66,540	39,157,665	476	39,158,142
1935	34,244	65,976	65,976	1	65,977	39,686,263	362	39,686,626
1936	34,822	64,529	64,529	—	64,529	40,336,400	—	40,336,400
1937	35,063	60,858	60,490	—	60,490	38,443,093	—	38,443,093

Table 28. Domestic Production of Manufactured Tobacco

(In million pieces; Year Ending Mar. 31)

	1931	1932	1933	1934	1935	1936	1937
Cigarettes with mouthpieces	16,413	14,251	11,244	10,888	12,478	11,970	11,100
Cigarettes without mouthpieces	11,489	17,340	19,901	22,250	25,699	27,067	29,512
Cigars	1.6	1.0	0.6	2.0	2.6	2.7	1.8
Cut tobacco (1,000 kgs.)	24,073	24,091	23,963	23,888	22,442	20,419	21,070
Total value of sales (¥1,000)	262,437	255,939	262,109	270,013	289,290	296,862	314,571

Table 29. Exports and Imports of Leaf Tobacco

(In Metric tons; Year ending Mar. 31)

	1913	1927	1930	1931	1932	1933	1934	1935	1936	1937
Export to:										
Egypt	—	5	113	1,419	1,168	647	906	1,378	907	1,844
China	242	4,437	82	81	106	629	87	108	714	1,625
Manchoukuo	—	—	—	—	—	—	37	319	753	1,591
Total (incl. other destinations)	245	4,442	195	1,500	1,290	1,284	1,105	2,135	3,345	6,837
Chosen	793	5,484	1,215	364	139	135	75	1,635	2,476	3,441
Taiwan	—	—	—	—	—	—	—	—	200	201
Grand Total	1,038	9,926	1,410	1,864	1,429	1,419	1,180	3,770	6,021	10,480
Value (¥1,000)	305	3,068	890	1,843	1,248	798	850	2,087	3,694	5,709
Imports from:										
U. S. A.	659	568	2,690	3,444	1,306	1,549	2,388	2,401	2,339	911
China	—	510	937	1,067	1,060	1,139	826	1,673	1,173	1,233
Manila	—	382	606	718	867	987	982	1,320	1,092	1,053
India	—	427	620	965	869	969	1,438	916	817	778
Chosen	—	561	699	375	58	803	375	273	—	—
Turkey	12	1	4	14	17	10	6	3	4	5
Total (including other sources)	726	5,450	5,967	6,585	4,696	5,459	6,025	6,589	5,435	3,988
Value (¥1,000)	698	7,872	7,972	7,747	4,190	7,425	7,030	11,122	10,018	6,100

CAMPHOR

The growing and manufacture of camphor has shown a steady development. In 1937 the sale of manufactured camphor amounted to ¥9,606,000, representing a 100 per cent increase since 1933. The industry is under the monopoly system of the Government.

Table 30. Area Under Camphor and Its Output in Japan Proper

Year Ending March 31:	Area of plantations (hectares)				No. of manufacturers	No. of refineries	Manufacture (1,000 kin)	
	State	Public	Private	Total			Crude	Oil
1928	63	149	313	525	1,723	2,167	2,683	2,103
1933	35	162	304	501	1,398	1,627	2,291	1,995
1934	50	490	431	971	1,318	1,539	3,077	2,657
1935	139	432	836	1,407	1,325	1,499	4,085	3,486
1936	119	525	792	1,436	1,336	1,469	4,909	4,280
1937	103	393	814	1,309	1,345	1,428	5,226	4,427

Table 31. Sales of Manufactured Camphor

(Volume: Metric tons; Value: ¥1,000)

Year Ending March 31:	Camphor		Camphor Oil		Total	Year Ending March 31:	Camphor		Camphor Oil		Total
	Volume	Value	Volume	Value			Volume	Value	Volume	Value	
1928	1,620	2,617	1,299	1,008	3,625	1935	3,446	6,085	2,132	1,599	7,684
1933	2,812	4,083	1,223	759	4,841	1936	3,698	6,967	2,615	2,299	9,266
1934	3,356	4,874	1,620	1,048	5,922	1937	3,808	7,179	2,729	2,426	9,606

TEA

Tea, the national beverage of Japan, seems to have been introduced into this country from China in the eighth century. In the early years of the Meiji era it was the largest export product of Japan. In recent years Japan has been the world's third largest producer of tea, being preceded only by British India and the Netherlands East Indies.

Production.—Tea output in recent years has been steadily increasing, rising from 9,858,000 kwan in 1927 to 12,785,000 kwan in 1937, valued at ¥28,280,000. The leading producing center of green tea is Shizuoka prefecture. Taiwan is also a potential grower of tea, its output amounting in 1935 to ¥10,593,000 representing 2,635,000 kwan. Of this amount Oolong tea accounted for 844,800 kwan, Pouchong tea 909,600 kwan, green tea 2,080 kwan and black tea 878,400 kwan.

Export.—Roughly, one-half of tea production in Japan proper is exported. In 1937 foreign sales of tea amounted to 6,555,000 kwan valued at ¥23,181,000. Leading markets for Japanese tea are the United States, which accounted for a third of total exports in 1937, Soviet Russia, Canada, British India and Kwantung Province.

Tea Control Organ.—The Central Council in Tokyo maintains inspection houses in Yokohama, Kobe, Shizuoka, Yokkaichi and endeavours to prevent the export of adulterated or coloured tea which might be rejected by tea inspectors abroad, and also is running its experimental plantations and laboratory in Shizuoka. Formerly, Yokohama was the center of export, but some two decades ago it was replaced by the port of Shimizu in Shizuoka prefecture.

Table 32. Japan's Position in Tea Production

(In 1,000 metric tons)

	1931	1932	1933	1934	1935	1939
Japan — Proper	38.3	40.4	43.5	44.2	45.6	47.9
Japan — Of which green tea	38.1	40.2	43.4	43.9	44.1	44.7
Japan — Taiwan	9.6	8.8	9.3	11.0	10.7	....
*Ceylon	110.7	114.7	98.0	99.2	96.2	99.0
British India	178.8	196.7	174.0	181.1	178.9	....
Indo-China	2.0	6.0	6.0	6.4	9.0	....
U. S. S. R. (Transcaucasia)	0.3	0.4	0.8	1.7	3.1	4.9
Total including others	**425.3**	**454.7**	**413.4**	**422.3**	**424.0**	....
*China	42.5	39.5	42.0	47.0	37.8	37.4

Note: * As there are no annual statistics of production available, figures for exports have inserted.

Table 33. Area, Production, Export, etc. of Green Tea

(Cho=0.992 hectare; Kan=3.75 kilogrammes)

	Area* (cho)	No. of Mfrs. (1,000)	Output		Export	
			Quantity (1,000 Kwan)	Value (¥1,000)	Quantity (1,000 Kwan)	Value (¥1,000)
1931	38,109	1,126	10,215	18,871	3,073	8,232
1932	38,352	1,132	10,776	18,506	3,573	8,172
1933	38,486	1,136	11,597	21,209	3,566	8,370
1934	38,880	1,138	11,788	22,859	3,843	9,557
1935	39,320	1,111	12,168	23,263	4,502	11,419
1936	39,707	1,129	12,785	28,280	4,378	13,130
1937	40,126	1,124	14,377	34,357	6,555	23,181

Note: * End of June.

Table 34. Output of Various Kinds of Tea

(In kilogrammes)

	Green tea			Black tea	* Others	Total
	2nd kind (Gyokuro)	3rd kind (Sencha)	4th kind (Bancha)			
1927	252,615	29,092,320	7,364,550	16,583	240,383	36,866,450
1932	267,479	32,450,742	7,487,625	26,254	177,237	40,409,558
1933	286,763	34,746,415	8,222,550	50,164	181,069	43,487,160
1934	295,143	34,277,235	8,094,998	1,051,341	215,396	44,204,239
1935	328,129	35,519,906	8,287,020	1,257,341	238,136	45,630,551
1936	299,220	35,209,320	9,238,924	2,983,980	211,894	47,943,318
1937	310,796	38,394,293	10,171,973	4,634,753	401,044	53,912,868
" (Value in yen)	759,058	27,246,808	2,712,526	3,068,556	535,334	34,356,516

Table 35. Output, etc. of Tea By Leading Producing Districts

(1937)

Prefecture	No. of Mfrs.	Output 1,000 kgs.	Output 1,000 yen	Area Under Tea (Hectares)	Prefecture	No. of Mfrs.	Output 1,000 kgs.	Output 1,000 yen	Area Under Tea (Hectares)
Shizuoka	24,845	32,843	21,166	15,710	Shiga	28,844	981	564	835
Miye	30,848	2,729	1,283	1,484	Ibaraki	45,176	950	795	1,152
Kagoshima	107,368	1,878	1,320	3,128	Saitama	22,948	947	928	1,433
Kyoto	33,243	1,707	1,561	1,479	Kumamoto	74,350	861	611	1,470
Miyazaki	62,317	1,295	981	1,215	Gifu	48,508	827	266	694
Nara	12,086	1,255	603	758	Fukui	24,281	585	176	275

STOCK BREEDING

Stock breeding has not thrived in Japan due to climatic difficulties, absence of good pastures and partly to the fact that fish has from time immemorial taken the place of meat in the daily fare of the people. Cattle and horses were reared by farmers, the former as help in tillage and beasts of burden, while the latter were kept both for riding and also for farming purposes. The rearing of swine dates from the Restoration and sheep began to receive serious attention after the World War. The number of cattle in Japan is about 4 to every 100 persons as compared with 75 to every 100 persons in the United States.

Horned Cattle.—Strictly speaking, only one original breed of cattle formerly existed in Japan, being primarily intended for the sole purpose of serving as beasts of burden. They are sufficiently hardy and strong, but owing to neglect in breeding, are somewhat deformed in appearance, especially in the hind quarters. Just as in the case of horses and dogs, the native breed of cattle is gradually disappearing to be replaced by imported cattle and cross. This disappearance of the native breed is regarded with extreme regret by consumers of beef, for the flesh of native cattle tastes far better than that of foreign cattle. As to the breed of importel cattle, formerly it consisted mostly of Shorthorn, Devon and Ayrshire, Brown-Swiss and Shimmenthal. But lately Holstein and Ayrshire are generally judged more suitable for Japan. Three cattle depots are kept by the Department of Agriculture and Forestry, at Nanatsukahara, Oita, and at Tsukisappo, near Sapporo and various measures are adopted for improving the cattle.

The number of cattle has been gradually increasing and in 1936 was 1,770,938.

Table 36. Japan's Position in Number of Domestic Animals

(In 1,000 heads)

	1931				1935			
	Cattle	Horses	Swine	Sheep	Cattle	Horses	Swine	Sheep
Japan†	3,240	1,545	4,039	27	3,455	1,514	4,563	57
Germany	19,124	3,451	23,808	....	18,938	3,390	22,827	....
France	15,434	2,920	6,398	....	15,670	2,810	7,043	....
U.S.S.R.	47,916	26,247	14,443	77,692*	49,256	15,881	22,550	54,228*
U.S.A.	65,770	12,664	59,301	53,946	67,968	11,645	42,837	52,002
Australia	12,261	....	....	110,620	....	....	....	113,048
New Zealand	4,031	....	....	29,793	4,294	....	....	29,077
Canada	....	3,129	....	....	....	2,931	....	....
Poland	....	4,124	7,321	....	....	3,760	6,723	....

Note: * Inclusive of goats.
† Inclusive of Taiwan, Chosen & Karafuto.

Table 37. Japan's Position in Meat Consumption in 1935

(Unit: 1,000 metric tons)

Country	Production	Import	Export	Consumed	Consumption per capita (kilograms)
Japan Proper	119	12	0	131	1.9
U. S. A.	4,246	44	47	4,243	33.3
England †	(1,060)	1,396	20	....	*63.5
Germany	3,495	37	1	3,531	53.5
Argentine	881	0	516	365	29.4

Note: – Imports inclusive ham & bacon.
† Production in Wales only.
* 1934.

Table 38. Statistics of Stock-farming

		1927	1932	1933	1934	1935	1936
Cattle	No. of stock-families	1,193,741	1,233,147	1,250,108	1,283,470	1,324,471	1,378,027
	No. of cows	1,059,535	1,129,844	1,157,936	1,206,672	1,259,218	1,327,872
	No. of bulls	414,874	399,465	411,902	408,126	425,248	443,066
	Total	1,474,409	1,529,309	1,569,838	1,614,798	1,684,461	1,770,938
	Calves	203,430	228,989	238,177	252,229	278,943	313,994
	Deaths	14,695	13,576	13,964	14,530	15,282	17,635

		1927	1932	1933	1934	1935	1936
Horses	No. of stock-families	1,137,351	1,155,476	1,134,224	1,112,154	1,093,774	1,074,159
	No. of horses	1,215,029	1,239,089	1,219,345	1,194,254	1,176,600	1,151,410
	No. of colts	274,794	301,997	281,832	270,035	271,881	280,510
	Total	1,494,823	1,541,086	1,501,177	1,464,289	1,448,481	1,431,920
	Foals	115,684	119,154	112,359	110,629	119,672	127,316
	Deaths	27,642	27,935	28,957	27,307	24,604	26,794
Swine	No. of stock-families	374,765	493,318	498,664	531,546	573,133	600,143
	No. of swine	677,061	926,010	913,502	980,738	1,063,138	1,109,739
	Deaths	65,686	125,690	79,502	86,402	102,965	113,053
Sheep	No. of stock-families	3,612	8,069	9,998	12,968	16,369	21,044
	No. of sheep	18,788	26,918	30,516	35,953	47,303	61,040
	No. of lambs	5,476	7,364	8,296	9,804	12,113	15,415
	Deaths	2,074	2,311	2,424	2,744	3,273	3,812
Goats	No. of stock-families	75,531	99,956	108,321	118,540	133,207	148,591
	No. of goats	195,004	228,998	236,021	253,758	277,884	292,215
	No. of kids	70,303	94,787	93,377	98,761	104,173	111,740
	Deaths	14,554	9,445	11,268	11,837	14,554	17,357

Table 39. Slaughter House Returns

	1927	1932	1933	1934	1935	1936
No. of slaughter-houses	601	665	679	696	701	734
Cattle (head)	282,712	331,610	326,227	297,017	299,943	300,583
Calves (")	23,741	29,151	30,349	28,635	31,228	33,671
Horses (")	69,831	80,364	92,447	89,835	89,442	95,369
Swine (")	561,366	986,746	933,241	974,140	1,044,097	1,262,355
Sheep (")	688	1,129	1,461	1,376	1,445	1,426
Goats (")	11,824	28,747	34,635	42,557	48,292	67,074
Total	950,162	1,457,747	1,468,360	1,433,560	1,514,447	1,760,478

DAIRY AND MEAT PRESERVING

Dairy farming is a comparatively new industry but is making rapid headway. Milk output has multiplied by three folds in the past twenty years and about half of the production is used for butter and other dairy products. The increase in consumption of dairy products is due chiefly to the growing influence of western delicacies. The chief butter producing district is the Hokkaido. Condensed milk production has been extremely rapid and shows an expansion of 30% between 1931 and 1934. The output in 1936 was 30,167,000 kin valued at ¥9,683,000 and some exports are being carried on.

In line with the increase in meat consumption Japan annually imports beef from Tsingtau and Manchoukuo and since 1937 some shipments of chilled beef have come from Brisbane, Australia. Ham and sausage manufacture is managed on a lucrative scale in Kanagawa prefecture.

Horses.—Principal breeding centers are found in the northern districts of the Main Island and in the Hokkaido, in both of which comparatively wide plains are found. In the former, Nambu, Sendai, Miharu and Akita are famous for horse-breeding, as is the province of Hidaka in the Hokkaido where the Imperial Hosehold's Niicup Depot is situated. In southern Japan, Kagoshima ranks first in horse-breeding. Among the native breeds the Nambu horses are the best. The total number of horses in Japan has fluctuated in recent years in a narrow margin of 80,000 heads and in 1936 numbered 1,431,920.

Sheep.—Large scale plans for Japan's wool self-sufficiency were drafted in 1936 by the Ministry of Agriculture and Forestry. According to the project the goal of 7,000,000 sheep is to be reached at the end of 20 or 30 years. The plan would be divided into 10-year periods during each of which 2,000,000 or 3,000,000 sheep would be added. Details of execution of the plan would be turned over to a Sheep Breeding Investigation Commission comprising officials of the Japanese, Korean and Manchoukuo governments, sheep raisers and wool users. The number of sheep is increasing markedly, that in 1936 being 61,040 as compared with 47,303 in 1935.

Production of wool to demand is only about one-tenth of one per cent; the rest of the requirements are imported, Australia, Federation of S. Africa and Argentine are supplying over 90 per cent of the imports.

Swine.—Though swine is reared in every prefecture of Japan the enterprise is particularly strong in Kagoshima, Kanagawa and Ibaragi. Because of the increasing demand for pork among the populace the business has expanded satisfactorily in late years. The number of swine in 1936 was 1,109,739.

Table 40. Statistics of Poultry
(000's omitted)

Year ending June 30:	No. of families	Fowls: No. of fowls	Fowls: No. of young fowls	Fowls: Value (¥1,000)	Eggs (output): Number	Eggs (output): Value (¥1,000)
1925	3,503	20,614	16,556	38,881	1,619,716	70,038
1933	3,147	29,962	20,949	31,013	3,408,888	70,591
1934	3,063	30,832	22,483	34,040	3,535,071	76,899
1935	3,009	31,024	20,674	33,854	3,608,676	79,125
1936	2,907	30,005	20,789	35,478	3,537,301	86,754

Table 41. Statistics of Dairy Farming
(Koku=0.1803 kilolitre)

	No. of Dairy farms	No. of milk cows	Milk (output): Quantity (koku)	Milk (output): Value (¥)	Per capita consumption (Koku)
1926	17,406	69,434	779,129	27,305,750	....
1931	21,537	78,235	1,051,600	23,201,930	0.0167
1932	22,563	80,532	1,078,710	22,907,625	0.0162
1933	24,953	86,948	1,183,772	25,879,821	0.0173
1934	27,830	94,187	1,312,831	27,877,875	0.0182
1935	30,366	100,326	1,477,347	30,222,642	0.0198
1936	32,743	105,063	1,546,454	32,410,801	....
"	—	—	* 278,826	—	—

Note: * In kilolitres.

Table 42. Exports and Imports of Dairy Products
(¥1,000)

Exports	1935	1936	1937
Condensed Milk (incl. in powder)	2,205	1,998	1,616
Butter (incl. artificial butter)	208	420	134
Canned Meat	155	248	563
Eggs	626	339	363
Furs	3,642	5,985	4,992
Bristles	4,716	7,726	5,888
Leather	755	1,406	1,633
Total	12,307	18,122	15,189
Imports			
Meats	6,936	9,124	8,280
Butter	15	12	467

	1935	1936	1937
Condensed Milk	516	539	800
Eggs	—	26	0
Furs	803	429	796
Hides & skins	21,356	24,386	44,571
Leather	4,944	5,465	7,520
Animal hair	6,814	7,801	7,742
Animal bones	2,178	2,022	2,171
Tusks of elephants	864	874	1,051
Animal hoofs	270	373	494
Animal sinew	758	680	775
Beef tallow	2,340	1,644	1,949
Wool	191,761	200,898	298,404
Goat's & camel's hair	1,331	3,444	1,096
Total	240,886	257,717	375,116

Table 43. Production of Dairy and Meat Products
(Volume in 1,000 kin; Value in 1,000 yen)
(Kin=1.3227 lbs. Kwan=3.75 kilogrames)

	1929 Volume	1929 Value	1934 Volume	1934 Value	1935 Volume	1935 Value	1936 Volume	1936 Value
Dairy Products:								
Condensed Milk	18,191	7,864	29,716	9,621	33,896	10,345	30,167	9,683
Milk Powder	910	1,218	2,397	2,800	1,716	2,351	2,009	2,909
Butter	2,282	2,482	4,162	4,083	4,490	4,767	4,087	4,789
Artificial Butter	1,941	581	2,714	661	2,318	647	4,657	976
Cheese	66	70	151	102	174	107	298	257
Others	4,577	1,606	3,588	1,215	4,864	1,360	9,043	2,625
Total	27,967	13,821	42,728	18,483	47,458	19,577	50,261	21,238
Meat Products:								
Ham	1,800	1,010	2,179	1,553	2,994	2,279	3,340	2,208
Bacon	526	255	272	141	394	218	592	324
Others	1,427	587	1,532	713	2,692	1,259	2,713	1,261
Total	3,754	1,852	3,983	2,406	6,080	3,757	6,645	3,792
*Canned Meat:								
Beef	609	2,449	580	1,987	543	1,919	624	2,284
Pork	11	75	105	435	144	353	127	408
Others	23	136	14	48	61	97	49	187
Total	643	2,660	699	2,470	718	2,369	800	2,879

Note: * Volume in 1,000 kwan

Poultry Raising.—Poultry raising is a growing industry and the production of eggs has almost quadrupled in the last twenty-five years. For a while Japan used to import a large quantity of eggs from China but with successive advances in import tariff since 1902 and as a result of expanding domestic production the country is now self-sufficing in this article. With the idea of encouraging the industry the Government established a model poultry-yard in 1906 at the Breeding Experiment Farm at Chiba, where imported fouls of various breeds are kept.

The number of fowl was 30,005,000 and of chicken 20,789,000 in 1936.

Ducks.—The number of ducks as at the end of June 1936 was 498,587 valued at ¥347,000.

In both number and value they show an increase over the previous year.

Livestock Insurance

The Livestock Insurance Association is a juridical person organized by owners of livestocks in accordance with the provisions of the Live-Stock Insurance Law Promulgated in 1929, with the object of mutually insuring their livestocks. The animals to be insured are limited to horse and cattle. It is arranged that when the association has undertaken to insure live-stocks, contract of reassurance is to be entered into between the association and the Government. In 1936 a total of 353,324 heads of cattle and 153,772 horses were insured for roughly ¥40,000,000.

Table 44. Live Stock Insurance

Year ending March 31:		Claims Paid: No.	Claims Paid: Amount	Contracts in Force: No.	Contracts in Force: Amount	Premiums received
1933	Cattle	989	¥ 71,325	108,818	¥ 8,005,867	¥129,488
	Horse	1,180	95,677	65,073	5,018,952	150,142
1934	Cattle	1,451	102,753	165,356	12,306,058	203,019
	Horse	2,403	176,052	98,194	7,185,813	221,631
1935	Cattle	2,040	147,982	237,950	18,088,118	322,162
	Horse	2,901	217,621	129,592	9,335,822	320,800
1936	Cattle	2,517	193,027	278,491	22,029,174	401,802
	Horse	3,278	243,044	141,460	10,117,079	365,699
1937	Cattle	3,445	273,616	351,722	28,642,025	527,097
	Horse	4,140	308,538	152,237	11,148,469	408,010

Live-stock Associations

The live-stock associations are authorized organizations established in conformity with the Live-stock Association Regulations promulgated in 1915. These associations aim at the improvement and development of live-stock industry and also the furtherance of the interests and benefit of their members. Only the breeders of horses, or cattle, or sheep, or swine are eligible to the membership of the association. As at the end of 1935 there were 601 livestock associations, which were scattered over many parts of the country, with a membership of over 1,800,000. Principal enterprises undertaken by the associations are the supply of live-stock breeds, holding live-stock markets, fairs and exhibitions, etc. Besides the above, some special associations undertake necessary provisions for improvement of milk and meat.

Table 45. Livestock Associations

	No. of Association	Membership		No. of Association	Membership
1931	572	1,739,410	1934	589	1,825,398
1932	576	1,789,106	1935	601	1,952,620
1933	582	1,859,401			

Table 46. Number of Animals Affected

	Anthrax: Cattle	Anthrax: Horse	Black leg (Cattle)	Cholera (Swine)	Erysipelas (Swine)	Hydrophobia Dog
1929	241	105	94	3,207	758	172
1930	206	73	83	1,224	903	68
1931	213	47	57	28,954	1,856	44
1932	170	54	91	41,018	1,866	63
1933	165	58	66	6,716	1,357	21
1934	153	32	84	4,594	3,660	11
1935	140	22	66	8,811	2,291	11
1936	104	17	67	15,619	3,921	3

AGRARIAN PROBLEMS

Many problems confront the agrarian populace of Japan which have been caused by rapidly changing conditions. The problems may be traced to the economic depression and to inherent weaknesses in the present agricultural structure. Prominent among the issues faced are the following:—

Farm debts have been the cause for much arguments pro and con for the last three decades. The per farm household indebtedness has multiplied many times over and in 1937 it was estimated to be roughly ¥1,000 as compared with ¥135 in 1911. The total amount aggregates some ¥6,000,000,000 and as a result many adjustment plans have been considered but no decisions have yet been rendered. The cause for this heavy indebtedness is due simply to the poverty of the farmers. There is not only no immediate relief in sight, but interests on present debts as well as new loans issued are augmenting the gravity of the problem.

Plans considered for relieving this distress by the Ministry of Agriculture and Forestry call for the establishment of a Central Bank for Debt Readjustment and for soliciting the assistance of the Deposits Bureau of the Finance Ministry to advance ¥500,000,000 at low interest to this bank and to the Hypothec Bank which in their turn would make loans to the farmers with a view towards readjusting their high interest debts. According to the report of the Ministry of Agriculture and Forestry for 1932 it is estimated that of the total agrarian indebtedness of ¥4,717,000 about 53% was secured and the balance unsecured in that year.

Rice Control.—As may be gathered from the tables so far given the importance of rice in the agriculture of the country is paramount. More than half of the entire arable lands under rice and more than half of the value of farm products are represented by rice. The majority of the farming population are engaged either exclusively or incidentally in rice cultivation, so that fluctuations of rice price have an important bearing upon the purchasing power of the farming community. The paramount importance of the cereal therefore concerns not only the farming population but the labouring classes in general and townspeople as well since it constitutes a major diet for the nation.

The Rice Law enacted in 1921 has been thrice revised. As a result, in 1933 the Rice Control Law was enacted. It provides for (1) regulation of the market price of rice, (2) official fixation of the highest and lowest price of rice, (3) unlimited purchase of the cereal at the lowest price and selling at the highest, (4) regulation of Formosan and Korean rice, (5), millet, kaoliang and sorghum being subject to restriction of import, increase or decrease of the import duties or exemption therefrom.

For keeping the rice purchased State godowns have been erected at principal centers of distribution.

This rice control policy on the part of the Government has, of course, had far-reaching effects, though the price of rice is affected by the amount of harvest and conditions of commodity markets in general.

Since 1932 the price of rice has taken an upward course, rising from ¥18.46 per koku in 1931 to ¥24.90 in 1934 and to ¥30.70 in 1936. In the spring of 1938 it hovered between ¥33 and ¥34, this advance in quotation being ascribed greatly to the affects of the Sino-Japanese hostilities.

Table 47. Economic Conditions of Average Farming Families

	Households investigated	Members per family	Area per family (Tan) Paddy & upland	Area per family (Tan) Others	Per year Income*	Per year Outgoes	Per year Balance	Families in debt
1922	100	6.9	16.3	8.8	¥1,612	¥1,606	¥ 7	45
1927	181	7.2	16.9	7.2	2,402	2,300	102	67
1931	277	6.38	12.4	2.7	916	926	− 7	150
1932	282	6.35	12.5	2.7	1,015	949	65	82
1933	284	6.43	12.7	2.7	1,156	1,036	120	59
1934	287	6.51	12.8	2.7	1,195	1,100	95	93
1935	288	6.52	12.8	2.5	1,335	1,202	133	68

Note: * Inclusive of other than agricultural income.

IRRIGATION AND DRAINAGE

According to an official investigation made in May, 1924 of the paddy fields with an area of 3,028,000 'cho' under irrigation, 26% of the area represents and abundant supply of water, 55% a suitable supply and 19% an insufficient supply. The insufficiency of water supply covers a large area in the Hokkaido and five prefectures amounting each to over 20,000 'cho', followed by eight other prefectures, in each of which the area under insufficient irrigation reaches over 15,000 'cho'.

As for drainage, inadequate drainage at ordinary times represents 19 per cent of the area of paddy fields. The Hokkaido and twenty prefectures have each an area of over 10,000 'cho' of inadequate drainage.

Table 48. Improvement of Irrigation and Drainage and State Aids

Year	No. of Tracts: Improved irrigation	Improved drainage	Improved irrigation & drainage	Total	Area (Cho)	Expenses (Yen)	Subsidies (Yen)
1924	3	6	4	13	18,663	5,158,990	2,687,208
1925	8	14	5	27	42,422	10,978,105	6,131,500
1926	18	20	7	45	59,385	15,881,061	8,582,978
1927	28	28	9	65	88,746	23,528,715	12,406,805
1928	36	39	11	86	124,275	32,816,561	17,050,728
1929	46	51	13	110	159,571	43,584,693	22,434,794
1930	62	68	18	148	181,487	50,528,433	25,858,664
1931	78	73	24	175	206,849	59,578,569	30,431,717
1932	84	75	28	187	212,750	62,091,241	31,688,068
*1933	143	97	41	281	305,514	76,496,541	36,324,453
*1934	185	117	47	349	377,020	84,019,655	40,445,985
*1935	225	127	53	405	469,998	92,627,918	44,914,708
*1936	174	107	49	330	345,888	99,272,718	50,278,756
*1937	193	116	49	358	371,253	103,381,718	52,333,256

Note: * Inclusive of the temporary irrigation relief works.

Table 49. Farm Adjustment (1936)
(In Cho; Cho=2.45 Acres)

	Before adjustment	After adjustment	Increase or decrease	%
Total area	1,149,304	1,211,217	+ 61,913	+ 5.4
Paddy	711,140	887,119	+175,979	+24.7
Upland	186,586	171,998	− 14,588	− 7.1
Forest, Waste land, sundries, etc.	124,304	34,385	− 89,919	−72.3
Ponds, marshes, lakes, etc.	17,016	6,028	− 10,988	−64.6
Building lots, cemeteries, ribs, etc.	45,592	19,474	− 26,118	−57.3
Roads, drains irrigation ponds, etc.	64,666	92,213	+ 27,547	+42.6

FERTILIZERS

The demand for commercial fertilizers has risen steadily since 1932, and in 1936 the total value of consumption was given as ¥276,701,000 as contrasted with ¥185,318,000 in 1932. The consumption of self-supplied manure, including compost, green manure and night soil has also expanded and in 1936 its total value was ¥355,360,000.

Table 50. Consumption of Self-supplied Manure
(000's omitted)

	Compost (1,000 M. tons)	Compost (¥1,000)	Green manure (1,000 M. tons)	Green manure (¥1,000)	Night soil (1,000 M. tons)	Night soil (¥1,000)	Total incl. others (1,000 M. tons)	Total incl. others (¥1,000)
1929	22,820	143,390	6,219	34,230	16,308	77,240	53,730	334,250
1930	23,506	122,690	6,133	29,130	16,236	61,830	54,817	282,470
1931	25,312	113,510	6,301	25,810	16,164	51,510	59,407	251,280
1932	26,931	121,780	6,514	25,720	16,012	51,500	58,930	260,270
1933	29,631	144,200	6,854	26,630	15,673	53,680	61,759	297,900
1934	31,719	148,040	6,287	24,320	16,196	56,020	63,806	299,920
1935	34,115	166,490	7,257	28,090	16,602	56,850	67,454	328,560
1936	35,337	187,080	5,778	24,890	15,914	56,640	66,800	355,560

References:
Table Nos.: 1-5 a, 6 b, 7-14 a, 15-16(A) c, 17-26 a, 27-29 d, 30-31 e, 32 f, 33-36 a, 37 f, 38-41 a, 42 d, 43-50 a.
Key: a—Department of Agriculture & Forestry.
b—League of Natoins' Statistics.
c—Agricultural Year Book.
d—Department of Finance.
e—Taiwan Government General Report.
f—International Year Book of Agricultural Statistics.

CHAPTER XXVII

SERICULTURE

INTRODUCTORY REMARKS

Japan is the largest silk producing country in the world accounting for about 82% of total world output. The value of raw silk made up 15.2% of the total value of Japanese agricultural products in 1936, and 33% of the agrarian households is connected with this industry either fully or partially during the year.

Raw silk has long been Japan's greatest export product. Until 1929 it accounted for over 36% in the value of the entire exports of Japan. While this percentage has rapidly fallen, declining to 12.8% in 1937, the absolute quantity of exports has shown only a small contraction. Since 1934 cotton tissues have supplanted raw silk as the largest item of export.

The phenomenal growth of the sericultural industry in the last 50 years has been due chiefly to the existence of a strong foreign demand. From 75 to 85 per cent of the total output of raw silk is annually exported abroad. In 1937 this ratio was 69%. The export of silk manufactures, which is not included here, amounts in value to about one-fifth that of raw silk sales abroad.

Sericulture may be conveniently divided into two main branches, that of cocooning, or the rearing of silkworms, and reeling, or the drawing of silk from the cocoons. Other branches include the growing of mulberry trees, the breeding of silkworms as distinguished from its rearing, and the transacting of cocoons and the exporting of raw silk.

Climatic Characteristics

The cultivation of the mulberry trees and the rearing of silk worms are technically possible in all parts of the world. Economically and practically, however, the industry is limited to the land with high temperature and humidity and with cheap skilled labour. It cannot be profitably carried on unless a large crop of mulberry leaves is obtainable more than once a year. This can be expected only of the places marked by a long spell of humid and warm weather.

The eastern and southern parts of Asia are, therefore, most suited for the industry. On the other hand, sericulture involves various complicated forms of work and so requires no small amount of labour. Here again, the districts of East and South Asia are best suited for the industry, because they are not only characterized by the thick density of population but by small-scale farming. These conditions necessary for the production of raw silk makes an interesting contrast to the aridity of climate and large-scale farming which are necessary for the production of wool.

The major silk producing coutries are Japan, China, French Indo-China and British India, which belong to the monsoon zone in East and South Asia. They are followed by the Po basin of Italy and the Rhone tributaries of France. But, in these two countries the industry can be carried on only once a year owing to climatic conditions.

Characteristics of Japanese Raw Silk.—Japanese raw silk is characterized by its lustre and little wear in glossing. The filament from the best cocoons measures from 2,000 to 2,500 "shaku" in length and weighs from 0.07 to 0.08 "momme" (1 'shaku, is about 1 foot and 1 'mommme' 3.75 grammes). Much improvement has of late been effected in fineness and uniformity.

COCOONING

Area.—The area under mulberry trees shows a gradual decline in recent years. In 1930, the peak year, the area under its cultivation exceed 714,000 cho which represented 9 per cent of the cultivated area for the entire agricultural industry for that year. By 1933 it was down to 640,000 cho and in 1937 to 511,000 cho.

Cocooneries.—The number of cocoon-raising households in Japan, which stood at 1,670,000 in 1915, gradually increased until it exceeded 2,217,000 in 1929, which bore a percentage of 40 to the whole number of agricultural families. In the ensuing depression, which caused a slump in the price of cocoons the number of cocooneries also fell and in 1937 it was down to 1,815,000.

The average yield of cocoons per cocoonery (for spring, summer and autumn cocoons) in 1936 was 44,628 momme as compared with 11,933 momme in 1905.

Cocoon Production.—The output of cocoons has multiplied eight and one-half holds in the last 50 years. The index number for cocoon production (based on the average production for the 5 years 1885-1889) rose for the quinquennial period 1930-34 to 866, representing 96,277,934 kwan.

Cocoon Production Cost.—The cost of cocoon production was down in 1935 to one-third of what it was ten year previous. Mulberry leaves account for 50 per cent of total production expenditures, that for labour 30 per cent. About 40 per cent of the cost of the mulberry leaves is represented by fertilizer expenditures and as a result production cost as a whole is greatly influenced by the fluctuations of this item. Between 1925 and 1934 the cocooning business proved profitable to the farming households for only four years, i.e. in 1923, 1925, 1929 and 1933.

Cross Breed.—The Imperial Sericultural Experimental Station has come to the conclusion after many years of experiments that the crossed silk worm aggs between Japanese, Chinese and European breeds of the first generation are the best for the purpose for which they are intended. The Station now prepares and distributes them free to local institutions either prefectural or otherwise, which in turn carry on reproduction and distribution for the benefit of private reproducers.

The Imperial Sericultural Experimental Station.—This is a Government institute for conducting scientific researches and investigations on all problems relative to the sericultural industry and also holding lectures and classes to train experts and filature hands. The Station is situated at Nakano, Tokyo, with branches at Ayabe, Mayebashi, Fukushima, Matsumoto, Ichinomiya and Kumamoto, all local centres of the industry.

Table 1. Output of Cocoons in Japan Proper Compared With Other Countries

(In Metric tons)

	1930	1931	1932	1933	1934	1935
Japan Proper	399,240	364,020	335,813	379,375	326,775	307,746
Chosen (Korea)	17,698	18,432	18,904	21,293	23,433	22,651
France	1,827	997	987	942	975	657
Italy	52,743	34,459	8,246	34,387	28,857	17,354
U.S.S.R.	18,565	20,000	10,200	14,400	15,200	18,335
China	96,858	82,085	47,324	54,234	37,612	55,892

Table 2. Output of Cocoons, Etc. in Japan Proper

Crops by Seasons		No. of cocoon raising families (1,000)	Egg cards hatched (k. g.)	Output (1,000 kwan) Normal	Duplon	Waste	Total	Total value (¥1,000)
Spring Crops ..	1927	1,848	† 7,470,024	41,214	3,367	1,647	46,229	307,987
	1932	1,901	77,898	42,352	2,192	1,848	46,391	111,898
	1933	1,918	81,198	46,072	2,048	1,899	50,019	298,404
	1934	1,867	77,463	44,625	1,957	1,809	48,390	117,340
	1935	1,750	69,389	40,596	1,842	1,737	44,176	161,952
	1936	1,694	65,053	37,684	1,908	1,801	41,392	199,968
	1937	1,677	66,296	41,589	1,990	1,927	45,504	252,566
Summer-Autumn Crops	1927	1,950	†10,959,405	37,275	4,948	2,411	44,634	188,945
	1932	1,922	88,913	36,922	4,027	2,210	43,159	184,893
	1933	1,982	100,002	44,416	4,246	2,482	51,145	201,725
	1934	1,811	83,366	33,477	3,115	2,158	38,749	86,531
	1935	1,770	81,788	32,772	2,885	2,234	37,891	188,908
	1936	1,754	80,599	36,309	2,877	2,313	41,500	186,673
	1937	1,696	77,142	35,526	2,652	2,290	40,468	167,040
Combined Total Crops	1927	2,104	†18,429,429	78,489	8,316	4,058	90,863	496,933
	1932	2,065	166,812	79,274	6,219	4,058	89,550	296,791
	1933	2,092	181,201	90,489	6,294	4,381	101,164	500,129
	1934	1,995	160,829	78,101	5,071	3,967	87,140	203,871
	1935	1,895	151,177	73,368	4,727	3,972	82,066	350,860
	1936	1,857	145,652	73,993	4,785	4,115	82,892	386,641
	1937	1,815	143,437	77,112	4,643	4,217	85,972	419,606
	"	"	——	*289,170	*17,411	*15,814	*322,395	——

Note: † Calculated in cards.
* Converted into Metric tons.
Kwan=3.75 kgs.

Table 3. Silk-worm Eggs

	No. of producers	Reproductive silkworm eggs (grams)	Industrial silkworm eggs (grams)	Total (grams)
1932.....	5,616	7,559,683	229,343,617	236,903,300
1933.....	5,344	9,360,693	279,824,902	289,185,595
1934.....	4,924	9,369,795	279,570,835	288,940,630
1935.....	4,342	8,616,091	247,906,168	256,522,259
1936.....	3,827	7,235,694	206,655,524	213,891,218

Table 4. Mulberry Plantations

(Cho=0.9917 hectare)

	No. of farming families	Area (1,000 cho)	No. of mulberry saplings (1,000)	Value of mulberry saplings (¥1,000)
1927..	231,195	595	823,759	10,130
1932..	104,370	653	244,757	1,446
1933..	101,549	640	227,799	3,165
1934..	107,839	623	255,610	2,903
1935..	97,579	582	238,179	1,625
1936..	91,487	566	222,877	3,001
1937..	120,484	511	257,643	4,300
" ..	———	*507	———	———

Note: * 1,000 hectares.

Table 5. Number of Basins and Filatures

	Machine-reeling		Hand-reeling		Dupions		Total	
	Filatures	Basins	Filatures	Basins	Filatures	Basins	Filatures	Basins
1931.....	3,687	319,448	53,760	71,925	8,953	27,029	66,400	418,402
1932.....	3,356	277,800	49,454	64,803	7,651	22,814	60,461	365,417
1933.....	3,218	267,836	44,736	57,692	6,443	18,051	54,397	343,579
1934.....	3,013	249,724	42,553	54,834	5,602	16,482	51,168	321,040
1935.....	2,738	235,488	38,456	48,304	4,509	13,865	45,703	297,657
1936.....	2,468	222,247	34,445	45,564	4,978	12,781	41,891	280,682
1937.....	1,892	196,547	37,418	47,681	4,112	11,887	43,422	256,115

Raw Silk Production

The production of raw silk has increased five folds between 1905 and 1935. Total output exceeded the 12 million kan mark in the latter year, but fell off to 11,167,000 kan (41,876 metric tons) in 1937. The machine reeling filatures account for over 90 per cent of total production in recent years as compared to 70 per cent three decades ago. Output from both dupion and hand-reeling filatures has been contracting for some time. The reason for the increase in production by the machine-reeling plants over the other two categories is due to the fact that the product of the former is mainly exported while the latter are primarily intended for the domestic market.

Raw Silk Production Cost.—Production cost of raw silk is divided 70 per cent for the purchasing of cocoons and 30 per cent for the various processing of the cocoons. Of the processing expenditures 30 per cent is represented by labour and the rest by such items as interest on capital, fuel etc. With the spread of modern processing methods it is believed that the percentage of expenditure for labour can be narrowed further.

REELING

Filatures.—In contrast to an almost steady increase in production of raw silk in the last thirty years the number of filatures has been on the decline. Filatures may be divided into three categories, namely, machine-reeling, hand-reeling and dupions. The smaller filatures in each of these categories or those with less than 10 boiling basins are rapidly disappearing. On the other hand the larger filatures are holding their own, and this is particularly so among the machine-reeling and dupion plants.

Raw Silk Financing.—In view of the fact that roughly 70 per cent of production cost is taken over by the purchase of cocoons the enterprise calls for a proportionately large amount of liquid capital to that of fixed capital. With the growth in the scale of production, calling for greater capital requirements, the enterprise has come to rely increasingly on banking institutions for financing in place of the traditional brokers. In recent years from 65 to 75% of raw silk financing has been taken care of by the banks and between 20 and 27% by brokers. Because of the fluuctuations in the price of cocoons between the time they are purchased and sold as raw silk the enterprise continues to have a highly speculative aspect.

DEMAND

The demand for raw silk has expanded steadily over the past five decades, thanks to the heavy foreign orders. As noted elsewhere roughly 70 per cent of the total raw silk output is exported and as a result the demand for this staple commodity is influenced vitally by foreign business conditions. The world-wide economic depression breaking out in 1929 has not been without its repercussions on the raw silk industry, and production for the first time in many years fell in 1932 as compared to the previous year. The value of production in 1937 was ¥527,321,000 as compared with ¥398,369,000 in 1934.

Raw Silk Price.—The price of raw silk in the past two decades has followed in general a downward course. The highest quotations were reached in January, 1920 when a bale of 100 kin on the Yokohama forward market soared to ¥4,440, while the lowest depth was registered in June, 1932 at ¥401. The average quotation for 1937 was ¥800.75, indicating an advance of approximately ¥51 over the average for the preceding year.

The marked decline in the price of raw silk is due partly to the world economic depression and partly to the heavy inroads effected by rayon in the last few years.

Table 6. Raw Silk Output

(Volume in 1,000 kwan; Value in ¥1,000)

	Machine-reeling		Hand-reeling		Dupions		Total (excluding waste)		Waste	
	Volume	Value	Volume	Value	Volume	Value	Volume	Value	Volume	Value
1927.....	8,801	745,718	458	30,079	621	23,001	9,880	798,798	3,733	19,644
1932.....	10,070	427,211	337	11,678	684	15,570	11,091	454,458	3,616	17,867
1933.....	10,296	471,960	310	10,864	637	14,917	11,243	497,741	3,730	19,313
1934.....	11,180	377,873	355	9,448	529	11,049	12,065	398,369	4,014	19,046
1935.....	10,904	477,383	297	10,952	442	11,432	11,643	499,767	3,971	22,498
1936.....	10,523	493,839	313	11,921	451	11,485	11,287	517,244	3,430	21,312
1937.....	10,332	....	372	....	462	....	11,167	527,321	3,234	21,484

Table 7. Monthly Movement of Raw Silk Price on Yokohama Spot Market

(Yen)

(Standard quality: per bale of 100 kin, 132.3 Lbs.)

		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Aver.
1925	High .	2,080	2,130	2,040	1,850	1,860	1,980	1,920	2,020	2,100	2,100	2,040	2,000	2,130
	Low .	2,020	2,040	1,780	1,770	1,790	1,860	1,910	1,910	2,030	2,040	1,930	1,920	1,770
	Aver..	2,053	2,098	1,898	1,814	1,813	1,888	1,913	1,956	2,069	2,078	1,992	1,955	1,957
1930	High .	1,190	1,190	1,180	1,165	1,100	820	750	730	720	630	610	660	1,190
	Low .	1,155	1,140	1,120	1,100	1,100	750	670	690	560	540	560	570	540
	Aver..	1,174	1,169	1,165	1,139	1,100	795	705	708	648	574	581	625	775
1931	High .	760	720	690	650	545	600	610	630	630	560	565	640	760
	Low .	660	655	630	545	510	500	550	550	535	525	535	525	500
	Aver..	708	684	666	597	531	527	585	577	573	548	556	567	583
1932	High .	685	680	655	580	525	510	610	1,110	1,110	920	970	970	1,110
	Low .	650	610	580	500	415	390	500	600	860	850	860	860	390
	Aver..	672	653	618	534	473	463	542	763	937	890	910	922	698
1934	High .	645	675	605	570	540	515	490	490	500	535	590	635	675
	Low .	545	590	540	510	495	465	452.5	450	445	490	515	580	445
	Aver..	583	643	570	538	523	494	474	463	465	510	550	598	537
1935	High .	660	645	610	635	635	605	695	835	895	1,005	990	905	1,005
	Low .	620	595	575	580	590	575	590	675	785	835	860	830	575
	Aver..	634	617	597	607	614	592	632	754	830	912	931	874	713
1936	High .	920	820	815	815	755	725	765	800	755	815	925	910	925
	Low .	810	685	705	710	645	625	695	740	705	745	785	847	625
	Aver..	858	764	749	746	691	681	738	771	734	771	863	871	778
1937	High .	955	910	955	910	838	860	908	860	855	793	770	710	955
	Low .	885	865	860	825	798	790	835	818	790	735	665	663	663
	Aver..	916	883	908	878	819	800	880	842	828	770	721	685	828

EXPORT

Among countries buying Japanese raw silk the United States ranks first by a wide margin. Of the total exports she alone purchased 96.4 per cent in 1931. In that year Europe accounted for 3.5 per cent and the rest of the world for 1.3 per cent. As business conditions turned to the worse in the United States the ratio of her purchases of raw silk fell from 93.7 per cent in 1932 to 83.7 per cent in 1934 and to 79.8 per cent in 1937. Total exports in 1937 were valued at ¥407,117,000, an increase of ¥15,000,000 over the previous year.

Export Centres of Silk.—The disaster that befell Yokohama in 1923 and the temporary crippling of its operation as the sole export centre of silk in Japan had the result of partly realizing the long cherished wish of Kobe merchants and silk reelers in the adjoining districts to export this staple article of Japan on the two-port policy. Yokohama, however, continues to be the leading exporter of raw silk. In 1937 silk shipments from Yokohama were 361,628 bales as against 114,732 bales from Kobe.

Conditioned Weight in Raw Silk.—The long standing custom of handling raw silk in non-conditioned weight, containing a slight moisture, has been superseded by an improved practise obtaining in Europe and America where transaction is made on the non-moisture weight system plus 11 per cent of moisture. The defective state of the conditioning machinery in Japan stood in the way of adopting the system as suggested by American silk people. On the completion of the newly equipped Silk Conditioning House in Yokohama the Government enacted the Law for Conditioning Raw Silk for Export. It provides that raw silk should not be shipped abroad without passing the examination of the Conditioning House, and that transactions should be done only in conditioned-weight. The law came into operation in 1927, the two conditioning houses in Yokohama and Kobe being placed under it.

Sericultural Policy

The world economic depression was an important factor in bringing about government intermediation in controlling the sericultural industry. Attempts started since 1911 to build up a better coordination in the industry proved hard of realization due to the wide and varied phases of the business, and while the Raw Silk Industry Law was promulgated in that year it took another 20 years before a more effective control machine was established in the form of the Raw Silk Industry Association Law in 1931. The Law divides the industry into six branches and provides for the formation of an association in each prefecture, and the organization of the local association into a single federation for each separate branch. The federations thus created are at present as follows:—

The Federation of Cocoon Producers' Association
The Federation of Societies Producing Silkworm Eggs
The Co-operative Filatures' Association of Japan
The Filature's Association of Japan
The Raw Silk Traders' Giuld
The Raw Silk Exporters' Association

The semi-official nature of the above organizations was stated to deprive them of certain effectiveness and as a result reelers and exporters established a body which is known as the Japan Raw Silk Association, the duty of which is to fill in the inadequacies of the semi-official organs. It will take more coordination, however, before the varied and far-reaching phases of the various branches of the sericultural industry can be made to function smoothly, but the greatest impetus towards its recovery no doubt hinges on business conditions in the United States.

Raw Silk Price Stabilization Law.—The Raw Silk Price Stabilization Law, which was promulgated in April 1937 following its adoption by the last Diet, went into force on July 28, 1937. Simultaneously, a Raw Silk Stabilization Commission was established and its membership was announced. All measures concerning the workings of the law will be submitted to this commission by the Minister of Agriculture and Forestry. Silk price stabilization will be sought by the Minister on the advice of the commission.

The regulation puts the commission under supervision of the Agriculture and Forestry Minister. It will investigate important matters concerning enforcement of the raw silk price stabilization law at the request of the Minister. The commission consists of a chairman, who will be the Minister, and not more than 25 members, who shall be Government officials and men closely interested in raw silk industry and trading. A special committee can be organized to decide on special matters. Members of the commission are appointed by the Cabinet at the recommendation of the Minister. Their term of service is three years.

Table 8. Arrivals of Silk Yarn (In Bales)

		Stock at Beginning of year	Receipts	Sales for Exports	Sales for Domestic Consumption
(a)	Yokohama:				
	1931	101,380	412,163	379,593	24,462
	1932	109,482	361,155	432,010	28,793
	1933	18,834	367,900	337,764	27,983
	1934	20,987	380,175	345,340	36,683
	1935	19,139	402,820	373,841	26,896
	1936	17,765	368,238	345,784	28,703
	1937	16,076	389,291	361,994	23,179
	1937 (Jan.–June).	* 8,346	157,565	152,319	12,736
	1938 (" ").	*13,941	159,075	145,256	17,330
	Note: Stock at beginning of June.				
(b)	Kobe:				
	1931	36,111	198,879	186,103	7,889
	1932	40,997	179,864	198,002	13,876
	1933	8,983	171,957	157,213	9,922
	1934	13,805	179,715	175,720	5,531
	1935	12,269	166,031	156,217	10,905
	1936	8,837	145,528	134,600	15,742
	1937	6,542	138,670	123,596	14,219
	1937 (Jan.–June).	*3,428	61,801	46,330	8,703
	1938 (" ").	*6,024	62,323	56,135	7,162
	Note: Stock at beginning of June.				

Table 9. Raw Silk Export

(In Bales)

		U.S.A.	Europe	Others	Total	Value (¥1,000)
(a)	Yokohama:					
	1933	305,695	28,661	4,220	338,576	274,883
	1934	307,504	42,042	20,276	358,822	204,834
	1935	344,609	47,942	15,663	408,214	284,421
	1936	330,358	43,079	11,085	384,522	297,145
	1937	301,475	48,098	12,055	361,628	307,972
	1931 (Jan.–June).....	136,901	15,531	3,883	156,315	138,073
	1938 (" ").....	128,490	22,401	3,632	154,523	113,348
(b)	Kobe:					
	1933	131,929	13,454	1,070	146,453	116,306
	1934	126,235	19,942	1,891	148,068	82,247
	1935	122,537	17,709	6,340	146,586	103,319
	1936	97,851	16,498	6,679	212,028	96,317
	1937	78,694	20,815	15,223	114,732	100,302
	1937 (Jan.–June).....	42,759	7,730	3,649	54,138	48,736
	1938 (" ").....	33,391	10,617	4,583	48,621	37,617

References:

Table Nos.: 1 a, 2 b, 3 a, 4-6 b, 7-8 c, 9 d.
Key: a—Cocoon Statistics, by Department of Agricultural & Forestry.
b—Annual Statistics of Department of Agricultural & Forestry.
c—Research of the Oriental Economist.
d—Annual Return of Foreign Trade, Department of Finance.

CHAPTER XXVIII

FORESTRY

INTRODUCTORY REMARKS

More than half of the area of Japan proper is occupied by forests. Although the country abounds in forests, its mountainous character so much impedes the felling of trees that it is often found convenient and economical to import lumber from America and Canada. Chosen and Taiwan also are rich in trees, in the former forests occupying 42% of the entire area and in the latter 58%. As in the case of Japan proper, however, forests of both territories lie in such places as to throw considerable difficulties in the way of cutting down trees and marketing timber. Contrary to these two territories, the Japanese section of Saghalien, (Karafuto) supplies a considerable amount of timber. Forests in Japan may be broadly divided into four zones.

Tropical Zones.—This zone covers the plains of Taiwan, the Ogasawara (Bonin) islands and the southern half of Okinawa (Luchu) with a mean temperature of about 21° C. The representative trees of this zone are "ako" (Ficus Wightiana, var, japonica), "takonoki" (a species of Pandanus), etc. Bamboos attain a perfect growth in this zone.

Sub-tropical Zone.—Forests in this zone are found in the northern half of Okinawa, the high lands of Taiwan, Shikoku, Kyushu, and the southern half of Honshu as far as latitude 35° N., the mean temperature ranging from 13° to 21° C. The representative trees in the zone may be divided into broad-leafed deciduous trees. In the first group there are "kusu" or camphor trees (Cinnamonum camphora), "kashi" (Quercus acuta) and "shi-i" (Passania cuspidata), in the second group several species of pines, and in the last group "kunugi" (Quercus serrata), "konara" (Q. glandulifera Bl.) etc.

Temperate Zone.—The forests in this zone extend over the northern part of Honshu and as far as the south-western section of the Hokkaido corresponding to 43½° N., the mean temperature ranging from 6 to 13° C. The forests in this zone are economically the most important in Japan and are generally found in the mountain ranges that divide the Main Island, the Inner Japan section on the Japan Sea and the Outer Japan section on the Pacific. Valuable among the conifers are "sugi" (Cryptomeria japonica), "hinoki" (Chamaecyparis obtusa), "sawara" (Chamaecyparis pisifera), "hiba" (Thujopsis dolabrata), "tsuga" (Tsuga Sieboldi Carr), "momi" (Abies firma), several species of pine, etc. As deciduous trees of value there are "keyaki" (Zelkova), "buna" (Fagus sylvetica var. Sieboldi), "katsura" (cercidiphylum japonicum), several species of Quercus, chestnut trees, maples, fig-trees, magnolia, etc.

Frigid Zone.—Forests found at an elevation of 4,000 or 5,000 feet (above sea level) in Honshu, the north-eastern part of the Hokkaido, Karafuto and Chishima (Kuriles) form the frigid forests. The principal trees are "shirabe" (Abies Veitchii), "todomatsu" (Abies Sachalinensis), "ezomatsu" (Picea ajaensis), "shikotanmatsu" (Larix Kurilensis, chiefly in Karafuto), and lastly "hai-matsu" (Pinus pumila) or creeping-pines that grow on the summits of high mountains in Honshu.

AREA OF FORESTS

The area of woodlands in Japan proper has, on the whole, yearly increased.

Table 1. Japan's Position in Area of Forests

(In Million Hectares)

Country	Year	Forest Area	Index No.	% to Total Area
Japan	1933	35.3	100	50
Proper	"	20.6		58
Chosen	"	10.9		49
Taiwan	"	1.9		52
Karafuto	"	1.9		44
Manchoukuo ..	1932	35.6	101	..
U.S.S.R.	1933	633.7	1,810	30
Canada	1935	299.0	854	33
U.S.A.	1930	243.0	694	32
D.E.I.	1931	124.2	354	65
Finland	1935	20.1	57	58
Germany	1927	12.7	36	27
France	1934	10.4	30	19

Table 2. Area of Forests (000's omitted)

	Under conifers		Under broad-leafed trees		Under mixed trees		Under Bamboo		Under miscellaneous trees		Total		Without trees	
	Cho	Hec.	Cho	Hec.	Cho	Hec.	Cho	Hec.	Cho	Hec.	Cho	Hec.	Cho	Hec.
1918.....	4,050	4,016	6,940	6,883	7,326	7,263	130	129	335	332	18,783	18,628	3,509	3,480
1921.....	4,354	4,317	7,472	7,414	6,267	6,215	121	120	391	388	18,605	18,452	3,437	3,409
1924.....	4,793	4,753	7,899	7,834	6,332	6,281	127	126	401	397	19,553	19,390	3,662	3,632
1927.....	4,728	4,688	8,129	8,063	6,186	6,136	133	131	502	497	19,680	19,514	3,223	3,196
1930.....	4,671	4,632	8,540	8,470	6,199	6,149	137	136	496	490	20,045	19,879	3,158	3,132
1933.....	5,466	5,421	9,162	9,255	5,500	5,556	150	152	470	475	20,747	20,957	3,095	3,126
1936.....	5,659	5,612	9,008	8,993	5,759	5,711	153	151	458	455	21,036	20,862	3,151	3,124

The area of forests in Japan proper in recent years specified by ownership is given in the following table:—

Table 3. Area of Forests By Ownership

	Crown forests		State forests		Public forests		Temple forests		Private forests		Total	
	Hec.	Cho	Hec.	Cho	Hec.	Cho	Hec.	Cho	Hec.	Cho	Hec.	Cho
1918....	1,380	1,392	7,617	7,681	4,242	4,278	125	126	8,744	8,817	22,109	22,293
1921....	1,409	1,421	7,217	7,277	4,084	4,118	129	130	9,021	9,096	21,860	22,043
1924....	1,365	1,376	7,691	7,755	4,293	4,329	131	132	9,544	9,623	63,023	23,215
1927....	1,350	1,361	7,700	7,764	4,247	4,283	130	131	9,286	9,363	22,723	22,903
1930....	1,433	1,445	7,638	7,702	4,186	4,221	141	143	9,613	9,693	23,011	23,203
1933....	1,415	1,426	7,658	7,721	4,280	4,323	144	145	10,125	10,227	23,605	23,843
1936....	1,369	1,380	7,649	7,713	4,408	4,445	152	153	10,409	10,496	25,972	24,186

Table 4. Protection Forests By Purposes

		Against denudation of soil	Against winds	For headwaters of rivers	For attracting fish	For scenery	Total incl. others
1928..	Number	212,379	13,805	76,347	24,429	9,817	381,313
	Area (hectare)..	851,331	48,773	871,569	45,757	30,416	1,887,003
1933..	Number	236,910	13,736	72,138	25,853	11,091	405,145
	Area (hectare)..	903,845	65,828	979,270	47,910	34,289	2,074,886
1934..	Number	247,873	13,940	71,133	25,867	11,125	415,885
	Area (hectare)..	909,732	70,135	980,889	47,879	34,469	2,085,746
1935..	Number	256,637	14,410	67,559	25,904	11,084	422,321
	Area (hectare)..	917,111	76,581	986,357	50,834	36,405	2,105,016
1936..	Number	265,965	14,892	67,092	25,893	11,040	433,180
	Area (hectare)..	925,447	71,687	989,782	50,736	36,854	2,117,787

Percentage Forests.—These are state forests left under the care of adjoining villages or towns which are allowed in return a certain percentage of the produce. They are being gradually converted into communal forests. Their number and area in the last few years were as follows.

Table 5. Number and Area of Percentage Forests*

Year	No.	Area (Hectares)	Area (Cho)
1931.....	15,046	45,468	45,847
1932.....	14,344	45,280	45,658
1933.....	13,638	44,558	44,929
1934.....	13,034	43,864	44,229
1935.....	12,232	42,336	42,689

Note: * Percentage Forests: These are the State forests left under the care of adjoining villages or towns which are allowed in return a certain percentage of the produce. They are being gradually converted into communal forests.

Important Forests

Of important forests in Japan proper those of natural or artificial origin are as follows, to mention only a few that are specially valuable.

Forests Artificially Planted.—Forests in Yoshino covering an area of about 82,000 cho or 200,900 acres are well known for their splendid stock of "sugi" (Cryptomeria japonica) and "hinoki" (Chamaecyparis obtusa) yielding annually about ¥6,500,000 worth of timber valued for building and making casks of sake. Forests next in importance are the planted area along the river Tenryu, covering an area of 543,000 cho, timber trees grown being chiefly "sugi" and "hinoki." The annual yield is estimated at ¥1,500,000. Bamboo groves near Kyoto are known as the most valuable in Japan, yielding yearly about two million yen worth of products of diverse utilities.

Forests Naturally Grown.—The Crown forests

of Kiso covering over 100,000 cho or 245,000 acres and with the growing stock of 6.6 million koku or about 66,000,000 cubic ft. (1 koku is about 10 cubic ft.) stand first on the list of valuable natural forests in Japan. It belonged to the quondam Lord of Owari Province before the Restoration and the five species "hiba" (Thujopsis dolabrata), "sawara" (Chamaecyparis obtusa), "nezuko" (Thuja japonica), and "koyamaki" (Schiadopitys verticillata) were jealously preserved as protected trees. Of those five species "hinoki" is the most important in volume and value.

The State forests of "hiba" in Aomori cover some 190,000 cho and in sylvan grandeur are only equalled by the other well known pure forests of "sugi" in Akita also belonging to the State. The "sugi" zone extends along the banks of the rivers Noshiro and Omono and measures 43,000 cho in area. The aforementioned are regarded as the most valuable natural forests in Japan. Others that are worthy of notice are the State "sugi" forests in Tosa about 30,000 cho, deciduous-leafed forests around Lake Towada famous for their splendid scenery, mixed forests in the Japanese Alps region and in the southern part of Kyushu, the "sugi" forests on Yakushima Island of the Osumi archipelago, Kyushu. The Hokkaido supplies about 30 million koku or about 300 million cubic ft. of timber from its coniferous deciduous and mixed forests.

Adjustment of State Forests

The programme for adjusting State forests aims at, as ordained by law in 1899, determining out of the forests and plains belonging to the State, those that are to be preserved for the benefit of public order and for conducting economic plan. The Forests Fund Special Account System that was in force from 1899 to 1921 laid the adjustment plan on firm basis. Thanks to that system the Government could complete with the fund realized on the sale of unnecessary State forests and plains the work of surveying, delimitation, afforestation of blank spaces. Experiment and working expenses have been met out of the regular budget.

According to the working plan adopted for adjustment and utilization, 416,000 cho of State forests and plains of Japan proper is to be set apart as necessary and 170,000 cho for disposal as superfluous area. The definite plan of utilization has been arranged for over four million cho consisting of 3,690,000 cho of wooded forests and plains and 390,000 cho to be reserved from various considerations. The wooded surface is estimated to hold growing stock amounting to 28% and deciduous trees 72%. The stock per cho or 25 acres works out at 344 koku. At present the annual cutting area is about 40,900 cho with the conversion volume of 19,340,000 koku. With the exploitation of the area left unutilized and the growth of the artifically regenerated space representing 653,000 cho, the conversion volume is expected to make a far better showing.

River Control and Afforestation

Of the communal forests those belonging to villages are generally left in utter neglect. With the object of renovating and utilizing the barren area, the Government elaborated in 1912 for the communal forests and plains the river control work spread over 23 years, it being intended to plant bare spaces of 350,000 cho and to adjust the communal land for best economic purposes. Small aid is granted for encouraging the work. Then the Government is also promoting the planting work of about 330,000 cho of blank area belonging to the communal bodies, the work to be completed in 19 years beginning 1920. The contract arranged between the Government and the communities concerned is that the latter is to offer the land and undertake some slight work of control and protection, while the Government attends to planting, cutting and other necessary business at its own expense. The profit realized is to be shared equally by the contracting parties.

Table 6. Natural Afforestation Area By Ownership

(Hectares)

	Crown	State*	Communal	Temple	Private	Total
1932	12,135	57,005	39,540	932	128,154	237,933
1933	9,515	59,346	40,714	1,089	129,660	249,230
1934	5,661	80,482	37,503	960	146,622	271,089
1935	6,440	66,932	37,184	1,123	126,390	238,055
1936	8,364	72,716	40,114	924	128,700	250,859
" (in cho)....	8,434	73,322	40,448	932	129,773	252,909

Note: * Year Ending March 31, following year.

Table 7. Planting of Seedling for Afforestation

		Crown	State	Communal*	Communal	Temple	Private	Total
1932	No. of seedlings (1,000)....	16,633	29,353	56,577	57,080	1,569	177,126	338,338
	Area (hectares)	5,010	11,548	20,635	18,338	513	54,634	110,680
	Area (Cho)	5,052	11,646	20,807	18,491	517	55,089	111,602
1933	No. of seedlings (1,000)....	17,409	35,660	56,146	54,190	2,090	181,316	346,813
	Area (hectares)	5,103	14,383	20,628	18,149	563	54,717	113,543
	Area (Cho)	5,156	14,503	20,800	18,333	568	55,270	114,630
1934	No. of seedlings (1,000)....	16,173	37,885	30,409	58,658	1,538	195,903	340,567
	Area (hectares)	5,400	15,227	11,021	18,951	497	60,452	111,501
	Area (Cho)	5,454	15,354	11,113	19,142	502	61,062	112,627
1935	No. of seedlings (1,000)....	15,456	35,829	19,617	55,664	1,364	200,091	328,021
	Area (hectares)	5,410	14,077	7,089	18,892	484	62,869	108,818
	Area (Cho)	5,455	14,194	7,148	19,050	488	63,395	109,729
1936	No. of seedlings (1,000)....	14,858	44,998	31,530	54,648	1,689	208,628	356,351
	Area (hectares)	5,059	16,688	11,556	18,827	556	65,800	118,486
	Area (Cho)	5,101	16,827	11,652	18,984	561	66,348	119,473

Note: * Public forests where afforestation was carried out by the State.

The amount of forestry output for the past few years is appended.

Table 8. Forestry Output

(000's omitted)

	Timber (Cubic meters)	Timber (Koku)	Timber (Yen)	Fagots* ("Tana")	Fagots* (Yen)	Bamboo (Bundles)	Bamboo (Yen)	Total value (Yen)
1922.....	12,381	44,499	175,269	22,280	91,684	5,186	7,665	274,618
1927.....	13,001	46,724	116,343	18,135	76,572	5,352	5,815	198,730
1932.....	14,254	51,223	67,382	18,397	43,474	5,192	2,697	113,559
1933.....	15,665	56,296	88,687	19,031	47,394	5,173	2,598	138,677
1934.....	17,895	64,372	112,749	19,929	51,789	5,419	2,581	167,119
1935.....	18,270	65,650	113,869	20,270	52,366	5,399	2,527	168,761
1936.....	20,073	72,138	136,932	19,740	55,635	5,663	2,754	195,321

Note: * "Tana"=32.3 cubic metres.

Table 9. Output By Ownership of Forests

(¥1,000)

		Crown	State*	Communal	Temple	Private	Total
1932	Timber	5,079	10,313	3,783	266	47,946	67,388
	Fagots	390	2,681	4,249	273	35,971	43,474
	Bamboo	1	5	82	29	2,580	2,697
1933	Timber	8,972	13,555	4,877	387	60,896	88,687
	Fagots	442	3,183	4,584	259	38,926	47,394
	Bamboo	1	5	53	24	2,514	2,597
1934	Timber	10,094	17,678	7,899	904	76,173	112,749
	Fagots	493	3,813	5,250	326	41,907	51,789
	Bamboo	1	4	64	29	2,482	2,581
1935	Timber	10,055	16,279	6,367	570	80,598	113,869
	Fagots	479	3,511	5,182	305	42,890	52,366
	Bamboo	1	5	69	25	2,428	2,527
1936	Timber	9,999	21,360	8,053	611	96,910	136,932
	Fagots	555	3,387	5,668	311	45,232	55,153
	Bamboo	1	5	70	26	2,652	2,754

Note: * Year ending March 31, next.

Principal Timbers

Principal timbers produced in Japan for the past few years are given in the following table:—

Table 10. Output of Principal Timber

(Quantity in 1,000 cubic meters: Value in ¥1,000)

	1933		1934		1935		1936	
	Quantity felled	Value	Quantity felled	Value	Quantity felled	Value	Quantity felled	Value
Coniferous:								
Sugi (Cryptomeria japonica)	5,075	36,121	6,028	44,905	6,435	47,167	7,041	57,170
Hinoki (Cryptomeria japonica)	776	9,395	942	10,989	971	11,639	1,736	13,134
Pine	3,177	15,350	4,036	19,618	4,129	19,828	4,491	24,140
Larch	209	688	243	979	238	990	266	1,312
Sawara (Chamaecyparis pisifera)	113	928	115	1,067	158	1,163	125	894
Hiba (Thujopsis dolabrata)	377	1,083	367	1,198	354	1,582	344	1,346
Momi (Fir)	405	1,504	500	2,177	504	2,199	446	2,260
Tsuga (Tsuga Sieboldi)	382	1,168	421	1,526	352	1,446	408	1,440
Ezomatsu, Todomatsu (silver fir)	2,038	7,899	2,046	13,181	1,887	11,661	2,224	14,931
Total including others	12,728	75,009	14,891	96,694	15,514	98,923	16,657	117,793
Broad-leafed:								
Camphor	21	119	24	155	50	251	59	319
Keyaki (Zelkoya serrata)	53	626	48	683	49	668	53	837
Kashi (Quercus acuta)	96	647	104	759	103	692	111	904
Shioji (Ash)	284	1,302	240	1,632	229	1,465	209	2,166
Chestnut	258	1,467	255	1,518	254	1,513	247	1,576
Nara (Quercus glandulifera)	750	3,529	676	3,463	635	2,829	828	5,317
Kashiwa (Quercus dentata)	21	112	43	221	48	179	28	215
Beech	239	406	319	443	308	383	433	535
Kiri (Paulownia)	95	1,958	83	2,016	76	2,056	73	2,199
Total including others	2,910	13,677	3,004	16,056	3,032	14,945	3,415	19,140
Grand total	15,638	88,687	17,895	112,749	18,546	113,869	20,072	136,932

Table 11. Timber Output By Owner of Forests

(a) Quantity (in 1,000 cubic meters)

	Crown	State*	Communal	Temple	Private	Total
1927	1,207	3,661	1,227	34	6,871	13,001
1930	1,039	4,482	1,071	32	6,644	13,269
1931	1,239	4,706	960	30	6,662	13,597
1932	1,357	4,553	1,146	30	7,161	14,247
1933	1,305	4,451	1,143	45	8,713	15,657
1934	1,273	4,341	1,553	139	10,593	17,895
1935	1,404	4,109	1,258	75	11,426	18,269
1936	1,308	4,907	1,416	87	12,333	20,073
(b) Value (in ¥1,000)						
1927	9,017	18,471	7,967	477	80,411	116,343
1930	6,128	12,184	3,736	265	47,844	70,158
1931	5,225	10,597	3,219	256	44,213	63,510
1932	5,079	10,313	3,784	266	47,946	67,388
1933	8,973	13,555	4,877	387	60,896	88,687
1934	10,094	16,678	7,899	904	76,173	112,749
1935	10,055	16,279	6,367	570	80,598	113,869
1936	9,999	21,360	8,053	611	96,910	136,932

Note: * Year ending March 31, Next.

The area and the number of trees newly planted in the past few years together with the number of trees planted by way of replenishment are appended.

Table 12. Number of Trees Newly Planted

		1931	1932	1933	1934	1935	1936
Newly planted:							
Conifers	No. (1,000)	265,887	293,079	297,690	283,670	273,598	303,197
	Area (hectare)	84,404	95,141	96,143	91,635	89,573	100,039
Broad-leafed	No. (1,000)	39,418	39,493	43,022	49,982	54,423	53,153
	Area (hectare)	13,054	13,176	14,865	17,083	19,248	18,446
Total	No. (1,000)	311,048	338,338	346,812	340,567	328,021	356,350
	Area (hectare)	99,613	110,680	113,483	111,501	108,821	118,485
Replenishment:							
Conifers	No. (1,000)	30,162	29,228	28,244	29,232	29,437	29,616
Broad-leafed	No. (1,000)	4,537	5,480	5,805	6,045	5,935	6,128

Table 13. Principal By-Products

	1927 (Yen)	1933 (Yen)	1934 (Yen)	1935 (Yen)	1936 (Yen)
Seeds	89,144	44,259	45,826	47,328	47,716
Fruits	3,103,757	3,623,573	3,277,001	3,637,943	4,297,997
Barks	2,967,718	1,798,159	2,224,754	2,317,412	2,512,932
Bamboo-sheaths	417,642	227,495	255,962	227,463	280,338
Undergrowth	16,281,263	15,575,542	15,617,039	17,051,201	18,432,950
Vines and ferns	155,637	101,268	109,271	115,585	116,410
Galls	85,068	46,835	52,594	65,902	60,421
Raw mushroom	3,900,651	3,518,617	4,207,012	4,547,224	4,394,132
Dried mushroom (Shiitake)	2,587,710	2,897,598	3,602,447	4,282,318	5,504,551
Bamboo-shoots	4,193,896	3,823,981	4,080,081	4,143,188	4,888,931
Rosin	2,001	3,164	2,578	3,905	6,635
Acetic acid lime	110,264	170,293	299,576	223,090	209,279
Charcoal	102,579,659	76,154,605	89,020,068	90,814,783	101,796,857
Total including others	138,050,163	109,437,960	124,288,810	129,083,727	144,347,118

Forestry Finance

When the disbursements are taken into account, the proceeds from forestry must become much less, but this can hardly be known in the case of private forests, as many of their owners do not generally keep an exact account of labor spent and expension incurred. Much more precise calculation is shown for State forests in which the account is necessarily kept with greater strictness. The financial position of State forests for the last few years may be seen from the following table:—

Table 14. Finance of State Forests

(¥1,000)

Year ending March 31:	Forests in Japan (excl. Hokkaido)		Forests in Hokkaido	
	Receipts	Expenses	Receipts	Expenses
1928	35,258	20,336	6,286	3,814
1933	26,408	20,237	4,776	3,119
1934	26,710	20,548	6,633	2,900
1935	28,252	21,073	9,737	3,231
1936	31,453	21,581	11,027	3,244
1937	34,199	23,954	12,522	4,202

DEMAND AND SUPPLY OF TIMBER

Use of Principal Timber Trees.—Of the coniferous trees mentioned above, "ezo-matsu," "todo-matsu," and "momi" are pulpwood, while all the rest are valuable building timbers. The broad-leafed trees are used for industrial purposes, though the Castania is also extensively consumed for railway sleepers. The position of "kiri" or paulownia, one of the lightest and softest woods, is specially important. It is used extensively in cabinet-work, making clogs, etc.

Camphor.—Of the world's consumption of this article put at about 9,000,000 kilogrammes per annum, the bulk is supplied by Japan proper and Taiwan. Sales of manufactured camphor in 1937 amounted to 3,808,000 kilograms valued at ¥7,179,000 in Japan proper. One thing that darkens the future of natural camphor is the appearance of synthetic camphor originated by Schelling Co., of Germany. Camphor trees growing in State and Crown forests in Japan are estimated at 12 million yielding about 210,000 "shakujime" or about 2,520,000 cubic ft. (shakujime is about 12 cubic ft.) of ripe timber, but as these trees are not always found in easily accessible places and their conversion will not pay at the ordinary market rate, the Government has recently been earnestly encouraging the planting of young trees in more convenient places and to convert them after several years' growth. Eight provinces in southern Japan are granted a small aid for planting. The area under camphor trees in Japan proper in 1937 was 1,309 hectares.

Inflow of Foreign Timber.—Up to 1920 Japan's exports of timber exceeded imports but in the following year the trade balance in this items was reversed, and for a few years after the earthquake disaster of 1923 the inflow amounted to over 100 million yen every year. As a measure for the protection of the native produce the customs duties on imported were raised in March, 1929. The bulk of the imports consist of American products including Canadian. The pines occupy the largest proportion, and up to the Sino-Japanese hostilities of 1937 were displacing the native growth as building material, being cheaper by 30 to 70% than the Japanese produce according to the length, though they are regarded as being inferior to the native pines as building timber and less valued by carpenters and architects.

Timber imports in recent years are appended.

Table 15. Japan's Exports and Imports of Timber

(a) Imports

(In ¥1,000)

	From				Kinds					
	U. S. A. and Canada	China	Manchoukuo (incl. Kwantung)	Others	Ebony kwarin, etc.	Teak	Cedar for pencil	Other cedar, pine & fir	Others	Total
1932.....	27,533	*126	—	7,330	579	753	426	29,862	3,410	35,029
1933.....	31,378	91	246	8,870	923	920	204	33,021	5,517	40,584
1934.....	30,436	66	172	9,509	952	758	337	30,127	8,009	40,183
1935.....	36,485	92	208	12,990	967	1,347	364	36,764	10,333	49,775
1936.....	38,402	677	312	16,157	1,081	1,534	329	37,316	15,289	55,548
1937.....	41,594	826	660	21,738	815	2,852	363	41,277	19,511	64,817

Note: * Inclusive of Manchoukuo & Kwantung.

(b) Exports

(In ¥1,000)

	To				Kind					
	United Kingdom	Manchoukuo (incl. Kwantung)	China	Other	Veneer	Shooks	Sawn	Logs & cants	Others	Total
1932.....	2,866	752	3,849	5,349	1,292	3,305	3,574	2,352	806	11,329
1933.....	3,838	3,584	4,951	8,514	2,551	4,506	6,325	3,834	1,422	18,638
1934.....	5,089	6,497	9,691	9,625	4,011	5,780	6,621	4,639	2,865	23,915
1935.....	5,629	5,841	2,987	7,845	4,397	5,012	7,520	5,193	1,060	23,182
1936.....	8,301	5,169	2,460	8,773	5,965	4,872	9,146	3,371	1,349	24,703
1937.....	12,141	7,658	2,951	12,662	9,002	7,374	13,536	4,346	1,154	35,412

The following table will give an idea of the demand and supply of timber in Japan in recent years:—

Table 16. Demand and Supply of Timber

(¥1,000)

	Domestic Output	Import	Export	Consumed
1930.....	70,158	53,083	14,622	109,619
1931.....	63,510	43,379	9,953	96,936
1932.....	67,388	35,029	11,329	91,088
1933.....	88,687	40,584	18,638	110,633
1934.....	112,749	40,183	23,915	129,017
1935.....	113,869	49,775	23,182	140,462
1936.....	136,932	55,548	24,703	167,777
1937.....	....	64,817	35,412	....

SAWING AND LUMBER INDUSTRIES

The Government some years ago started on its own account wood-conversion enterprise, whereas formerly, it confined itself to selling trees growing in State forests as they stood. At one time the Government conversion works numbered 10 but they have all been discontinued.

Principal Wood Industry

Since the World War, investment in forestry and forests products has made a credible growth, especially in the sawing, match sticks and forests-planting business on the whole. However, the financial results in this particular line can by no means be regarded as satisfactory, considering the high percentage which wooded areas occupies in the country.

Pulp.—The wood pulp industry in Japan has expanded rapidly but fails to suffice domestic demands and thus the deficiency is met by imports.

Table 17. Demand and Supply of Pulp

(In tons)

	Production		Imports	Total supply*	Total consumption
	Japan	Manchoukuo			
1925.....	414,706	——	77,440	497,146	492,146
1931.....	566,709	8,718	100,636	868,263	674,439
1932.....	551,120	11,704	101,168	857,692	715,692
1933.....	620,039	17,361	159,974	939,374	794,143
1934.....	708,996	13,737	227,122	1,095,055	890,755
1935.....	757,477	13,718	272,082	1,247,577	1,004,339
1936.....	802,565	13,171	326,552	1,384,788	1,384,257
1937.....	767,600	13,200	466,608	....	1,344,814

Note: * Including balance brought forward from previous year.

Table 18. Five-Year Plan of Pulp Production in Japan and Manchoukuo

(In 1,000 metric tons)

	Production in 1937	Schedule of additional production			Estimate of Production in 1942
		Lumber pulp	Other pulp	Total	
Karafuto	415	55	—	55	470
Hokkaido	230	300	—	300	530
Japan Proper	190	80	80	160	350
Chosen	37	13	—	13	50
Taiwan	—	—	100	100	100
Manchoukuo	13	177	110	287	300
Total	885	625	290	915	1,800

Match-sticks.—The export of match-sticks, which was formerly as much as three million yen, gradually decreased until it fell to ¥87,910 in 1935 but rose in 1937 to 31,200 metric tons valued at ¥388,000. The stock of popular used for this industry is now scarce.

Other smaller items are the pencil industry, chess-board making, toy-making, cork and acetic manufacturing, to mention those of recent origin.

References:

Table Nos.: 1 a, 2-14 b, 15-17 c, 18 d.

Key: a—International Year Book of Agricultural Statistics.
b—Department of Agriculture and Forestry.
c—Monthly Returns of Foreign Trade of Japan.
d—Department of Commerce and Industry, Manchoukuo.

CHAPTER XXIX

FISHERIES

INTRODUCTORY REMARKS

Surrounded by seas and favoured with highly productive fishing grounds and a strong domestic demand for aquatic products, Japan ranks first as a fishery country in the world. In the volume as well as in the value of catches she stands far ahead of her nearest rivals. Aquatic products command a dominant role in the fare of the Japanese people and take a similar position as that of pastoral products in certain western countries. With the adoption of modern fishery implements and crafts the Japanese fishing industry has greatly increased its area of operation and for many years passed her vessels have been actively engaged not only in the near-seas but in the eastern Pacific as well as in the sub-arctic, the South Seas and in the Antarctic.

Table 1. Japan's Position in Fishery Catches

Japan	Year	Quantity (1,000 M. Tons)	Value (Million Yen)	Index No. Quantity	Index No. Value
Proper	1935	3,735	282		
Others	"	2,156	129		
Total	"	5,891	421	100	100
U.S.S.R.	1933	1,300	338	22	80
U. S. A.*	"	1,315	236	22	56
England	"	956	254	16	61
Norway	"	1,162	60	20	26
Canada	"	369	108	6	26

Note: * Inclusive of Alaska.

The value of catches in recent years is only second to that of the agricultural industry. In 1936 total catches in the Japanese Empire were valued at approximately ¥332,500,000. Of this amount over 63 per cent. was represented by coastwise fishery. Roughly estimated, the total value of annual catches has increased three times in the last sixteen years, while volume has nearly doubled.

Table 2. Total Value of Catches

(In ¥1,000)

Year Ending Mar. 31:	Coastwise fishery	Aquiculture	Pelagic fishery	Trawling	Total
1923	240,244	14,900	58,088	10,215	323,447
1928	229,138	22,921	78,500	9,457	340,016
1933	145,736	18,470	54,020	5,607	223,833
1934	170,614	19,283	65,987	6,254	262,138
1935	173,137	22,318	69,428	6,721	271,604
1936	181,802	25,535	74,261	7,044	288,642
1937	212,648	25,552	87,483	6,831	332,515

Kinds of Fish

The principal kinds of fish and shell-fish that are used as articles of food are, in the central and southern districts of Japan proper, pagrus, bonito, sardine, horse mackerel, tunny, oyster, clam, prawn, lobster, etc.; in the northern districts, herring, cod, salmonidae, crab, laminaria, etc. For the whole country there are tunny, flat-fish, yellow-tail, etc. For industrial use, there are coral, isinglass and starch weed, etc. Marine products for export have good customers in China where dried cuttlefish, sea cucumber, earshell, shark's fins, luminaria, isinglass, etc., are much in demand. Products going to other markets are canned salmon, trout, sardine, tunny, crab, prawns, preserved cod and mackeral, fish oil, potasium iodine from seaweed, coral shell-buttons, etc.

In pelagic fishing, the most important since the prohibition of sealing is line-fishing for cod. The seine fishing for bonito and tunny also promises to grow in importance. Then there is whaling which has made marked developments since the introduction of the Norwegian method. Of late ground net fishing by motor boats has come to be in vogue, while the use of more effective steam-trawlers in place of simple boats has become a notable feature recently.

Besides marine products for home consumption there are several items that figure on the export list. Those going to China are chiefly articles for table use, while fish oil, iodine taken from sea-weeds, isinglass, corals, etc., are exported to Europe and America. Salt refining as extracted from brine has been from ancient times an important industry along the shores bordering on the Inland Sea and elsewhere. With the enforcement of the Salt Monopoly Law the districts open to the business have been restricted. Aquatic culture has been known from olden times in Japan, especially in the form of pond-culture of gold fish and carp and fagot-culture of oysters and the edible sea-weed laver. Coming to more recent years the artificial rearing of snapping-turtles, eels, salmonidae and some shell-fish has made great development. Oyster culture on the French plan is becoming popular in some parts of the country. Salmon culture is especially noticeable in the rivers of the Hokkaido and northern Japan, trout in the mountain lakes of northern Japan, carp, eels, and snapping turtles in southern Japan.

Aquatic Administration

The administrative side of the industry is fairly complete. Under the Fishery Law, which provided for protection of fishermen, the prefectural governors are empowered to give orders regarding restriction or prohibition in the catching of fish, sale of manufactures, fishing tools, and boats, the number of fishermen, etc. For the promotion of the industry legislation has lately been made in regard to aquatic products association (Suisan-kai). These are of two kinds, namely, the Municipal and the Prefectural, which come under the control of one central institution, the National Aquatic Products Association. Besides, there are a number of fishery guilds. The number and the membership of these associations and guilds for the last few years are tabulated as follows:—

Table 3. Number and Membership of Associations

Year Ending Mar. 31:	Aquatic Products Associations (Suisan-kai) No.	Aquatic Products Associations (Suisan-kai) Membership	Fishery Guilds No.	Fishery Guilds Membership	Aquatic Products Guilds No.	Aquatic Products Guilds Membership
1928	338	578,974	....	....	47	54,192
1932	380	481,179	3,928	546,622	60	53,946
1933	380	451,560	3,957	555,736	66	49,548
1934	349	450,622	3,980	570,057	67	49,901
1935	346	451,034	3,994	574,328	68	42,553
1936	344	444,472	4,000	580,103	67	42,967

FISHING POPULATION AND CRAFT

Fishing Population.—Nowhere in the world is such a large proportion of the people engaged in fishery as in this country. This is due to the recent growth of the enterprise into a modern industry, and to the fact that from olden times there have been quite a large number of fishermen each engaging in the industry on a small scale. As stated at the outset, over 20 per cent. of the population are engaged in fishery.

Table 4. Fishing Population

Year Ending Mar. 31:		1928	1933	1934	1935	1936	1937
Fishing	Permanent fishermen	643,611	643,719	643,805	649,026	654,387	662,591
	Occasional "	482,372	463,131	453,449	454,320	444,612	439,911
Aquiculture	Permanent fishermen	13,986	23,949	25,407	24,776	27,919	26,158
	Occasional "	99,287	117,445	119,248	126,231	127,284	128,469
Manufacturing	Permanent fishermen	104,634	113,959	117,889	122,228	120,720	130,600
	Occasional "	135,886	136,837	139,377	145,335	146,555	146,703
Total	Permanent fishermen	762,231	781,627	787,101	796,030	803,026	819,349
	Occasional "	717,545	717,413	712,074	725,886	718,451	716,083

Fishing Craft.—Since fishery is operated largely with the help of boats, the state of fishing craft in commission directly reflects the state of the industry. Small fishing boats have been very extensively used in Japan from olden times owing to the nation-wide spread of coastwise fishing on a small scale. But, the number of these small fishing craft has been on the decrease in sympathy with the increase in the number of large-size vessels of an advanced style accompanying the development of the industry. Due to the growth of this situation, the industry has gradually expanded in efficiency and fisheries operated have greatly expanded in area. As pelagic fishery is necessary for the maintenance of the sources of finny tribe along the coast, if for no others, it is recognized by the nation at large that the number of small fishing craft should decrease to a certain extent due to the increase in that of vessels for deep-sea fishery. The number of fishing crafts for the last few years is appended:—

Table 5. Number of Fishing Crafts

	Without Engine			With Engine		
	Newly-built	Scrapped	Total	Newly-built	Scrapped	Total
1927	17,662	18,463	333,757	3,364	922	20,797
1932	15,746	18,201	315,217	4,871	2,568	45,469
1933	22,040	24,320	314,434	5,244	3,106	49,039
1934	17,880	21,683	311,553	6,275	3,799	53,029
1935	17,247	18,699	308,541	6,413	3,571	57,478
1936	14,358	17,645	304,098	6,691	3,631	62,169

As may be noted from the above table, the increase in the number of ships with engines is noticeable. The fact that these boats with engines include a considerable number of large modern vessels tells all the more clearly a steady development of the industry.

COASTWISE FISHING AND MARINE PRODUCTS

It is feared whether coastwise fishing will maintain the present productive capacity for long. Although statistical figures have so far shown an increase in the crop of fish supplied by coastwise fishing, individual fishermen have not a good run of business owing to the ever growing number of the fishing population and the cost of living. It is, therefore, feared that they are liable to fish excessively so as to threaten an early exhaustion of the sources of supply. The following are the results of coastwise fishing for the last few years.

Table 6. Coastwise Fishing Crops

Value in ¥1,000: Quantity in 1,000 Metric tons

Year	Fishes		Shell Fishes		Other Aquatic Products		Sea Weeds		Total Value
	Qty.	Value	Qty.	Value	Qty.	Value	Qty.	Value	
1932	1,886	107,818	125	6,975	179	22,951	477	7,992	145,736
1933	2,861	128,152	136	7,972	204	26,288	658	8,202	170,614
1934	2,227	128,143	180	10,094	190	25,617	657	8,283	173,137
1935	1,929	134,672	205	11,697	136	25,260	496	10,173	181,802
1936	2,143	159,764	152	11,202	158	29,373	583	12,308	212,648

Table 7. Coastwise Fishing Crops By Kinds of Fish

Year Ending Mar. 31:	1934		1935		1936		1937	
	Metric tons	(¥1,000)	Metric tons	(¥1,000)	Metric tons	(¥1,000)	Metric tons	(¥1,000)
Herring	1,006,958	13,378	383,179	7,157	229,384	5,077	142,956	4,381
Sardine & anchovy	1,314,773	26,085	1,284,116	26,314	1,095,761	28,258	1,298,311	40,958
Bonito	12,158	2,326	15,975	2,688	10,916	1,901	15,233	2,420
Markerel	69,521	5,747	67,995	5,830	73,046	6,597	84,790	8,407
Tunny	21,491	4,716	22,110	4,992	34,260	6,163	33,785	7,165
Yellow tail	36,923	10,935	32,130	9,655	31,253	9,672	37,251	11,531
"Tai" (Pagrus)	12,528	10,434	12,105	9,685	11,764	9,786	12,128	10,199
Salmon	18,465	3,636	26,358	4,690	29,596	4,995	66,388	9,155
Eel	3,251	2,426	3,098	2,278	3,259	2,476	3,223	2,493
Carp	1,418	663	1,421	678	1,519	716	1,555	731
Trout	20,813	1,957	36,173	5,313	44,359	5,244	58,598	3,996
Cod	81,842	3,287	99,956	3,781	103,879	4,822	108,710	5,730
Total incl. others	**2,860,586**	**128,152**	**2,227,174**	**128,143**	**1,929,210**	**134,672**	**2,143,471**	**159,764**

PELAGIC FISHERY AND WHALING

With a view to encouraging pelagic fishery a small amount of bounty is granted by the Government to owners of fishing craft of approved standard as type, etc., under the provisions of the Pelagic Fishery Encouragement Law. The rate of bounty is ¥60 or less per ton of iron or steel bottom and ¥45 or less per ton of wooden bottom, ¥22 or less per horse power of steam engine and ¥40 per horse power of motor engine, etc. For vessels exceeding 60 tons a bounty corresponding to 2/10 or less of the estimated cost of the hull, engines, equipments, etc., may be granted irrespective of the above specifications. State aid is granted to fishery using drag-net and drift-line and on bonito fishing.

Table 8. Boats Engaged in Pelagic Fishery
(1936)

	Open boats			Motor boats			Total No.	Total No. of crews
	No.	Tons	No. of crews	No.	Tons	No. of crews		
Circle net	12	75	135	921	12,622	14,745	933	12,697
Deep-sea net	19	525	181	2,094	63,496	19,905	2,113	64,021
Drift	24	123	85	1,234	20,648	11,834	1,258	20,771
Long line	90	410	408	2,943	60,325	32,636	3,033	60,735
Hand	87	763	518	694	6,471	7,373	781	7,234
Bonito angling	—	—	—	1,044	39,209	29,211	1,044	39,209
Others	8	44	64	715	10,315	8,680	723	10,359
Total	**240**	**1,940**	**1,391**	**9,645**	**213,086**	**124,384**	**9,885**	**215,026**
Do. for 1935	171	1,312	1,133	8,813	197,757	114,556	8,984	199,069
Do. for 1934	297	2,038	1,686	8,408	192,369	109,297	8,705	194,407
Do. for 1933	282	1,916	1,482	7,943	180,041	111,437	8,225	181,957
Do. for 1932	408	3,013	2,914	8,282	169,608	108,849	8,690	172,621

Table 9. Results of Pelagic Fishery

Year Ending Mar. 31:	1934		1935		1936	
	M. Tons	(¥1,000)	M. Tons	(¥1,000)	M Ton.	(¥1,000)
Circle net	193,065	4,641	274,277	6,346	312,430	8,418
Deep-sea net	241,751	26,138	263,576	30,051	311,834	35,592
Drift	44,565	4,923	52,748	5,242	74,485	5,472
Long line	124,493	16,418	110,850	15,921	136,927	18,145
Hand	31,099	2,902	6,901	1,804	18,272	2,615
Bonito angling	72,293	11,631	62,509	11,178	96,809	13,407
Others	19,650	2,775	33,739	3,718	34,096	3,834
Total	726,919	69,428	814,598	74,261	974,865	87,483

Deep-sea fishing crops consist of sardines, bonitos, mackerels, tunny, cod, shark, pagrus, turbots, halibuts, cybinum niphonium, mackerel pikes, coral, etc.

Trawling.—This method of fishing is under the control of the Government. The principal fishing grounds are the Eastern China Sea and Yellow Sea, the ports of Shimonoseki, Hakata and Nagasaki being the bases for trawling. Sea breams, sciaena schlegeli, holocephali, turbots, etc. are principal fish caught.

Whaling—The noted whaling grounds along the coast of Japan are the sea off Kinkazan Island (in summer) as far as the mouth of Tokyo Bay, also the sea off Kishu, Tosa, Nagato and Kyushu (in winter). Russian whalers in the Korean field have been completely superseded by their Japanese rivals since the war of 1904-05. The Kuriles also supply a good ground.

The catches are protected by the Government Ordinance enforced in 1919 which allows whaling only to licensed persons, the permit being effective for five years.

The whaling catches in recent years are listed below:—

Table 10. Results of Whaling in Japanese Water and Antarctic Ocean

Year Ending Mar. 31:	Japan proper		Territories		Antarctic Ocean				
	No. of catches	Value	No. of catches	Value	Mother ships	Tender ships	No. of crews	No. of catches	Value of manufactures
1928	1,177	¥1,307,833	369	¥780,585	—	—	—	—	—
1933	1,124	850,300	206	346,616	—	—	—	—	—
1934	1,156	1,142,183	202	433,849	—	—	—	—	—
1935	1,356	1,991,421	123	429,683	1	3	213	213	¥ 486,653
1936	1,598	2,466,962	173	647,434	1	5	343	639	2,262,615*
1937	1,641	2,577,692	173	754,322	2	13	766	1,965	8,726,904*

Note: * Estimate.

Coral Fishery.—Formerly, corals were mostly collected in the seas around Kyushu, but recently good coral beds have been discovered in the sea near the Bonin Islands and northern Formosa. The amount of collection in recent years is as follows:—

Table 11. Coral Collection in Recent Years

Year Ending Mar. 31:	(Kilogrammes)	Value (Yen)	Year Ending Mar. 31:	(Kilogrammes)	Value (Yen)
1928	2,284	67,815	1935	5,063	292,504
1933	2,265	82,454	1936	2,524	440,198
1934	2,355	187,472	1937	728	132,974

Aquatic Manufactures.—Aquatic manufactures in Japan consist of food, manure, fodder, fish oil, glue, isinglass, iodine, etc.

All the varieties have been on the increase. Below are given the volume and value of aquatic manufactures for the past few years.

Table 12. Aquatic Manufactures

(Exclusive of tinned food, isinglass and iodine)

Year Ending Mar. 31:		Food	Manure	Fish oil	Glue	Total
1928	M. ton	333,574	245,198	30,656	818	
	¥1,000	149,069	29,448	3,698	869	183,084
1933	M. ton	363,820	344,883	57,089	735	
	¥1,000	106,750	20,208	4,121	584	131,662
1934	M. ton	412,061	438,116	70,635	679	
	¥1,000	119,927	28,844	6,947	576	156,294
1935	M. ton	442,931	424,016	82,639	789	
	¥1,000	128,804	28,913	8,703	628	167,048
1936	M. ton	447,150	374,497	62,235	711	
	¥1,000	137,472	28,552	8,793	723	175,540
1937	M. ton	497,388	451,118	112,796	711	
	¥1,000	156,144	37,474	21,527	716	215,861

Isinglass has been produced from olden times. The output of this article has been on the increase in recent years.

Table 13. Statistics of Kanten or Japanese Isinglass

Year Ending Mar. 31:	No. of factories	Production value (¥1,000)	Exports value (¥1,000)
1933	435	3,883	3,166
1934	429	4,719	3,199
1935	449	5,257	3,215
1936	463	6,390	4,262
1937	512	9,712	5,574
1938	...	....	6,761

Aquiculture.—The culture of oyster, carp and eel has been steadily developed. In 1936 the total value of catches from aquiculture amounted to ¥25,553,000.

Table 14. Culture Grounds and Crops

(a) Number and Area of Grounds

Year Ending Mar. 31:	No. of culture ground	Area (1,000 sq. meters)
1931	144,498	485,235
1932	151,565	499,771
1933	157,414	523,984
1934	159,091	536,966

Year Ending Mar. 31:	No. of culture grounds	Area (1,000 sq. meters)
1935	163,549	522,208
1936	161,779	521,525
1937	162,326	512,166

(b) Crops (¥1,000)

Year Ending Mar. 31:	Value: Oyster	Carp	Eel	Mussels	Total incl. others
1931	989	3,598	2,914	734	18,509
1932	1,103	3,409	2,902	715	19,129
1933	1,127	3,561	2,913	653	18,470
1934	1,193	3,923	3,586	634	19,283
1935	1,437	4,186	3,825	692	22,318
1936	1,998	4,251	4,758	801	25,535
1937	1,858	4,515	5,013	890	25,553

Pearl Culture.—Mikimoto's artificial hatching at Toba of pearl-oysters according to a patent process deserves mention, this being one of the most important hatcheries in Japan and elsewhere. In principle, it is identical with that in natural pearl-formation, consisting as it does of putting into the oyster-shell when it is three years old a foreign substance which it incapsulates with the beautiful secretion. After keeping it for four years the shells are taken out. Mikimoto's oyster bed is in the Bay of Ago near Toba (Shima Province) and extends 20 nautical miles.

Table 15. Pearl Culture

	No. of culture grounds	Area of culture grounds (1,000 sq. meters)	Pearl-oyster: Output	Pearl-oyster: Value (Yen)	Pearl: Output	Pearl: Value (Yen)
1927	126	72,202	3,329,020	88,144	588,659	484,826
1932	135	66,282	23,902,593	107,201	3,655,135	988,831
1933	177	65,281	13,932,890	286,653	2,492,727	909,355
1934	222	54,921	50,515,256	637,196	4,510,158	1,472,487
1935	257	54,668	37,266,857	828,613	7,749,622	1,395,297
1936	285	52,290	36,216,117	905,124	7,071,688	983,504

FISHERIES IN THE HOKKAIDO

The Hokkaido is widely reputed as one of the three important fishing grounds in the world both on account of deep-sea and coastwise fisheries. Principal catches are herring, salmonidae, cod, sardines, flat-fish, etc.

Table 16. State of Coastwise Fisheries in Hokkaido

(a) Number of Fishermen and Fishing Crafts

	No. of Fishermen: Fishing	Aquiculture	Manufacture	Total	No. of Fishing Crafts: Without engines	With engines	Total
1932	153,483	812	34,501	188,796	56,853	3,254	60,107
1933	152,271	913	37,145	190,329	56,978	3,515	60,493
1934	155,420	583	40,993	196,996	55,610	3,915	59,525
1935	157,953	550	39,982	198,485	54,680	4,295	58,975
1936	160,391	749	41,216	202,346	54,004	4,746	58,750

(b) Classification of Catches

Year Ending Mar. 31:	1934 M. tons	1934 (¥1,000)	1935 M. tons	1935 (¥1,000)	1936 M. tons	1936 (¥1,000)	1937 M. tons	1937 (¥1,000)
Fishes:								
Herrings	1,007,554	13,378	383,179	7,157	229,384	5,077	142,952	4,381
Sardines	505,740	6,497	478,931	6,743	251,115	4,507	334,910	8,735
Cods	73,568	2,251	79,766	2,715	83,453	3,529	88,434	4,146
Salmons	16,575	2,960	23,029	3,699	23,441	3,855	63,291	8,105
Trouts	19,470	1,288	34,818	4,407	40,024	4,063	55,810	3,079
Total incl. others	1,663,260	28,752	1,041,380	27,477	660,810	23,443	724,916	31,328
Sea-weeds	478,331	2,679	483,977	4,327	347,726	4,613	299,677	4,862
Shell-fishes:								
Abalones	878	172	1,095	353	1,230	440	1,092	394
"Hokki-Gai"	3,502	246	4,453	328	4,757	305	5,190	334
Ark-shell	60	16	97	20	90	21	198	90
Oysters	1,313	24	949	16	641	13	133	4
Tapes Philippinarum	109	5	68	5	1,823	43	109	5
Total incl. others	46,601	2,371	85,588	3,748	76,999	3,984	53,014	3,562
Other aquatic animals	80,108	5,555	77,036	5,042	47,216	4,947	50,136	5,435

EXPORT OF FISH AND MARINE MANUFACTURES

Exports of marine products for the last few years are tabulated below:—

Table 17. Exports and Imports of Fish and Marine Manufactures

(a) Exports (Volume in 1,000 kin; Value in 1,000 yen)

Marine Products:	1935 Volume	1935 Value	1936 Volume	1936 Value	1937 Volume	1937 Value
Tangles and sliced tangles	56,719	3,297	57,208	3,650	51,918	2,698
Fish and shell-fish, fresh	14,137	3,128	14,905	3,450	23,083	5,034
Dried:						
Fish	14,407	2,595	13,758	2,752	13,507	2,903
Cuttle	7,741	3,540	5,474	2,872	4,151	2,202
Shrimps and prawns	551	332	400	223	280	154
Trepang	1,108	1,313	1,988	1,679	1,587	1,578
Shell-fish	4,034	3,682	3,633	3,805	2,066	2,549
Others	....	....	....	....	197	154

	1935 Volume	1935 Value	1936 Volume	1936 Value	1937 Volume	1937 Value
Salted fish	16,190	1,689	25,121	2,573	35,928	3,175
Boiled fish	2,484	770	2,141	710	2,817	894
Laver	273	384	363	499	391	567
Salt	41	3	44	3	87	6
Tinned:						
Fish	112,231	47,589	136,811	58,188	180,333	69,983
Shell-fish	3,583	1,221	3,097	1,073	3,783	1,467
In bottles:						
Fish	283	93	410	96	213	59
Shell-fish	175	55	220	54	12	5
Fish oil	54,934	6,265	61,110	9,301	90,716	14,548
Whale oil	5,278	629	4,739	874	3,855	751
(b) Imports						
Salted fish	17,253	1,627	13,627	1,449	14,573	1,437
Others fish and shell-fish	———	2,133	———	1,411	———	2,180
Shells of mollusca	20,800	3,418	24,649	4,400	14,514	3,795
Tortoise shells	28	257	28	255	23	179

JAPANESE FISHING ABROAD

Russian Territory.—Japanese fishermen are allowed by virtue of the Portsmouth Treaty of Peace to carry on fishing along the coasts of the Maritime Province, Kamchatka and Saghalien. The new fishery rights convention assuring the fishing of Japanese in the territory according to the Portsmouth Treaty was signed in March, 1928, and renewed in 1936 at Moscow. The number of Japanese fishermen operating in Russian territorial waters in 1935 was 18,654 and the amount of their catches 501,874 koku. Principal fish are salmon, trout, and herring. Cod and crab fishery is also promising. The fishing grounds include Kamchatka, the Sea of Okhotsk, Maritime Province and Karafuto. Of all the 765 grounds, 376 were exploited by the Japanese in 1935. Details are given below:—

Table 18. Japanese Fishing Activities in Soviet Waters

Year Ending Mar. 31:	1928	1931	1932	1933	1934	1935	1936	1937
No. of grounds:								
Leased	255	318	309	392	275	386	995	399
Operated	248	292	287	323	350	370	376	376
Vessels employed:								
Number	282	258	203	214	175	172	198	153
Tonnage	312,949	443,650	302,490	367,257	330,587	260,704	422,869	261,178
No. of fishermen and other hands	20,552	22,227	17,240	18,185	17,506	20,364	18,654	21,208
Volume of catch in Soviet waters:								
Chum salmon (1,000 koku)	124.7	238.4	154.3	169.0	154.3	233.9	179.2	337.6
Red salmon (1,000 koku)	87.5	100.7	76.5	77.0	53.3	104.1	40.3	67.2
King salmon (1,000 koku)	2.5	2.8	1.9	1.9	0.9	1.7	2.6	1.9
Trout (1,000 koku)	80.0	249.4	71.2	263.6	108.8	381.1	279 7	164 6
Herring (1,000 koku)	2.1	1.9	1.3	0.8	0.4	0.3	0.1	0.0
Total (1,000 koku)	296.6	593.1	305.1	512.2	317.8	721.1	501.9	571.4
Crab (1,000 pieces)	8,788	4,847	4,294	3,101	2,546	3,583	5,049	6,565
Value of fishery products inclusive of salted & canned products (1,000 yen)	27,089	31,829	22,356	31,909	23,666	40.903	29,149	35,489

Note: Koku=10 kan or 37.5 kgs.

Table 19. Japanese Floating Crab Canneries*

Year Ending Mar. 31:	Cannery boats: Number	Cannery boats: Total tonnage	Number of Crews	Number of Men	Crabs caught (million)	Canned products: Volume (1,000 cases)	Canned products: Value (¥1,000)
1928	17	40,922	5,651		22.6	331	13,206
1933	7	24,275	301	2,144	10.4	174	5,468
1934	9	40,724	414	2,541	9.5	154	7,476
1935	9	37,235	406	2,714	9.9	162	7,733
1936	9	34,112	3,124		11.3	171	8,429
1937	9	36,737	3,243		13.9	184	9,490

Note: * Operating off the Eastern and Western coasts of Kamchatka and in the Behring Sea.

Table 20. Japanese Off-shore Floating Salmon Canneries*

	Mother ships: No.	Mother ships: Total tonnage	Tender ships: With Engined	Tender ships: Without Engine	Catches (1,000 pieces)	Manufactured: Canned: Volume† (1,000 cases)	Manufactured: Canned: Value (¥1,000)	Manufactured: Salt cured: Volume (1,000 kwan)	Manufactured: Salt cured: Value (¥1,000)	Total value (incl. refri. erated & fish-eggs) (¥1,000)
1930	1	999	—	2	7.7	—	—	4	5	6
1931	6	12,517	7	36	680.5	15.8	339	82	57	501
1932	10	20,486	15	58	1,172.2	66.8	1,145	71	55	1,225
1933	13	15,365	39	72	3,281.5	70.2	2,078	360	278	2,694
1934	19	28,978	153	32	5,625.8	150.7	3,426	928	934	5,175
1935	16	32,655	256	49	8,943.5	272.8	8,050	1,373	1,119	10,239
1936	8	29,456	250		11,544.1	313.0	7,785	1,798	1,651	10,129
1937	6	20,467	170		8,796.5	286.2	7,409	1,895	1,760	9,691

Note: * Operating off the Eastern and Western coasts of Kamchatka and in the Behring Sea.
† One case weighs 22.32 kgs.

SALT INDUSTRY

Salt produced in Japan proper is extracted almost entirely from the brine and refined by means of artificial heating, though in Taiwan and Kwantung the natural heating system prevails. The districts bordering on the Inland Sea are the centre of production.

Japan is barely self-sufficient in foodstuff salt at present. Her demand for industrial salt is about twice that of foodstuff salt and this requirement is met by imports, the principal supplier being East Africa. Projects are on foot to increase salt production in Manchoukuo and North China to meet the demand in Japan. The production of salt in this country is a government monopoly.

Table 21. Japan's Position in Salt Output
(Prepared by the League of Nations)
(In 1,000 metric tons)

	Japan	U.S.A.	U.S.S.R.	Germany	France	U.K.	World Total
1928	638	7,325	2,337	3,726	2,115	1,978	28,190
1929	644	7,751	2,670	3,835	2,190	2,006	30,880
1930	729	7,307	3,158	3,604	1,999	2,101	30,140
1931	521	6,675	3,182	3,107	1,908	1,928	28,800
1932	573	5,813	2,636	3,233	1,651	2,252	27,240
1933	688	6,899	2,734	2,771	2,130	2,402	28,630
1934	604	6,906	3,555	3,252	2,071	2,560	30,230
1935	570	7,191	4,350	3,392	1,962	2,743	32,010
1936	482	8,009	....	3,870	1,917	2,878	34,000
1937	...	8,384	....	....	2,337	....	....

Table 22. Statistics of Salt Industry

Year Ending March 31:	No. of fatories	No of manufac turers	No. of employees	Area of salt-fields (Hectares)	No. of boiling pans
1928	4,674	5,148	44,787	5,728.26	5,149
1933	3,393	3,395	36,156	4,533.22	3,816
1934	3,361	3,378	36,672	4,520.54	3,804
1935	3,339	3,347	36,855	4,525.98	3,709
1936	3,308	3,303	36,390	4,536.89	3,693
1937	8,261	3,232	35,787	4,533.22	3,680

Table 23. Demand and Supply of Salt in Japan Proper
(In metric tons)

Year End ng Mar. 31:	Production	Imports	Colonial imports from Taiwan	Total Supply	Sales amount	Stock at fiscal year end
1920	543,706	365,465	13,051	922,222	734,599	309,152
1925	668,458	148,906	68,282	885,646	827,829	411,216
1930	628,534	290,809	82,353	1,001,696	943,480	442,011
1931	521,125	353,048	101,122	975,295	1,072,130	340,436
1932	572,497	555,064	83,320	1,210,881	1,204,515	342,200
1933	630,705	846,858	78,784	1,556,347	1,510,235	384,838
1934	676,175	1,144,620	84,740	1,905,535	1,829,093	448,986
1935	604,321	1,083,778	99,811	1,787,910	1,789,080	437,839
1936	518,682	1,182,167	87,975	1,788,824	1,914,108	310,070
1937						

Table 24. Consumption of Salt by Kinds of Purposes

(In metric tons)

Year Ending Mar. 31:	Foodstuffs, & others	Industry				Exports	Grand total
		Chemical drugs	Artificial pigment	Soap	Total incl. others		
1921.....	718,294	46,596	1,067	1,607	49,652	853	768,799
1926.....	725,379	90,188	2,412	2,412	94,672	14,235	834,288
1931.....	740,000	199,836	5,074	2,745	208,604	2,586	951,190
1932.....	768,268	285,827	7,264	3,147	297,789	4,488	1,070,545
1933.....	759,556	378,445	12,295	2,962	396,336	2,190	1,158,082
1934.....	753,695	607,541	36,490	3,192	649,501	7,886	1,411,082
1935.....	776,114	821,515	26,892	4,180	854,823	7,868	1,638,805
1936.....	778,211	1,039,817	20,558	4,529	1,067,783	10,558	1,856,552
1937.....	811,336	1,129,462	21,377	6,679	1,159,923	9,881	1,981,140

References:

Table Nos.: 1 a, 2-16 b, 17 c, 18-20 b, 21 d, 22-24, e.

Key: a—The Imperial Marine Products Association.
b—Department of Agriculture and Forestry.
c—Annual Report of Foreign Trade, by Department of Finance.
d—Statistical Year Book of League of Nations.
e—Monopoly Bureau Report, Department of Finance.

CHAPTER XXX

MINING

INTRODUCTORY

The mineral resources of Japan are uncommonly extensive in variety, although outputs, except in a few lines, are hardly adequate to fill the requirements. The country therefore is normally a net importer with regard to minerals. The minerals in which the country, exclusive of the colonies, may be regarded as self-sustaining are sulphur, iron pyrites and other iron ores, and steel products. For petroleum, pig iron, copper, lead, zinc, nickel, aluminium and tin the internal requirements must be met in most part from external sources. In these circumstances, the net imports of minerals have since 1931 grown to a considerable extent, the net imports for 1936 being ¥660 million, a gain of ¥440 million in comparison with 1931.

Between 1931 and 1934 the proportion of internal supply fell from 60 to 51% of the total, while the ratio of external supply rose from 40 to 49%. The country's dependence upon foreign sources has since continued to grow in extent and volume.

Production Indices.—The index of production of the principal minerals of Japan, namely, gold silver, copper, coal and petroleum has been rising steadily in recent years. Taking the year 1928 as 100 the average index for these minerals was up to 126 in 1936. Largest gains were seen in the production of gold and silver, as the following table indicates:

Table 1. Volume Indices of Mineral Production

	Gold	Silver	Copper	Coal	Petroleum	Average
1928..	100	100	100	100	100	100
1930..	117	107	121	92	107	99
1931..	128	113	116	81	106	90
1932..	128	110	107	82	88	88
1933..	136	124	105	95	77	98
1934..	150	143	102	104	82	105
1935..	184	169	106	109	104	113
1936..	218	200	118	120	134	126

Production Value.—The value of mineral production in the Japanese Empire aggregated 746 million yen in 1936, representing an almost three-fold increase over that for 1931. The trend is shown as follows:

Table 2. Value of Mineral Production in Japanese Empire

(In ¥1,000)

	Japan Proper	Chosen	Taiwan	Karafuto	South Sea Islands	Total
1913.....	146,849	8,204	4,133	....	....	159,186
1919.....	641,282	25,415	11,167	....	....	677,864
1929.....	384,558	26,488	14,847	5,748	1,415	433,051
1930.....	307,673	24,654	15,141	5,622	1,153	354,243
1931.....	241,826	21,742	13,338	5,250	1,126	283,282
1932.....	254,782	33,747	13,951	5,201	1,205	308,886
1933.....	358,241	48,301	15,196	6,704	1,309	429,751
1934.....	432,308	69,173	18,948	9,119	1,779	531,327
1935.....	504,419	88,039	22,839	11,328	1,762	628,387
1936.....	589,400	110,430	28,727	15,375	2,157	746,089

World Position in Mineral Production.—The position of Japan as a producer of certain of the more important minerals is given as follows:

Table 3. Japan's Position in Output of Certain Basic Minerals

(1936)

	Gold (Kilograms)	Silver (Metric tons)	Copper (1,000 Metric tons)	Iron Ore (c) (1,000 Metric tons)	Coal (1,000 Metric tons)	Petroleum (1,000 Metric tons)
Japan (a)	41,017	362.9	83.8	668(e)	47,904	347
U. S. A.	117,668(b)	1,900.3	592.6	25,300	443,460(d)	148,868
United Kingdom	....	2.4	9.4	3,872	232,114	—
France	2,665	14.8	1.0	10,186	45,251	71
Germany	236	203.5	59.6	2,259	158,283	445
Italy	*237	*19.6	0.5	*430	806	16

Note: * Estimate or provisional figure.
(a) Including Chosen, Taiwan and Karafuto.
(b) Including Alaska.
(c) Represents the estimated iron content of iron ores (including maganiferous iron ores) mined.
(d) Both chrysotile and amphibole.
(e) 1935.

Mining Lots.—The number as well as area of mining lots under operation shows a steady expansion since 1931 when the industry was in the trough of the economic depression. The trend for the past few years is tabulated in the following table:

Table 4. Statistics of Mining Lots

	Total Mining Lots			Lots under Work		
	No.	Area (hectares)	Area per lot (hectares)	No.	Area (hectares)	Area per lot (hectares)
1924.....	5,448	530,250.04	97.33	1,336	218,294.59	163.39
1927.....	4,993	508,055.72	101.75	1,183	221,508.13	187.24
1928.....	4,913	508,595.36	103.52	1,176	221,031.41	187.95
1929.....	4,780	497,521.48	104.08	1,265	223,419.95	176.61
1930.....	4,620	483,837.96	104.73	1,186	223,254.61	188.24
1931.....	4,400	450,534.22	102.39	1,099	210,378.12	191.43
1932.....	4,318	447,099.63	103.54	1,113	208,068.04	177.95
1933.....	4,308	447,836.24	103.95	1,241	221,754.16	178.69
1934.....	4,310	454,012.63	105.34	1,395	237,230.95	170.06
1935.....	4,336	461,416.63	106.42	1,448	238,740.48	164.88
1936.....	4,377	482,565.81	110.32	1,613	256,695.10	159.14

Basic Trends

The mineral industries made long strides during the World War period, but had to suffer set-backs in the post-war years. To assist the industry sunk in the slough of depression, the Government raised the protective tariff for copper, zinc and iron. The industrialists themselves met the situation, with greater or less successful results, by means of adjustment of surplus capital, reduction of costs of operation, regulation of supply and demand. Thanks to all these assiduous efforts, the industry began on the whole to follow the course of sound and steady development, despite the serious dislocations caused in 1923 by the great earthquake disaster and in 1927 by a widespread financial panic. Towards the close of the year 1929, however, the mineral market, in common with all others, began to swing downward in anticipation of the return to the gold standard, which took place in May of the following year. The slumped condition of the industry was further aggravated by the financial panic in the United States of America and the worldwide slump. The mineral industries of the country were seen at the lowest ebb around the years 1931–32.

A decisive turn took place some months after the military outbreak in Manchuria in September 1931 when the industries of the country were called upon to launch expansionist policies all along the line to meet the requirements not only in the country but in the Asiatic mainland. The second departure from the gold standard also accelerated the industrial movement of the time. Stimulated by a rising market, the production of minerals began to register substantial gains in the latter part of 1932 until the output in the country reached in 1936 a total value of ¥590 million, a 146% gain in comparison with the year 1931. Under these favorable conditions the mineral industries have since enjoyed continuous prosperity.

Mineral Output

The mineral output of the country before the World War still lingered at a low level, the figure for the year 1913 being only ¥150 million in value. With substantial gains in value and output during the boom years, the production for 1919 was valued at ¥640 million, which drastically fell of to ¥330 million in 1921. In the year following the general condition of the industry began to improve, though at a slow pace, the output in 1929 recovering to the extent of ¥380 million. As the result of the general depression which set in the next year the output again began to dwindle, the figure for 1931 being only two-thirds of that of the previous two years. From that bottom year a substantial recovery set in until in 1936 the pre-depression figure was exceeded with a total of ¥590 million.

The mineral industries of the colonial possessions have likewise made a steady development in recent years. Taking a period of 6 years since 1931 Korea and Formosa respectively accounted for gains from ¥22 million to 110 million and from ¥13 million to 29 million, while Saghalien's output value rose from ¥3 million to ¥15 million in the same years, the aggregate total for those colonies increasing from ¥40 million to ¥160 million, corresponding to more than 27% of the total of ¥590 million returned in 1936 for the whole country.

Of all minerals produced coal is by far the most important in point of volume, representing the great bulk of the mineral production of the country. Copper, gold and silver follow in that order. Copper whose output has remained stationary in recent years still makes up 11.3% of the total mineral produce in Japan proper. The production of gold has been on the increase since the second embargo on gold enforced in 1931, the figure for 1936 representing 12.7% of the total. This position of gold has been appreciably improved in the past few years, as stated more fully elsewhere. The internal production of iron ores, reflecting the growing output of iron and steel by the foundries exclusively using native ores, represented in 1934 3.3% of the total mineral produce of the country.

IRON AND STEEL

General Conditions

Iron and steel manufacture in a true sense originated in the year 1901 when the state-managed foundry was put in operation at Yawata, in the island of Kyushu. The industry has since then continously grown and extended. The Yawata plant in 1929 accounted for the production of pig iron to the amount of 1,240,000 metric tons and steel products to 2,030,000 metric tons. After the following two or three years of slumped business the same foundry began to extend its activity in 1932 until the production for 1936 was returned at 2,000,000 metric tons of pig iron and 4,500,000 metric tons of steel products.

This branch of industry has always been carried on with the object of attaining a state of self-sufficiency in iron and steel. Progress along the same line was steadily made until in 1934 the country became a net exporter in steel products, although to an almost negligible extent. This situation would have further developed but for the outbreak of the China conflict in 1937. In any case, it should be added that the above development of steel export was in large measure due to the heavy construction activities going on in Manchuria. Moreover, an excess of exports over imports was seen in the volume of trade, although the trade balance in point of value was still against the country to the extent of ¥10 million. And taking into account pig iron, scrap, and a variety of steel products, the country's unfavorable balance was to the extent of more than two million metric tons in volume and more than ¥100 million in value.

In spite of this, however, Japan's growing importance as an iron and steel producer may be seen from the fact that in 1936 she accounted for the output of pig iron equivalent to 3.1% of the world's total production, taking seventh place after Belgium in world ranking. In the production of steel Japan accounted for 4.5% of the world output, ranking sixth after France. Internally, the foundries, exclusive of the state managed Yawata works, accounted in 1933 for slightly below 4.6% of the total production of manufacturing industries in the country. In the amount of investment, as returned by the leading iron and steel making companies, made in the form of paid-up capital, excluding the Yawata Works, represented upward of 80% of the total credited to the manufacturing and mining industrial group of the country at the end of the year in question. Since that time the position of the iron and steel industry has considerably grown under the stimulus of the armament expansion program on which the country has embarked.

RAW MATERIAL SUPPLY

Iron Ores

The iron ore deposits in Japan proper and Korea are estimated at approximately 80 million and 10 million metric tons respectively, the aggregate total being about 90 million metric tons. Of these deposits, however, those at present in operation on a commercial basis are less than a dozen in Japan and some half a dozen in Korea. The output from these sources were reported in 1936 to have grown to approximately 1,250,000 metric tons, although this was only one-third of the requirements which reached approximately 5,078,000 tons for the year in question.

It is also important to note that in addition to the above deposits there are in Japan rich resources of iron sand, computed to be in thousands of millions of tons, and in Korea extensive deposits of low grade ore. The internal sources of iron sand on which the swordsmiths and iron manufacture of the country depended in old times are at present availed of only in a few special lines and more recently by a special enterprise operated by a patented process. The low grade ores in Korea are magnesite, the estimated deposits being between 4 and 5 million metric tons of about 50% grade and some 100 million tons above 40% grade, and 300 million tons of above 30% grade. The desulphurized pyrite at the chemical fertilizer

plants, amounting to upward of 1,751,000 metric tons in 1936 alone is also receiving an increasing amount of attention as a potential source of raw material for iron mills.

External Supply.—Of the external sources of raw material which supply two-thirds of the country's needs the Tayeh mine in China is the oldest, the contract being concluded in 1899. The scope of external supply has since been extended accompanying the growth of demand in the country, especially important being the resources in Johore in Malaya which became accessible in 1920. To the list of these supply sources Trengganu also in the Malayan peninsula and some mines in the South Seas have been added more recently.

The dependence of the steel industry on foreign supplies to such an extent is admittedly a weakness in the whole structure of the industry, but Japan's condition is not necessarily so disadvantageous in comparison with countries like Belgium, Luxemburg or Germany. In point of transportation cost Japan which makes use of shipping service entirely finds itself in a better position than the United States of America. Moreover, it should be noted that the existent supply sources abroad, because of their geographic positions, are almost exclusively open to Japanese exploitation and that these mines are being operated by means of Japanese capital. Another outstanding fact is that Japan is undertaking iron manufacture in Manchoukuo on the basis of the rich deposits at Anshan and Miaoerhkou. It is indicated that the basic position of Japan's steel industry will be further strengthened by the mining and metallurgical development of the Manchurian resources.

Table 5. Production & Demand of Pig Iron and Steel Materials

(In 1,000 Metric tons)

Pig Iron:	Home production	Brought from colonies	Import from Manchoukuo	Import from British India	Import from Total incl. others	Total Supply	Export	Total Demand	Production against Demand
1931	917.3	242.1	150.4	150.4	399.4	1,411.9	2.5	1,409.3	65%
1932	1,010.7	322.4	117.8	117.8	444.4	1,661.1	.0	1,660.4	61
1933	1,423.8	453.9	172.0	172.0	640.8	2,225.1	.4	2,224.7	64
1934	1,728.1	409.4	202.1	202.1	614.3	2,506.7	.8	2,505.8	69
1935	1,906.7	382.7	338.3	338.3	961.9	2,999.3	1.3	2,998.0	64
1936	2,007.5	271.2	375.4	375.3	971.9	3,102.4	.9	3,101.5	65
1937*	....	120.5	223.5	171.6	515.7	....	.3	....	..

Note: * Jan.—July.

Steel Materials:	Home production	Import	Brought from colonies	Total supply	Export	Sent to colonies	Total	Total demand	Production against demand
1930	1,921.0	434.8	2.2	2,358.1	67.0	166.5	233.5	2,124.5	90%
1931	1,662.8	263.1	2.3	1,928.4	56.5	146.9	203.5	1,724.8	96
1932	2,112.5	229.6	5.5	2,347.7	115.7	184.1	299.8	2,047.9	103
1933	2,791.9	399.9	9.8	3,201.8	229.3	205.9	435.2	2,766.5	101
1934	3,322.6	370.5	56.0	3,749.3	344.8	249.2	594.1	3,155.2	105
1935	3,976.0	315.8	41.3	4,333.3	444.0	367.0	811.1	3,522.2	113
1936	4,538.5	296.0	48.9	4,883.5	447.8	440.6	887.9	3,995.6	116
1937*	....	407.1	52.1	....	20.4	140.5	161.0	....	..

Note: * Jan.—July.

Table 6. Production Classified of Pig Iron in Japan Proper

(In metric tons)

	From iron ore: With coke	From iron ore: With charcoal	Reproduced	From ores	Total
1930	1,136,853	241	24,743	57	1,161,894
1931	896,445	—	20,897	—	917,342
1932	993,447	1,253	15,837	224	1,010,761
1933	1,403,502	—	19,924	463	1,423,889
1934	1,686,641	3,368	37,222	927	1,728,158
1935	1,864,573	5,851	35,374	989	1,906,787
1936	1,972,082	6,039	29,311	139	2,007,571

Coke

The requirements of coal at the Japanese iron foundries after years of steady growth in 1936 reached 3,423,000 metric tons for the coking purpose and 2,560,000 tons for other purposes, the total being 5,983,000 metric tons. While the requirements for the latter purposes are fully met from domestic sources the supply of coking material must be sought from external sources to a considerable extent. Native coal is generally unfit for this purpose because of abundance of ashes and volatile matter, a serious handicap which the domestic industry has always had to face in the course of its development. However, by an improved process of dressing and treatment of native coal, especially by mixture with foreign coal as well as by special adaptation of the coking oven, and other technical points, the domestic foundries are now practically self-supplying in coke. For the maintenance of this position, however, the foundries must import coal from external sources such as Penhsihu in Manchuria, Kaiping in North China and Hungchi in Indo-China.

Scrap Iron

A heavy consumption of scrap iron is characteristic of iron and steel manufacture in Japan. This is explained by the preponderance of open hearth furnaces for which scrap is used in high percentages because of economic reasons. The use of scrap which declined to a considerable extent in the years 1929–31 again began to increase in 1932 until an impressive total of 3,337,000 metric tons was recorded for the year 1936, a two-fold increase in a period of 7 years. This trend has been considerably accelerated under the stimulus of the present expansionist policy followed by the heavy industries.

On an average the use of scrap in all foundries is to the extent of 58% as against 42% of pig.

With regard to the supply of scrap, however, no accurate figures are available. The total amount taken for 1934 was estimated at 2,500,000 tons, of which something like 500,000 tons were supplied from internal sources and about as many tons of steel scrap were produced at the domestic steel mills, while 140,000 tons were imported. Of the above quantity approximately 150,000 tons were directly used as raw material at rolling mills for the manufacture of small size steel products.

The external sources of scrap supply are distributed almost all over the world, the most important being the United States of America, British India, the Netherlands East Indies, Australia, China, Manchoukuo, the first named country in 1936 accounting for nearly 68% of the total imports. It is estimated that imported scrap has more recently been exceeding 60% of the total consumption in the country, although there are in evidence trends to increase the domestic production of pig iron for the steel mills.

Productive Conditions

Development of Iron and Steel Manufacture.—This branch of industry of the country was represented in 1913 chiefly by the government-managed Yawata Iron Works and a group of a few private enterprises, of which those with an yearly productive capacity of more than 5,000 metric tons were six in number. These plants, combined, were credited with an annual output of pig iron of 240,000 metric tons and steel semi-manufactures of 255,000 tons. During the World War years the number of major enterprises increased to 43, while those with productive capacities below 5,000 tons a year numbered as many as 166. Meanwhile, the Mitsubishi Mining Company had established the Kenjiho Iron Works in Korea and the two iron foundries of Anshan and Penhsihu, both in Manchuria, had been launched by means of Japanese capital. In 1918 the production of iron and steel for the country, inclusive of Korea, moved up to 630,000 metric tons of pig iron and 40,000 of steel products. In the post-war period of depression a series of internal adjustments was called for in the industry, but the production of iron and steel suffered little recession, the output of steel manufactures even increasing. After the year 1922 the manufacture of pig iron also began to pick up until record figures of 1,240,000 metric tons and 2,030,000 tons respectively for pig iron and steel products were registered in 1929. From this point on a recessive trend set in with the result that the production of pig iron and steel products declined to 1,060,000 and 1,660,000 metric tons respectively in the year 1931. Since the industrial revival in 1932 this branch of industry, like others, began to develop all along the line. The production in 1936 of pig iron was 2,200,000 metric tons and steel products 4,500,000.

Production by Major Plants.—The manufacture in the country of iron and steel and their products is in the hands of the so-called major plants, 39 in number, and small scale establishments and the so-called rolling-mills respectively numbering 20 and 40 odd. The first named

group consists of those plants which are estimated to have produced for the year 1936 not less than 10,000 metric tons of either pig iron, or steel, or their products. Of this number only 5 manufacture steel by continuous process from pig, namely, the three foundries of Yawata, Kamaishi and Kenjiho, all of which belonging to the Japan Iron Manufacturing Company, the Tsurumi foundry of the Asano Dockyard Company, and the Nippon Steel Tube Co. In addition, the Wanish plant, in Hokkaido, of the Japan Iron Manufacturing Company produces coke pig iron. The latter company, thus operating 5 major plants, accounted in 1936 for an output of pig iron equivalent to 92% of the total for the country.

There are also some establishments turning out charcoal and reclaimed pig iron, but their outputs are unimportant. In the field of rolling 32 plants were credited in 1936 with an annual production of not less than 10,000 metric tons. Of this number the Japan Iron Manufacturing Company operates 5 large scale plants, namely at Yawata, Kamaishi, Osaka, Fuji and Kenjiho. These rolling-mills produced in 1936 steel ingots to 2,727,000 metric tons and steel products to 1,782,000.

Productive Capacity

Exact figures are not obtainable with regard to the production of iron and steel in the country. But it was estimated for the end of 1933 that there were 20 blast furnaces operated with coke, each with a rated daily capacity of not less than 100 metric tons, their combined output being approximately 2,080,000 metric tons a year, and that the manufacture of steel was made by operation of 116 open hearth furnaces with a rated capacity of approximately 3,250,000 metric tons a year. Under the stimulus of expanding demand extensive developments have since then taken place on many sides, the same movement being still in progress. For instance, the new installations completed for 1934 represented 7 open hearth steel furnaces with an aggregate output of 180,000 metric tons per year, and 21 units of rolling equipment with a producing capacity of 400,000 metric tons per year. The following extension program proposed on a peacetime basis consisted of 3 blast furnaces with a combined output of 530,000 metric tons per year, 15 open hearth steel furnaces with an annual output of 800,000 metric tons, 43 rolling units with a rated capacity of 480,000 metric tons per year.

Table 7. Production of Steel Ingots

(In metric tons)

Method of production:	1930	1931	1932	1933	1934	1935	1936
Open hearth	2,225,451	1,828,823	2,325,306	3,056,347	3,633,610	4,459,737	4,900,555
Bessemer	35	—	940	—	—	—	4,504
Electric	62,140	52,765	69,740	139,561	208,790	241,649	316,475
Crucible	1,711	1,537	2,296	2,192	1,120	1,200	1,483
Total	2,289,337	1,883,125	2,398,282	3,198,100	3,843,520	4,702,586	5,223,017

Production, Exports and Imports

Home production of pig iron in 1932 was nearly 1 million metric tons which has advanced to above 2 million metric tons in 1936. As the result of continuous developments the iron and steel industry has been steadily advancing towards a state of self-sufficiency in recent years. In pig iron the domestic production met the internal requirements to the extent of 68% in 1935 and to 69% in the following year, the balance of 31% being supplied from Chosen, Manchoukuo and British India. A far better condition is seen in steel and steel products. The rate of internal supply of steel products attained 101% of the total needs in 1933 and advanced to 116% in 1936, the country thus becoming a net exporter, though to a modest extent, in this particular line.

Of the steel products the bars, the most important in point of volume, began to make substantial increases in output since 1932 until the output figure reached 1,000,000 metric tons in 1936, resulting in appreciable declines in imports and even developing the possibility of over-supply. In structural shapes the domestic production amounted in 1936 to 555,000 metric tons as against the imports of 28,000 tons, thus attaining a self-sustaining position. Even greater progress has been made in the manufacture of rails, which is largely accounted for by the requirements in Manchoukuo. Export in certain special lines there are no longer imports, the country being a net exporter to the extent of something like 100,000 metric tons before the outbreak of the China conflict. In wire making material the domestic output reached 490,000 metric tons for 1936.

Table 8. Production of Steel Materials Classified by Kinds

(In metric tons)

Rolled products:	1930	1931	1932	1933	1934	1935	1936
Bars	483,556	467,333	568,446	773,829	778,451	1,015,744	1,027,318
Shapes	250,753	202,508	252,402	331,439	430,321	467,836	554,815
Plates	548,172	532,558	573,527	747,138	927,610	1,102,249	1,397,881
Pipes & tubes	88,336	63,491	95,890	117,287	136,969	166,682	188,659
Rails & fish plates	289,696	110,338	233,502	271,982	368,199	366,744	288,536
Wire-rods	122,428	176,561	215,250	285,013	347,548	412,600	487,162
Tin-plate	22,431	27,498	34,317	35,989	61,161	94,920	139,417
Others	31,709	21,513	36,724	53,724	53,110	63,522	180,465
Total	**1,837,081**	**1,601,800**	**2,010,058**	**2,615,787**	**3,322,657**	**3,734,769**	**4,264,253**
Forgings	26,895	16,595	31,927	63,709	71,145	72,030	82,039
Steel castings	38,661	30,532	42,684	62,928	79,819	100,444	116,481
Special steels	18,429	13,931	27,929	49,524	57,912	68,832	75,813
Grand Total	**1,921,066**	**1,662,858**	**2,112,598**	**2,791,948**	**3,322,657**	**3,976,075**	**4,538,586**

The manufacture of tin and galvanized plates has also made noteworthy progress. Particularly, the manufacture of the former remaining unaffected by the general slump of business, the output gained to 140,000 metric tons in 1936. As against this domestic production imports had to be made to meet the expanding demands to the extent of approximately 50,000 tons, exclusive of considerable quantities handled by the bonded factories. In galvanized plates the country is now a net exporter, with growing markets in Eastern Asia and in the South Sea countries.

An appreciable growth has been made in the manufacture of steel pipes, the output for 1936 being 190,000 metric tons as against 40,000 tons of imports. A greater dependence on external supply is still seen in hoops which were imported in 1936 to the amount of approximately 30,000 metric tons, the largest import item after tin-plates in point of weight.

In castings and forgings the country has not only been self-sustaining but a net exporter to a growing extent. The production of special steels has of late years grown considerably under the stimulus of expanding wartime industries, the output for 1934 reaching a total of 55,000 metric tons, although slightly less than 10,000 tons had to be imported in addition to meet the needs in the country.

Taking the iron and steel industry as a whole, imports tend to decline while exports move up. The attainment of a self-sufficient state in steel products in 1934 must be considered to be a land-mark in the history of the industry. But the imports of pig iron, scrap, semi-manufactures and finished manufactures, taken as a whole, still result in a net import balance of three million tons a year, valued at more than ¥200 million.

Conditions in the Industry

The prices of iron and steel were made about 15 years ago subject to the movement of the import market. This policy was practised through the sales system of the Yawata Iron Works, the objects being the restriction of imports and the consequent protection of the domestic industry. The idea proved fairly successful with regard to pig iron and steel products, especially rolled products. But following the financial panic at the close of the year 1929 the private concerns and plant embarked upon the policy of underselling each other with the result that the above system became ineffective and the market prices worked off below the cost of production.

However, the market took a decided turn after 1932 under the stimulus of a set of favorable circumstances introduced by the changed financial and industrial policies of the country. Industry in general was enlivened through the devaluation of the foreign exchange and the iron and steel in particular were benefited by the armament expansion program on which the country now embarked. The expansion in demand and the costs of imports enhanced in consequence of the reduced external value of the national currency forced up the internal iron and steel market. These factors of favorable influence have generally remained in force.

Latterly, however, the industry has been facing a number of problems among which may be mentioned the rising cost of production, higher prices of raw material, and increasing control by legislation.

INDUSTRY UNDER CONTROL

It was not until after the World War that the matter of controlling the iron and steel industry was taken up. The initial step in the

same direction was taken in 1925 when an industrial federation was formed on the general principle of co-operation between the official and private enterprises. The organization in July 1926 of the iron association was followed by successive formations of similar guilds in rolled products, structural shapes, sheets and plates, wire making material, etc. Further, when the business was slumped around the years 1930–31, a number of collective sales organs were formed in various lines of products until the sales of practically all the products of both the state owned Yawata Iron Works and the private owned enterprises were placed under a coordinated system.

These trade combines proved effective to a degree in maintaining the market prices, but their positions were often disturbed by the competition offered by the "outsiders" consisting of minor enterprises. The combines themselves had to reveal defects in point of internal co-operation. The whole industry was consequently plunged into the depth of depression.

In view of these conditions the Government intervened to effect a consolidation of the enterprises and to place the industry itself under a more rigid form of state control by legislative measures. As a consequence, the Japan Iron Manufacturing Company was formed in January 1934 by fusion of the state managed Yawata Iron Works and a number of major iron works under private enterprise and placed under the control of the state under the "Law for the Japan Iron Manufacturing Company."

The new company was composed of the complete establishment of the Yawata Iron Works and affiliated mines, the Wanishi Iron Works near Sapporo, the Kamaishi Foundry, the Fuji Steel Works, the Kyushu Steel, the Mitsubishi Iron Manufacturing, the plants and outfits affiliated with the Toyo Iron Manufacturing Company. The whole organization was capitalized at ¥359,821,000, fully paid up, of which ¥284,195,000 represented the investment of the Government. In 1934 the company produced pig iron, steel ingots and steel products respectively to 96%, 53% and 44% of the total production in the country.

Despite this predominant position in production, the Company has not always been successful in controlling the market. The first reason is seen in the fact that the Company externally marketed only small amounts of pig iron in comparison with the imports. Secondly, the production of the Company ranges over too extensive a field that their products, except a few specialized and monopolized lines, have but limited influence upon the general market. In the third place, the bulk of the Company's output is sold to state managed enterprises, detached from the movement of the general market.

Iron and Steel Policy

Since the Government established the Yawata Iron Works in 1986 the policy of the country has been consistently directed to the end of attaining a position of self-supply and security in iron and steel. While the Yawata foundry under official auspices has followed a course of continuous growth and development on one hand, the Government has, on the other, fostered and encouraged the domestic iron and steel enterprises through protective tariffs and a number of subsidizing and other legislative measures.

The first definite step toward protective tariffs was taken in 1921 when duties were raised all along the line for the protection of the iron and steel industry then at a low ebb. However, the effects of these changes in ad valorem rates were neutralized by the declines in prices that followed later. In 1926 a specific tariff was adopted with regard to 12 individual lines. As the result of these changes the rates, on an average meant a raise from 9.2% in 1925 to 14.1% in 1926.

The despression which set in after 1929 was met in 1931 by further raises in customs duties, the most important of these changes being a higher rate introduced on pig iron. The new specific rate on pig iron at ¥6 per metric ton represented a 3.6-fold increase. The rate on pig has not been raised earlier from the apprehension of advancing the cost of production of steel in the country. Another important point of change was the introduction of an additional duty of 35% on top of the specific tariff, the new system becoming applicable to all items coming under specific rates, with the exception of pig iron and wire rods.

Scarcely less effective results have been achieved through successive legislations, the first of which was seen in the Law for Encouragement of Iron Manufacture enforced in 1917. Under this law the enterprises qualifying under the prescribed conditions were exempted from internal taxes, authorized to import equipment duty-free and given other privileges. A subsidization system was introduced in 1926 when the above system was broadened in scope partly with a view to the relief of the industry itself depressed through the post war period. Under the altered system the manufacture of steel from pig by continuous operation was subsized to the extent of ¥3 to ¥6. This law, with slight changes, remains in force to this day, although it proved ineffectual except in affording relief during the years of depression. That is, subsidies have gone little way toward the promotion of large scale enterprises for steel manufacture with continuous operation.

Gold

The principal gold producing districts in Japan are at present confined to the northern corner of Taiwan, the northern and south-western parts of Kyushu, especially Kagoshima, and some northern parts of Honshu, including the island of Sado. Lately, Oita-ken in Kyushu has become the most noted centre of gold production with an output of 5,234,203 grammes (1935), approximately, followed by Ibaraki-ken with 3,548,816 grammes.

Deposits and Geology.—The greater part of the veins worked in Japan are found in Tertiary rocks, especially in the sedimentary and eruptive rocks. The gold ores in Japan occur in the five modes of fissure-filling or veins, impregnations, and in the three modes of deposits, viz., metasomatic, contact-metamorphic and mechanical detrial. This explanation also applies to silver.

Placer Gold.—The locality most celebrated for placer gold is or rather was Esashi, Hokkaido, the Klondike of Japan. The output of placer gold in 1935 was 1,578 grammes valued at ¥9,980.

Recent Situation.—Following the second departure from the gold standard in 1931 the gold mining industry began to develop at a rapid pace under the influence of the higher cost of the metal and the special industrial policy launched by the national government. Both new and old mines were placed in operation in many directions. Successive extensive developments took place almost at all mines. The production in Japan proper at 22,000 kilograms (valued at ¥75 million) for 1936 was a gain of 83% in volume and 369% in value in comparison with the year 1931. Korea and Formosa likewise increasing their produce in the meantime, the production for Japan and the colonies, combined, reached in 1936 a total of 41,000 kilograms, valued at ¥139 million, a gain of 86% in volume and 415% in value compared with the year 1931.

Silver.—As in the case of gold, silver ores in Japan are found in the inner side of the northern and southern part of Japan proper, owing to the fact that the non-volcanic rocks from which the metal is chiefly derived, exist in highly developed condition in those particular regions. Again, just as in the case of gold, silver veins are mainly found in the eruptive and sedimentary rocks of the Tertiary formation. The ores exist in the form of argentite, itephanite, pyrergyrite, etc., but in Japan such minerals as galena, tetrahedrite, chalcopyrite, etc., yield a larger supply of the metal. Silver mines now worked exist in the Main Island, Kyushu and Hokkaido, but are absent in Formosa and Shikoku. Noted centres are Akita, Kagawa and Ibaraki.

Table 9. Output of Gold and Silver
(In Kilogrammes)

	Gold				Silver			
	Japan proper	Chosen	Taiwan	Total	Japan proper	Chosen	Taiwan	Total
1920	7,719	3,333	567	11,619	152,165	24	558	152,746
1925	8,463	4,692	242	13,398	126,194	1,503	360	128,057
1930	12,067	6,186	487	18,741	175,063	2,101	471	177,635
1931	12,275	9,031	553	21,859	167,583	11,404	552	179,539
1932	12,497	9,700	817	23,014	163,625	18,351	607	182,583
1933	13,728	11,508	652	25,888	185,610	21,864	231	207,705
1934	15,146	12,427	1,046	28,619	217,254	31,287	296	248,837
1935	18,321	14,710	1,157	34,188	256,007	39,345	329	295,681
1936	22,234	17,489	1,294	41,017	303,653	58,820	402	362,875
1937*	22,500	26,000	1,300	49,800	310,000	....	...	....

Note: * Estimated figures, compiled by the League of Nations.

Table 10. Output of Leading Gold, Silver and Copper Mines
(a) Gold Mines (in grams)

Name of Mines	1931	1932	1933	1934	1935	1936
Saganoseki	2,718,454	2,130,947	2,263,210	2,732,351	3,184,258	4,711,823
Hitachi	2,610,645	2,548,922	2,736,970	2,985,345	3,548,816	3,968,505
Besshi	1,201,751	732,985	826,949	758,307	805,390	785,703
Ikuno	1,123,155	1,221,163	1,302,407	1,012,631	1,550,508	1,636,358
Taihu	1,080,110	1,851,086	1,937,914	2,000,451	2,049,945	1,511,379

Name of Mines	1931	1932	1933	1934	1935	1936
Mitsui-Kushikino ..	966,498	962,183	1,052,539	1,015,182	919,410	1,004,043
Konomai	898,396	1,333,794	1,522,968	1,492,725	1,499,953	2,104,838
Kosaka	576,344	539,812	753,812	924,488	924,351	1,231,262
Sado	289,536	207,186	207,720	251,773	294,043	251,709
Yamagano	200,538	167,195	165,234	199,927	330,673	358,477
Ashio	126,956	146,856	163,679	163,632	212,350	227,175
Osarizawa	96,169	216,576	193,538	200,701	349,070	240,858
Hassei	21,428	60,247	148,712	153,648	229,964	304,656
Shizukari	75,922	73,513	72,187	244,073	542,955	555,973
Kamioka	47,922	54,509	54,539	54,257	62,617	73,206
Arakawa	42,568	64,298	57,493	89,161	42,655	29,383
Mitsui-Sanryu	—	—	—	258,647	329,365	342,017
Mochikoshi	—	—	—	127,570	362,715	546,461
Kanai Hoshino	—	—	—	32,572	231,292	293,940
Taihu Hoshino	—	—	13,740	62,800	72,210	83,698
Okayahu	—	—	—	—	95,308	91,856
Komaki	—	—	—	—	—	277,334
Tenryu	—	—	—	—	—	684,812
Chigirishima	—	—	—	—	66,038	89,635
Fuke	—	—	—	—	21,965	89,529
Kammi	—	—	—	—	51,252	86,819

(b) Silver Mines (in grams)

Name of Mines	1931	1932	1933	1934	1935	1936
Besshi	29,620,192	18,175,887	16,193,747	18,788,379	18,852,222	16,820,783
Hitachi	29,006,540	20,204,024	21,072,622	29,229,716	37,864,259	41,922,068
Ikuno	22,788,763	22,740,910	21,977,384	20,801,641	29,375,633	32,287,925
Saganoseki	15,466,203	10,902,782	18,625,455	24,060,972	28,009,434	31,826,348
Kosaka	12,203,876	19,018,702	21,312,234	22,495,404	21,987,863	28,117,842
Ashio	14,510,888	16,098,680	14,131,673	12,510,365	14,084,055	16,454,455
Kamioka	10,519,499	12,216,693	15,193,154	15,765,082	14,979,183	17,132,265
Mitsui-Kushikino ...	6,639,190	6,856,360	7,596,690	8,048,860	6,933,870	8,820,940
Konomai	5,645,985	15,712,533	25,939,347	34,562,084	30,525,130	39,990,581
Sado	4,230,063	2,019,418	1,571,593	1,924,120	2,330,316	2,188,225
Taihu	3,674,227	9,006,393	10,312,687	11,027,285	11,419,701	10,131,861
Osarizawa	3,315,831	3,679,424	4,166,412	5,198,299	5,885,581	3,815,166
Hassei	1,832,948	2,921,602	3,143,672	3,545,005	11,262,546	11,120,299
Hosokura	1,091,683	1,371,662	1,725,953	1,524,520	1,992,211	3,623,062
Arakawa	801,854	857,640	773,418	763,247	611,661	674,857
Mochikoshi	—	—	—	2,987,606	7,522,510	13,878,894
Mitsui-Sanryu	—	—	—	1,047,150	1,836,271	1,659,048
Nagamatsu	—	655,577	703,867	811,597	936,987	897,501
Kanai Hoshino	—	—	—	61,887	620,513	828,105
Sasagaya	—	—	—	—	756,530	1,199,228
Tajima	—	—	—	144,559	1,241,590	1,389,357
Chigirishima	—	—	—	—	2,106,468	2,490,405
Komaki	—	—	—	—	—	5,260,615
Tenryu	—	—	—	—	27,180	4,249,898
Shizukari	—	—	—	1,157,403	2,564,205	3,164,066

(c) Copper Mines (in kilograms)

Name of Mines	1931	1932	1933	1934	1935	1936
Ashio	13,294,075	14,778,919	12,890,200	10,854,064	10,964,465	12,761,868
Besshi	12,630,812	10,598,791	10,702,353	10,670,536	10,548,389	11,991,087
Saganoseki	8,065,931	9,323,825	8,488,336	8,406,020	8,963,566	10,947,679
Kosaka	8,781,051	9,407,152	9,015,438	8,694,532	8,536,993	8,678,757
Hitachi	7,737,215	7,685,191	9,036,206	9,610,765	10,261,274	10,790,361
Ikuno	3,795,917	6,402,011	5,756,287	6,006,245	7,502,778	8,469,832
Osarizawa	3,237,888	5,890,676	5,451,600	5,354,193	5,721,199	4,888,219
Hassei	41,023	2,107,130	2,130,617	2,322,392	2,839,036	2,890,022
Arakawa	1,690,873	1,536,760	1,418,565	1,275,239	1,216,711	977,630
Ogoya		1,393,397	1,511,358	1,559,000	1,606,000	1,698,000
Chigirishima	—	—	—	—	1,271,386	2,143,777

Recent Situation.—Silver output has increased appreciably since the year 1932. Of the internal output of silver 70% is produced as a by-product by smelting of copper. For this reason the production in the country declined in quantity after the years 1929-30 in consequence of the decreased production of copper and also declined in value through the falls of the international silver market. A favorable turn was seen after 1932 due to the devaluation of the external value of the national currency and the improvement of the international market. The enhanced internal value of silver was reflected in an increasing output, the production for 1936 being 300,000 kilograms in volume and ¥15 million in value, second in importance only to copper and gold.

Copper

Next to coal copper is the most important mineral product in Japan. The ores are found both on the outer and inner sides of the southern and northern arc of Japan proper. The contact-metamorphic type is much in evidence in the southern arc, and the metasomatic type in the northern, while the vein type predominates in the inner arc, i.e., the region on the Japan Sea side. It is in the latter that the greater part of the mines exist.

In recent years Japan imports about one-half of her copper requirements. During the World War she was an exporter of copper, her exports in 1916 amounting to 62,600 metric tons as contrasted to a production in that year of 113,300 metric tons. After the slump in 1921 when output was down to 55,000 metric tons a gradual recovery has been noticed. In 1936 copper output amounted to 78,000 metric tons, but in that same year imports were up to 83,300 metric tons. This increasing demand in copper is ascribed partly to the activity in the munitions industry and partly to the expansion in exports of copper products, including copper wire. The amount of export of such copper products is estimated at approximately 20,000 metric tons in 1936.

The domestic uses of copper may be proportioned as follows: copper wire, 61%; munitions, 7%; others 32%.

There are six leading copper mines, which are all owned and operated by wealthy business magnates. These are Hitachi Mines represented by Nippon Sangyo, Ashio Mines by Furukawa, Besshi Mines by Sumitomo, Kosaka by Fujita and Osarizawa and Ikuno by Mitsubishi.

Lead

Japan uses in recent years about 100,000 metric tons of lead, of which approximately 10 per cent. is of domestic production. In view of a rise in price brought about by a continued brisk demand in the munitions industry, efforts are being made to increase production of this product. Lead production for 1936 amounted to 8,883,467 kilogrammes.

Tin

The demand for tin has been slightly under 6,500 metric tons in recent years. About two-thirds of this demand is imported. The market price of this item has risen considerably of late due to activitiy in the industrial and munitions industry. The Akebono mines in Hyogo prefecture are responsible for about 80 per cent. of the tin production of the country.

Zinc

The output of zinc is large enough to meet about 40 per cent. of domestic requirements. The industrialists concerned are endeavouring to increase production with the ultimate purpose of making the country self-sufficient in this metal. As in the case of the other metals referred to above, the demand for zinc has increased in late years. Total demand in 1936 which was slightly over 100,000 metric tons represented a 20 per cent. increase over 1935. The value of zinc ore imports were roughly 39,000 metric tons in 1936, valued at ¥3,000,000.

Sulphur

Being a volcanic country, Japan is naturally rich in sulphur deposits. High grade deposits alone are worked, i.e., those containing not less than 40%. Sulphur deposits are much in evidence at the northern corner of Formosa, the Japan Sea districts in northern Japan and the eastern part of the Hokkaido.

The demand for sulphur has more and more increased due to the growing activity of such industries as paper, celluloid and rayon, which require sulphur. The output of sulphur for 1936 was 198,237 metric tons.

Table 11. Demand and Supply of Principal Minerals

		Output (Kgs.)	Import (Kgs.)	Export (Kgs.)	Demand (Kgs.)	% of output to demand
Copper	1932	71,876,557	1,966,600	23,121,600	50,721,557	141.7
	1933	69,032,756	17,617,700	8,512,100	78,138,356	88.3
	1934	67,002,270	51,368,300	12,621,600	105,748,970	63.4
	1935	70,913,900	69,627,100	17,816,400	122,724,600	57.8
	1936	77,973,191	53,330,300	12,427,100	118,876,391	65.6

		Output (Kgs.)	Import (Kgs.)	Export (Kgs.)	Demand (Kgs.)	% of output to demand
Lead	1932	6,414,643	55,953,700	518,000	61,850,343	10.4
	1933	6,824,687	67,254,300	787,800	73,791,187	9.3
	1934	7,039,311	95,114,000	2,082,100	100,071,311	7.0
	1935	7,442,361	91,408,100	1,883,900	95,966,591	7.8
	1936	8,883,467	97,822,200	2,316,800	104,388,867	8.5
Tin	1932	1,002,280	3,807,100	——	4,450,880	21.6
	1933	964,800	3,807,100	——	4,771,900	21.6
	1934	1,218,216	4,062,500	——	5,280,716	23.1
	1935	2,068,839	4,369,800	——	6,438,639	32.1
	1936	1,870,108	4,623,500	——	6,493,608	28.8
Zinc	1932	27,043,432	26,571,600	——	53,615,032	50.4
	1933	30,657,632	32,525,600	——	63,183,232	48.5
	1934	32,145,458	33,208,100	——	65,353,558	49.2
	1935	34,191,261	45,843,000	——	80,034,261	42.7
	1936	39,066,144	61,774,000	——	100,840,144	38.7
		(M. tons)	(M. tons)	(M. tons)	(M. tons)	
Iron pyrite	1932	726,673	——	——	726,673	100.0
	1933	903,129	——	——	903,129	100.0
	1934	1,090,484	——	——	1,090,484	100.0
	1935	1,338,891	——	——	1,338,891	100.0
	1936	1,750,914	——	——	1,750,914	100.0
Sulphur	1932	84,530	——	25,998	58,532	144.4
	1933	144,426	——	32,115	82,311	139.0
	1934	135,412	——	45,650	89,762	150.9
	1935	164,945	——	54,605	110,340	149.5
	1936	198,237	——	71,870	126,367	156.9
Manganese	1932	26,242	72,073	3,444	94,871	27.7
	1933	43,535	117,120	6,209	154,446	28.2
	1934	57,165	147,354	4,618	199,901	28.6
	1935	71,659	170,330	5,260	236,729	30.3
	1936	67,753	....	5,725	....	
	1937			5,652		

Magnesium

The production of magnesium in Japan is of recent date, manufacturing of this metal having started in 1931. From an annual output of 2 metric tons in that year production increased in 1935 to 271 metric tons, of which 74 metric tons were exported. Production in 1936 is estimated to have been about 500 tons of which 100 tons were exported. Within a few years it is planned to step up production to 3,600 metric tons.

Leading magnesium producers are the Japan-Manchuria Magnesium Company with factories in Niigata and Yamaguchi prefectures and the Chosen Chisso Company with its plant in Kankyonando, Chosen.

Aluminium

The aluminium industry in Japan dates from February 1934 with the establishment of an aluminium plant by the Nippon Denki Kogyo Kaisha. In 1938 there were four other companies in the enterprise. Aluminium output in 1935 amounted to 4,400 metric tons, in 1936 to 7,000 metric tons while output in 1937 is estimated to have been roughly 10,000 tons.

Aluminium demand in Japan in 1935 amounted to 17,800 tons, and in 1936 to 17,200 tons. It is planned to increase production of this metal to 20,000 tons in the next few years so as to bring about self-sufficiency in this item.

Japanese companies producing aluminium in 1938 were the following: Nippon Denki Kogyo Kaisha, Japan-Manchoukuo Aluminium Company (plant in Toyama prefecture), Sumitomo Aluminium Company, Nippon Aluminium Company, the Nippon Soda Company.

Japanese companies producing aluminium and their annual production capacity in 1938 were as follows:

Company	Capacity (M. tons)
Nippon Denki Kogyo	7,200
Japan-Manchoukuo Aluminium	7,000
Sumitomo Aluminium	1,500
Nippon Aluminium	6,000
Nippon Soda	2,500
Manchuria Light Metal	4,000

Bauxite for aluminium production is wholly imported, principal supplier countries being Johore, Greece, Netherlands Indies and British India.

Table 12. Production and Imports of Aluminium

(In metric tons)

	Production	Imports: Ingot, slab. & grain	Imports: Others	Imports: Total	Value (¥1,000)
1930	——	10,905	743	11,708	9,865
1931	——	2,788	2,426	5,214	3,312
1932	——	4,794	3,491	8,285	7,794
1933	——	3,606	3,632	7,238	10,233
1934	664	5,342	4,834	10,176	12,576
1935	4,434	9,774	3,627	13,401	18,362
1936	7,000	9,011	1,230	10,241	13,229
1936 1st half	....	6,395	1,268	7,663	9,493
1937 1st half	....	3,678	1,018	4,696	6,296

Table 13. Japan's Imports of Aluminium by Countries of Origin

(In metric tons)

	1934	1935	1936
Ingots, Slabs & Granin:			
Canada	3,154	4,465	6,904
Switzerland	385	1,699	1,255
Norway	497	1,828	492
United States	0.1	0.1	356
Italy	33	681	——
United Kingdom	84	307	——
France	508	287	——
Germany	257	230	——
Austria	340	249	——
Total	5,341	9,774	9,011
Others:			
British India	483	1,060	573
United States	3,939	1,821	271
China	95	104	68
Germany	88	120	66
United Kingdom	115	202	48
Kwantung Province	12	9	39
Straits Settlements	35	87	37
Canada	22	130	35
Manchoukuo	15	38	28
Total	4,835	3,627	1,230

COAL

Coal is one of the few minerals of which Japan has a fair supply. But in spite of a remarkable increase in production, amounting to 41,803,000 metric tons in 1936 as compared with roughly 26,220,000 metric tons in 1921, demand in recent years has outstripped supply and the deficiency is met by imports. The great increase in coal requirement is due chiefly to the activity in the various industries of the country. There seems little chance that coal can be sufficiently mined in Japan as demand has been continually expanding and as projects have been launched for coal liquefaction to supplement the Empire's petroleum needs.

The mining of coal in Japan proper amounted for many years to roughly 30,000,000 metric tons annually but recently it has been stepped up to 40,000,000 metric tons. It is estimated that demand will expand to 72,000,000 metric tons, approximately, by 1941 and consequently plans are on foot to meet this requirement, but it seems that at the most Japan's production will not exceed 60,000,000 tons by that year.

Table 14. Coal Reserves in Japan Proper

(Investigation in 1932)

(In 1,000 metric tons)

Reserves	Anthracite natural coal	Bituminous coal	Low-grade lignite	Total	%
Proved	454,745	5,439,905	65,765	5,960,415	36
Probable	131,944	3,780,975	132,582	4,045,501	24
Possible	132,093	6,278,211	275,113	6,685,417	40
Total	718,782	15,278,211	473,460	16,671,333	100

Coal Imports.—Coal imports in 1936 amounted to roughly one-tenth of domestic production. Of 4,209,000 metric tons imported in that year Manchoukuo supplied slightly over one-half of that amount, while China and Indo-China accounted for the rest. As industrial demand for coal is expanding in Manchoukuo it is felt that that country will not be in the position to supply Japan with a larger amount of coal. Coal imports from China so far have been accounted for chiefly by the Kailan Collieries, while those from Indo-China come from Hungchi.

North China is believed to hold the key as a source of coal to Japan. The resources of this mineral in that region is computed at 13,000 million metric tons, representing about one-half of the total coal deposits of China. It is from this region and more specifically from the province of Shansi that Japan expects to obtain her coal requirements. Poor transportation facilities are the main impediment at present facing the exportation of coal from Shansi.

Table 15. Demand and Supply of Coal

(In thousands of metric tons)

	Output	Import	Export	Consumption	% of output to demand		Output	Import	Export	Consumption	% of output to demand
1927....	33,530	2,703	2,190	32,747	102.4	1932....	28,053	2,716	1,388	29,382	95.5
1928....	33,860	2,778	2,184	32,514	104.1	1933....	32,524	3,496	1,560	34,459	94.4
1929....	34,257	3,254	2,043	33,179	103.2	1934....	35,925	4,060	1,087	38,898	92.4
1930....	31,376	2,692	2,130	29,478	103.0	1935....	37,762	4,049	1,019	40,792	92.6
1931....	27,987	2,693	1,540	29,140	96.0	1936....	41,803	4,189	1,112	44,879	93.1

Distribution of Coal Fields.—The coal fields of the Empire extends from Karafuto (Saghalien South) in the north to Taiwan in the south. Principal coal fields are located in Kyushu, Hokkaido, the Joban district (provinces of Iwaki and Hitachi) and Ube. The most flourishing of all are the Chikuho Coal Fields in Kyushu and the Ishikari Coal Fields in the Hokkaido. The coal deposits in Japan proper are estimated at 16,690,000,000 metric tons, approximately, of which 2,550,000,000 is represented by Honshu, 6,120,000,000, by Kyushu, and 8,000,000,000 by the Hokkaido. Besides, coal deposits in Chosen, Taiwan and Karafuto are estimated to total 2,500,000,000 metric tons. Thus, all told the coal deposits of the Japanese Empire are roughly 19,000,000,000 metric tons. It is estimated, however, that only about half of the deposits, or ten billion tons can be utilized economically.

Chief among the coal fields in Kyushu are the Chikuho, Miike and Karatsu coal fields in the northern part of the island. The Chikuho coal fields are the most representative of them. Lying over the tributaries of the Onga-gawa the coal fields cover an extensive area of 750 square kilometres. They turn out coal yearly to the amount of 12,000,000 metric tons, which is about one-third of the total coal production of Japan. It is already sixty years since the fields were opened, but still they retain a position of prominence among the coal fields of the country. Principal mines belonging to those fields are the O-noura Coal-mine owned by the Kaijima Coal Mining Co., the Tagawa Coal-mine owned by the Mitsui Mining Co., and the Futase Coal-mine owned by the Department of Commerce and Industry. They each turn out coal to the amount of over a million metric tons a year.

As regards the coal fields in the Hokkaido, those in Ishikari Province, or the Ishikari Coal Fields are the most important, covering an area of about 960 square kilometres.

Leading coal mines representing the Ishikari Coal Fields are the Yubari Coal-mine owned by the Hokkaido Colliery and Steamship Co., which is responsible for an annual yield of 1,300,000 metric tons. It is followed by the Mitsubishi-bibai Coal-mine owned by the Mitsubishi Mining Co., the Sunagawa Coal-mine owned by the Mitsui Mining Co., the Shin-Yubari Coal-mine owned by the Hokkaido Colliery and Steamship Co., each producing over 500,000 tons of coal a year.

The Joban Coal Fields lie along the seacoast extending from Iwaki-gun, Fukushima-Ken to Taga-gun, Ibaraki-Ken. They are 60 kilometres in length and only 4 to 6 kilometres in width. It is estimated that they contain deposits of 710,000,000 metric tons of coal. Principal mines representing these coal fields are the Uchigo Coal-mine owned by the Iwaki Coal Mining Co., the Iriyama Coal-mine owned by the Iriyama Coal Mining Co., the Okura Muen Coal-mine owned by the Okura Mining Co. They each yield 250-830,000 tons of coal a year. Besides, there are six mines each accounting for over 100,000 tons of production.

The Ube Coal Fields lie underneath the City of Ube, Yamaguchi-Ken and the bottom of the sea adjoining it. Principal mines belonging to these coal fields are the Okinoyama Coal-mine owned by the Okinoyama Coal Mining Co., (annual production of 950,000 tons of coal), the Higashi-misome Coal-mine owned by Fujimoto-Kansaku (annual production of 370,000 tons of coal) and the Oki-Misome Coal-mine owned by the Okura Coal Mining Co. (annual production of 140,000 tons).

Table 16. Output of Leading Coal-mines in Japan Proper

Coal field	1934 Quantity (1,000) M. tons	1934 Value (¥1,000)	1935 Quantity (1,000) M. tons	1935 Value (¥1,000)	1936 Quantity (1,000) M. tons	No. of workmen (June, 1935)	Owners
Miike (Kyushu)	2,329	22,840	2,488	25,731	2,651	10,396	Mitsui Mining Co.
Onoura (Kyushu)	1,329	9,796	1,558	10,713	1,498	4,917	Kajima Mining Co.
Mitsui Tagawa (Kyushu)	1,155	9,384	1,203	9,985	1,370	4,613	Mitsui Mining Co.
Futase (Kyushu)	952	7,081	1,020	7,622	1,090	4,352	Dept. of Com. & Ind.
Yubari (Hokkaido)	1,008	7,413	1,065	8,112	1,480	2,541	Hokkaido Colliery S.S. Co.
Mitsubishi bibai (Hokkaido)	879	6,836	958	7,222	1,037	1,918	Mitsubishi Mining Co.
Sakito (Kyushu)	858	5,868	953	6,830	1,020	2,684	Kyushu Colliery S.S. Co.
Okinoyama (Yamaguchi)	1,145	6,924	1,156	7,749	1,245	4,347	Okinoyama Mining Co.
Uchigo (Iwaki)	879	6,210	798	4,857	841	4,481	Iwaki Mining Co
Shin-yubari (Hokkaido)	249	1,792	246	1,866	269	621	Hokkaido Colliery S.S. Co.
Hokoku (Kyushu)	538	4,085	484	4,038	505	1,904	Meiji Mining Co.
Kineshima (Saga)	501	3,701	612	4,961	717	3,705	Kineshima Mining Co.
Mitsui Sunagawa (Hokkaido)	775	4,973	840	5,591	861	1,873	Mitsui Mining Co.
Iizuka (Kyushu)	557	4,237	535	4,248	595	1,480	Iizuka Mining Co.
Mitsui Yamano (Kuyshu)	557	3,807	643	4,663	717	2,581	Mitsui Mining Co.
Takashima (Kyushu)	472	4,962	485	5,534	540	1,984	Mitsubishi MiningCo.
Tadakuma (Kyushu)	418	3,124	437	3,448	448	1,842	Sumitomo Mining Co.
Nakazuru (Kyushu)	601	4,373	642	4,873	743	3,763	Taisho Mining Co.
Iriyama (Iwaki)	463	3,350	484	3,580	519	2,115	Iriyama Mining Co.
Akaike (Kyushu)	412	3,161	391	3,091	373	1,819	Meiji Mining Co
Shinnyu (Kyushu)	405	3,185	415	3,350	428	1,105	Mitsubishi Mining Co.
Tsunawake (Kyushu)	455	3,031	452	3,090	432	2,215	Aso Shoten Co.
Namazuda (Kyushu)	720	5,361	732	5,672	767	2,083	Mitsubishi Mining Co.
Higashimisome (Kyushu)	674	...	687	4,313	820	3,718	Higashimisome Mining Co.

Table 17. Output of Leading Mines By Forms

(In metric tons)

	1927	1932	1933	1934	1935	1936
Lump	8,981,281	7,252,448	8,470,898	8,671,771	9,029,077	9,677,095
Dust	15,133,923	13,911,074	16,549,519	18,978,018	20,400,806	22,557,860
Cut	5,128,397	2,487,770	2,711,566	2,570,965	2,485,622	2,554,005
Unscreened	4,143,559	4,122,119	4,420,149	5,329,552	5,450,567	6,583,603
Peat	143,447	279,964	371,614	374,683	396,419	430,148
Total	33,530,607	28,053,375	32,523,746	35,924,989	37,762,491	41,802,711

Petroleum

Petroleum producing districts in Japan extend from Karafuto in the north to Formosa in the south. Those places which are noted for its production are Niigata-Ken, Akita-Ken, the Hokkaido and Formosa. The total area of oil wells in the whole Empire (as on July 1, 1935 in Japan proper and as on January 1, 1935 in Formosa and Karafuto) was 735,125,589 tsubo, representing 1,347 concessions.

The demand for petroleum has steadily risen in the last few years by 10 to 15 per cent. annually. While domestic production shows an increase Japan, nevertheless, relies on imports for about 90 per cent. of her oil requirements. Oil imports in 1936 amounted to 130 million yen and was the fourth largest item in Japan's imports, preceded only by raw cotton, wool and iron.

Table 18. Japan's Position in Estimated Petroleum Deposits

(In million metric tons)
(1935)

	Deposits	% to grand total
Europe:		
Germany	1.3	0.0
Poland	69.0	1.7
Roumania	113.1	2.8
U. S. S. R.	550.7	13.5
Total incl. others...	742.1	18.3
Asia:		
Japan	59.5	1.5
Dutch East Indies....	138.0	3.4
British India	12.5	0.3
Iran	299.0	7.3
Iraq	395.0	9.7
Total incl. others...	910.6	22.4
Africa:		
Total	2.3	0.1
America:		
Canada	1.2	0.0
U.S.A.	2,029.3	49.9
Mexico	49.3	1.2
Venezuela	235.1	5.8
Colombia	50.3	1.2
Total incl. others...	2,408.9	59.2
Grand total	4,066.0	100.0

Table 19. Japan's Position in Crude Oil Production

(In 1,000 barrels)

	1935		1936		1937	
	Production	% to total	Production	% to total	Production	% to total
Japan	2,250	0.1	2,445	0.1	2,487	0.1
U. S. A.	996,596	60.2	1,099,687	61.0	1,277,653	62.6
U. S. S. R.	182,386	11.0	197,418	11.0	199,475	9.8
Venezuela	148,529	9.0	154,794	8.6	185,701	9.1
Iran	57,304	3.5	62,699	3.5	78,741	3.9
Netherlands India	47,171	2.8	50,026	2.8	56,275	2.8
Roumania	61,310	3.7	63,655	3.5	52,176	2.5
Mexico	40,241	2.4	41,028	2.3	46,907	2.3
Others	118,931	7.3	130,034	7.2	141,116	6.9
Total (World)	1,654,688	100.0	1,801,786	100.0	2,040,531	100.0

The steps being taken by the Government to relieve the oil difficulty include the encouragement of the acquisition of petroleum resources in other countries, compulsory oil storage, and the investigation of substitute fuels for oil. Coal liquefaction plays an important role.

To increase domestic petroleum production the Government decided to grant a subsidy of ¥4,500,000 for well drilling for the five year period commencing 1936. Later reports indicate that the subsidy may be raised to ¥20,000,000 for the three years commencing 1938.

Output.—The increasing importance of petroleum is reflected in the great expansion in demand which has been noted in recent years in Japan. In 1936 the output of crude oil in Japan proper amounted to over 390 million litres as compared with 225 millon litres in 1933. Among the colonies, Taiwan yields a small amount of crude oil.

Table 20. Crude Oil Production in Japanese Empire

	Quantity (1,000 litres)			Value (in Yen)		
	Japan Proper	Taiwan	Total	Japan Proper	Taiwan	Total
1932	253,497	5,223	258,720	7,509,837	245,944	7,755,781
1933	225,566	5,796	231,362	8,958,927	424,677	9,383,604
1934	283,863	5,577	289,440	9,429,848	308,951	9,738,799
1935	350,957	6,645	357,602	11,985,514	384,860	12,370,374
1936	390,700	....	....	15,528,980	....	....

Table 21. Output of Petroleum By-products

		1927	1932	1933	1934	1935	1936
Liquidity Paraffin	Quantity (hectolitres)	—	—	25,110	29,480	28,530	34,980
	Value (yen)	—	—	715,750	946,161	915,670	1,035,525
Asphalt	Quantity (kgs.)	13,153,155	52,419,906	75,713,505	45,983,268	84,992,803	74,003,599
	Value (yen)	411,698	1,515,020	3,854,411	1,995,679	2 294,581	2,576,080
Wax	Quantity (hectolitres)	11,915	51,219	18,392	57,934	61,374	60,812
	Value (yen)	364,037	1,063,486	516,998	1,577,476	1,295,492	1,504,824
Pitch	Quantity (kgs.)	71,090,842	25,803,540	34,6 4,357	53,634,168	49,768,178	54,671,210
	Value (yen)	1,096,884	797,140	343,226	433,211	544,970	960,343

Table 22. Demand and Supply of Refined Oil (inclusive of colonies)

(In thousands of cases of 9.5 gallons each)

		Output from domestic oil	Refined from imported oil	Import	Export	Total supply	Increase or decrease over previous year
Gasoline	1933	1,443	9,838	13,615	—	24,896	6.3%
	1934	1,636	12,291	16,227	18	30,136	20.0
	1935	1,854	14,516	18,005	98	34,277	13.7
	1936	2,378	17,165	19,250	81	38,712	12.9
	1937 Jan.-July	1,799	10,182	9,084	36	21,029	....
Kerosene	1933	594	4,221	2,002	162	4,052	-22.0
	1934	546	1,614	2,928	211	4,877	20.0
	1935	799	1,729	3,336	470	5,934	10.6
	1936	1,228	2,603	2,526	864	5,493	1.8
	1937 Jan.-July	995	1,400	1,520	367	3,548	....
Light	1933	1,518	4,154	105	19	5,825	- 2.6
	1934	1,719	3,511	137	144	5,295	- 9.1
	1935	1,722	3,284	213	616	4,603	-13.0
	1936	1,375	2,789	222	514	3,872	-16.0
	1937 Jan.-July	1,297	1,409	67	8	2,765	....
Machine	1933	1,176	2,386	669	541	5,458	3.8
	1934	1,604	4,542	1,112	850	6,408	17.0
	1935	2,119	4,599	1,262	372	7,608	19.0
	1936	1,815	4,985	1,787	453	8,134	6.9
	1937 Jan.-July	1,312	2,806	1,507	328	5,297	....
Heavy	1933	587	2,386	23,566	—	25,539	4.7
	1934	1,019	5,277	25,483	2	31,777	19.7
	1935	2,386	5,520	34,528	52	42,382	33.0
	1936	3,659	8,295	35,463	86	47,331	11.7
	1937 Jan.-July	1,945	5,306	23,007	5	30,253	....
Total	1933	5,318	22,217	39,957	722	66,770	2.3
	1934	6,596	27,235	45,887	1,225	78,493	17.5
	1935	8,880	29,648	57,344	1,608	94,264	20.0
	1936	10,455	35,837	59,248	1,998	103,542	9.8
	1937 Jan.-July	7,348	21,103	35,185	744	62,892	....

Note: Excluding government purchases.

Price.—The price of the various kinds of petroleum products has been steadily advancing in recent years as the following table shows:—

Table 23. Petroleum Wholesale Price in Tokyo

(In Yen)

		Light (White Bat) per case	Gasoline (Red Shell) per case	Kerosene (No. 2) per case	Machine (Machine "C") per case
1932	(Average)	...	4.72	...	...
1933	(")	5.23	5.33	...	...
1934	(")	4.45	4.43	...	...
1935	(")	4.26	5.03	3.04	3.98
1936	(")	4.15	5.55	3.08	4.00
1937	(")	5.74	7.51	4.76	6.40
"	January average	5.25	5.95	3.80	5.80
"	February "	5.25	5.95	3.90	5.05
"	March "	5.50	5.95	4.50	5.60
"	April "	5.85	6.70	5.00	5.85
"	May "	6.10	6.70	5.20	6.10
"	June "	6.00	6.60	5.10	6.00
"	July "	6.00	6.50	5.00	6.00
"	August "	6.00	6.50	5.00	6.00
"	September "	6.00	7.20	5.00	6.00
"	October "	6.10	7.35	5.00	6.00
"	November "	5.90	7.35	4.80	6.00
"	December "	5.90	7.30	4.80	6.00

Imports.—Spectacular increases in the imports of petroleum have been witnessed in Japan. The largest increase is seen in crude and fuel oil purchases in which item Japan's takings more than doubled between 1931 and 1936, amounting to 1,033,677,000 gallons in the latter year. The import of gasoline is rising although this product is produced in Japan also from imported crude oil. The total value of petroleum imports in 1936 amounted to ¥182,769,000 as compared with ¥85,787,000 in 1931.

Table 24. Imports of Petroleum by Japan Proper

	Volume (in 1,000 U.S. gal'ons)					Value (¥1,000)		
	Crude & Heavy	Gasoline (1)	Kerosene (2)	Machine (3)	Total	Crude & Heavy	Refined	†Total incl. others
1930.....	426,374	90,421	23,298	11,181	551,274	44,795	44,771	89,566
1931.....	453,608	105,628	16,799	10,382	586,417	44,063	41,724	85,787
1932.....	568,665	116,298	18,509	9,749	713,221	54,887	43,701	98,588
1933.....	613,009	122,228	15,233	6,576	757,046	68,346	40,513	108,859
1934.....	743,985	145,432	23,188	10,626	923,231	82,482	41,544	124,026
1935.....	918,737	157,842	26,686	12,012	1,115,277	106,825	45,820	152,646
1936.....	1,033,572	173,089	19,879	16,923	1,243,463	129,687	53,082	182,769
1936 (1st half).	548,670	90,531	8,254	38,930	686,385	66,229	28,525	94,829
1937 (1st half).	605,156	82,102	12,192	19,882	719,332	86,171	34,981	120,207

Note: (1) Specific gravity of under 0.8017.
(2) Specific gravity of under 0.8762.
(3) Specific gravity of under 0.9218 and others.
† Inclusive of other products, such as paraffin, vaseline, etc.

Production in North Saghalien.—A goodly amount of petroleum is produced from Japan's oil concession in Soviet Saghalien. In 1935 it amounted to 168,068 metric tons. The enterprise is subsidized by the Government.

Table 25. Output of Petroleum and State Subsidy for the Development of Petroleum Industry in North Saghalien

	Output (Metric tons)	State Subsidy (Yen)
1931.....	186,000	——
1932.....	186,000	100,000
1933.....	192,900	284,000
1934.....	162,961	1,216,000
1935.....	164,068	900,000
1936.....	....	1,220,000*
1937.....	....	2,172,000*
1938.....	——	2,400,000*
1939.....	——	1,888,000*
1940.....	——	864,000*
1941.....	——	216,000*

Note: * Budgets.

Synthetic Production of Petroleum

At the extraordinary session of the Diet in August 1937 a bill was passed to provide official assistance to the synthetic petroleum industry in the form of subsidies, elimination of taxes and the elevation of petroleum prices. The government's plan calls for a seven year project starting 1937 in Japan and Manchoukuo with a capital outlay of ¥770,000.000. According to this project petroleum production in 1943 will be as follows:

Synthetic Production Plan of Petroleum in 1943
(U.S. gallons)

Production Method	Gasoline	Heavy Oil
Direct Liquefaction.	160,000,000	110,000,000
Fischer Synthetic Process	100,000,000	60,000,000
Low Temperature Carbonization ...	10,000,000	140,000,000
Total	270,000,000	310,000,000

According to official estimates made in 1938 the demand for gasoline in 1943 will amount to roughly 650,000,000 gallons and of this amount 270,000,000 gallons are expected to be supplied by coal liquefaction. Of this amount Manchoukuo is scheduled to produce 50,000,000 gallons. The savings to be realized by mixing gasoline with alcohol is put at 130,000,000 gallons. Heavy oil demand in 1943 is expected to increase to 750,000,000 gallons of which 310,000,000 gallons will be manufactured by the synthetic method. This includes production in Manchoukuo of roughly 80,000,000 gallons of heavy oil. The amount of coal to be required after the completion of the seven-year plan is estimated at 9,000,000 metric tons annually.

North Saghalien Petroleum Concession.—Upon the assumption of diplomatic relations between Japan and Soviet Russia in 1925, a concession for the exploitation of petroleum resources in North Saghalien was obtained by the former from the latter and it has since been worked by the Kita Karafuto Petroleum Company.

CONDITIONS OF THE MINING COMPANIES

The mining enterprises in the pre-war period numbered only 281 with an aggregate total investment of ¥180 million, which increased in 1919 to 686 companies with a total investment value of ¥590 million. As the result of the reactionary depression in the post-war years the above number decreased, although the amount of investment per unit increased, indicating the development and extension of those surviving enterprises. In 1929 the mining companies were altogether 216 in number, with an aggregate total investment value of ¥760 million.

In the years of deflated currency after the country's return to gold in 1930 the mining companies one and all suffered declining profits. Under the weight of excessive capitalization, the companies were compelled to carry out internal adjustments. Towards the close of the year 1931, however, the industry took a definite turn. The low exchange and the growing internal demand proved potent factors in the situation. The prices of minerals made substantial gains, there taking place extensive developments such as had not been seen since the World War.

NUMBER OF MINERS

Mine-workers and placer workers as classified by mines are tabulated below:—

Table 26. Mine Workers and Placer Workers

	1927	1932	1933	1934	1935	1936
Mine Workers:						
Metal	45,656	39,698	49,309	57,507	69,416	80,445
Coal	239,167	137,975	143,602	168,524	175,137	198,346
Oil-wells	5,889	4,103	4,105	4,382	4,191	4,472
Total incl. others..	295,629	185,840	202,320	236,347	257,415	293,430
Workers Employed:						
Metal	13,200,978	11,702,558	13,960,127	16,351,541	19,279,357	23,323,625
Coal	57,991,079	34,964,637	37,900,712	44,369,128	46,916,733	52,369,018
Oil-wells	2,090,385	1,299,752	1,281,681	1,429,993	1,415,499	1,513,528
Total incl. others..	74,551,798	49,057,571	54,529,553	64,017,987	69,771,719	80,126,111
Placer Workers:						
Gold.. Number	37	136	313	288	264	371
Gold.. No. employed	4,256	12,217	37,098	74,404	67,145	66,564
Iron .. Number	219	133	164	261	394	1,607
Iron .. No. employed	55,234	4,762	4,446	7,541	31,898	424,211
Others Number	47	204	106	139	169	237
Others No. employed	4,110	31,405	25,750	37,028	24,419	54,375
Total . Number	303	473	584	688	827	2,215
Total . No. employed	63,660	48,384	68,209	121,966	123,462	545,150

Table 27. Accidents at Mines

	1927	1932	1933	1934	1935	1936
No. of accidents	163,108	65,724	66,929	73,239	72,348	72,510
Deaths	1,002	686	833	880	1,120	1,234
Casualties	163,593	65,374	66,290	72,807	71,746	71,812

Legislation Relating to Mineral Products Passed by the 73rd Diet Session

(March, 1938)

A bill providing for the establishment of a Gold Production Promotion Company was introduced by the Government and passed during the 73rd session of the Imperial Diet in March, 1938. The gist of the Law is as follows:

The company shall be organized as a joint-stock company for the purpose of promoting gold mining and refining in the country. The company shall be capitalized at ¥50,000,000, half of which will be contributed by the Government. The chief operations envisaged for the company are as follows:

1. Financing of and investment in gold mining and refining enterprises, and in the manufacturing of gold mining and refining machinery.
2. Gold mining and refining.
3. Commercial transactions in gold mining and refining machinery, stores and plants, as well as in gold-bearing mining products.
4. Investigation into and valuation of gold mines.

According to the business programme of the company, a total of ¥266,500,000 is to be invested by the company within the four years commencing 1939, and the yearly output of gold in Japan including Chosen at the end of that period is expected to be increased to 131 metric tons.

The company may issue debentures named as Gold Production Promotion Debentures, to an amount of five times its paid-up capital. The Government will guarantee the payment of the principal and the interest on such debentures. The company will be exempted from income and profit taxes and from local taxes for a period of ten years. Dividends will not be paid on Government-owned shares until private-owned shares have been satisfied to the extent of 4% per annum. In case the company fails to declare a dividend at the rate of 4% per annum. on private-owned shares, the Government shall subsidize the company to an amount covering the deficiency for a period of five years.

The Government has the right to supervise the company, and to appoint the president, vice-president and certain members of the executive. The increase of capital, the issue of debentures, the conclusion of loans, the revision of by-laws, and the appropriation of profit is subject to the approval of the Government.

Mineral Production Law

The object of this Law is to insure an adequate supply of mineral ores, and obviate their import as much as possible by increasing home production.

The main terms of the Law are as follows:

1. Minerals designated as important under the Law are gold, silver, copper, lead, tin, antimony, quicksilver, zinc, iron, pyrites, chromium, manganese, tungsten, molybdenum, nickel, cobalt, coal, lignite, sulphur, placer gold, placer iron, and placer tin.
2. The Government may, when the expansion of mineral production is deemed necessary, command the owner of mining rights to commence or continue operation.
3. Persons desiring to increase the production of minerals above mentioned, may negotiate with other owners of mining rights concerning the transfer of mining right or the adjustment of mining areas between neighbouring areas, when the area is not being worked at the time. In case the negotiations fail, application may be made for arbitration by the Government.
4. The Government may cause negotiations to be started for the purpose of starting production on unworked mines, such negotiations having the purpose of transferring mining rights or adjusting mining rights between neighbouring areas. In case these negotiations fail, the Government may announce its own decision upon the matter.
5. The Government may command the owner of mining rights to install, enlarge or improve operating facilities, and may give necesary instructions concerning operating methods and the standardisation of machinery. The term of validity of the Law is fixed for a period of five years.

Petroleum Resources Exploitation Law

The Law was passed by the 73rd session of the Diet in order to stimulate the expansion of petroleum production. According to the terms of this Law:

1. Owners of petroleum mining rights must submit a programme of his operations to the Government. The Government may demand an alteration if deemed necessary for the conservation of natural resources.
2. The Government may subsidize owners of petroleum mining rights within an amount fixed by the budget. According to this policy, a total of 240 new wells will be drilled with a subsidy of about ¥5,600,000 during a period of five years. The programme for the fiscal year 1938-39 envisages 35 wells with a subsidy of about ¥1,700,000.
3. The Government may order the producers of mineral oil obtained either from the area drilled on subsidy or from one that belongs to the same oil pool to refund or pay the sum up to 2% of the annual value of oil obtained during a period of five years after commencement of production.
4. The Government may command the owner of petroleum mining rights to negotiate with other owners concerning exploitation methods and other matters.
5. The Government may command the owners of petroleum mining rights to undertake test drillings, etc. In such case the Government shall grant a subsidy as above mentioned.

References:

Table Nos.: 1 a, 2 b, 3 c, 4-11 d, 12-13 e, 14-17 d, 18 f, 19 g, 20 h, 21 d, 22 h, 23 d, 24 e, 25 d, 26-27 e.

Key: a—Oriental Economist.
b—Department of Overseas Affairs.
c—League of Nations.
d—Department of Com. & Ind.
e—Department of Finance.
f—Industrial Bank of Japan.
g—A.P.I. Research.
h—Nippon Oil Co.

CHAPTER XXXI

MANUFACTURING INDUSTRY

INTRODUCTORY REMARKS

The manufacturing industry is the largest enterprise of Japan from the standpoint of value of production. In recent years it accounts for about 68 per cent of the value of production of all enterprises. The next largest industry in this respect is agriculture, but the value of output is roughly one-third that of the manufacturing business. On the other hand, in point of number of workers the manufacturing industry accounts for only about one-third of the number employed in agricultural pursuits.

The importance of the manufacturing industry in the national economy of Japan has been steadily growing, its production value to total production of all industries having increased by 10 per cent in the years between 1927 and 1936. Of the total value of output of all industries amounting to 15,861 million yen in 1935 the manufacturing industry accounted for 10,837 million yen. In 1936 its share rose to 12,151 million yen.

Relative Position.—In point of relative importance of the enterprises embraced within the manufacturing industry the textile enterprise comes first in the value of production. The returns of the Department of Commerce and Industry for 1936 show that the textile industry accounted for 29.8% of total production of all manufacturing pursuits, followed by the metal industry with 18%, the chemical industry with 17.2% and the machine and tool industry with 14.1%.

The relative position of the enterprises within the manufacturing industry discloses some significant changes. The textile enterprise, for instance, slipped from 41.4% to 29.8% in its share of total output of the manufacturing industry between 1926 and 1936 while the metal industry jumped from 6.4% to 18% in the same period.

The absolute production figures for the manufacturing industry increased considerably. In 1926 it stood at 6,936 million yen. In 1936 it was up to 12,151 million yen.

Production by Prefectures.—Osaka continues to be the largest manufacturing city in Japan. In 1936 its share of total production was 1,994 million yen, followed by Tokyo with 1,736 million yen and Hyogo prefecture, wherein is situated the city of Kobe, with 1,163 million yen. These three regions accounted for about 41% of the total production for the Empire.

Table 1. Indices of Industrial Production by Countries

(Prepared by the League of Nations)

(1929—100)

	Japan	U. K.	U.S.A.*	France†	Germany‡	Italy
1929.....	100.0	100.0	100.0	100.0	100.0	100.0
1930.....	94.8	92.3	80.7	100.4	85.9	91.9
1931.....	91.6	83.8	68.1	88.9	67.6	77.6
1932.....	97.8	83.5	53.8	68.8	53.3	66.9
1933.....	113.2	88.2	63.9	76.7	60.7	73.7
1934.....	128.7	98.8	66.4	71.0	79.8	80.0
1935.....	141.8	105.7	75.6	67.4	‡94.0	93.8
1936.....	151.1	116.1	88.1	79.3	106.3	87.5
1937.....	170.8	124.0	92.2	82.8	117.2	99.6
1938 Jan.	161.6	123.6	67.2	81.5	114.6	96.7
" Feb.	163.8		66.4	79.7	119.3	103.3
" Mar.	179.1		66.4	78.7	123.3	105.1
" Apr.	174.6	....	64.7	....	123.5	99.9
" May	....	....	63.9	....	127.0	99.9
" June	....	....	64.7	....	....	....

Note: * Adjusted for seasonal variations
† Partly adjusted for seasonal variations, since 1936 new series.
‡ Since March, 1935, including Saar.

Table 2—A. Trend of Industrial Production in Japan

(a) Value Index of Production

	Textile	Metallic	Machine & Tools	Ceramic	Chemical	Lumber & Wood	Printing & Bookbinding	Provision	Total incl. others
1926....	100	100	100	100	100	100	100	100	100
1927....	92	105	108	91	104	101	122	91	94
1928....	98	121	115	96	116	104	116	90	104
1929....	104	154	126	104	133	105	118	80	111
1930....	71	118	114	75	114	85	111	70	86
1931....	63	97	82	67	102	77	106	75	75
1932....	71	132	107	75	118	82	106	86	86
1933....	93	199	149	101	161	99	107	88	113
1934....	101	325	204	119	187	118	122	98	135
1935....	107	406	256	134	232	130	133	98	156
1936....	128	494	298	156	261	153	149	106	176
*1937....	144	605	458	143	373	210	170	136	233

(b) Percent to Total Value of Production

1926.... 41.4	6.4	7.8	3.0	11.6	2.7	2.3	17.0	100
1927.... 39.7	6.9	8.6	2.9	12.5	2.7	2.9	15.8	100
1928.... 39.5	7.6	8.7	2.8	12.9	2.7	2.5	15.8	100
1929.... 38.8	8.9	8.8	2.8	13.9	2.5	2.4	14.5	100
1930.... 34.2	8.8	10.3	2.6	15.5	2.6	3.1	15.9	100
1931.... 34.8	8.4	8.5	2.7	15.9	2.7	3.2	16.1	100
1932.... 22.9	9.9	9.9	2.6	15.9	2.6	2.7	14.8	100
1933.... 34.2	11.3	10.2	2.7	16.5	2.3	2.2	12.7	100
1934.... 30.4	15.5	11.5	2.7	16.1	2.3	2.1	11.1	100
1935.... 28.4	16.8	11.7	2.7	17.3	2.2	2.0	10.6	100
1936.... 29.8	18.0	14.1	2.7	17.2	2.3	2.0	10.3	100
*1937.... 24.9	20.9	15.3	1.8	18.9	2.4	1.6	10.0	100

(c) Value of Production

(In Million Yen)

1926.... 2,872	557	539	211	810	185	158	1,184	6,936
1927.... 2,677	467	583	192	856	187	193	1,073	6,746
1928.... 2,848	545	630	203	936	184	184	1,137	7,206
1929.... 2,998	689	682	220	1,078	194	186	1,124	7,717
1930.... 2,028	526	616	159	924	158	183	950	5,963
1931.... 1,803	435	443	142	826	143	167	835	5,175
1932.... 2,028	591	544	160	957	153	168	886	5,982
1933.... 2,696	888	805	212	1,300	183	170	1,018	7,871
1934.... 2,918	1,464	1,082	251	1,515	219	193	1,041	9,390
1935.... 3,078	1,817	1,381	283	1,878	241	211	1,154	10,837
1936.... 3,655	2,209	1,609	329	2,111	280	235	1,260	12,151
*1937.... 4,134	3,371	2,470	301	3,021	388	268	*1,612	16,173

Note: * Estimates.

Table 2—B. Volume Indices of Industrial Production by Principal Commodities

(Prepared by the Department of Commerce & Industry)

(Average of 1931-1932-1933 calculated as 100)

	Textiles						*Metalic & Machineries			Ceramics		
	Cotton Yarn	Raw Silk	Cotton Textile	Silk Textile	Rayon Textile	Woolen Textile	Pig Iron	Steel Materials	Machine & Tools	Cement	Sheet Glass	Chemical Sulphate of Ammonium
1931.....	90.9	108.4	89.2	92.5	74.3	95.7	83.3	77.0	83.3	89.4	91.7	91.9
1932.....	99.5	95.9	97.4	98.4	111.9	101.7	91.7	98.5	94.9	92.3	90.8	102.7
1933.....	109.7	95.7	113.1	109.1	113.8	102.7	125.0	124.5	121.9	118.3	177.4	107.0
1934.....	122.9	99.1	127.4	118.3	143.3	91.8	151.5	156.0	159.5	118.5	128.6	120.3
1935.....	126.0	100.9	131.7	112.2	203.9	101.1	165.2	181.9	187.7	132.1	134.5	144.1
1936.....	127.7	91.1	125.0	88.1	294.3	80.6	173.6	210.0	214.2	129.4	145.9	190.4
1937.....	140.4	102.6	131.3	100.9	311.6	56.9	119.7	248.7	252.6	143.2	176.0	201.7
1938 Jan. ...	105.8	63.4	119.3	90.3	210.4	57.1	....	....	....	120.1	184.3	222.7
" Feb. ...	87.0	70.2	108.0	86.3	189.8	54.3	....	....	....	98.3	178.0	206.7
" Mar. ...	87.7	91.6	106.5	105.3	252.9	57.5	....	....	....	143.6	145.4	232.5
" Apr. ...	95.8	86.9	101.6	108.3	259.5	43.1	....	....	....	142.1	109.0	230.4
" May ...	90.0	90.6	95.6	106.6	253.3	40.8	....	....	....	148.7	127.6	230.0

(Continued)

	Chemical							Provision		Gas and Elec.		Average of Mfg. Ind.
	Nitrolime	Superphosphate of lime	Bleaching Powder	Soda Ash	Caustic Soda	Rayon Yarn	Paper	Wheat flour	Sugar refined	Electricity	Gas	
1931.....	73.5	89.5	79.3	80.6	59.3	69.7	97.7	97.8	108.7	87.5	....	90.2
1932.....	94.3	101.9	92.1	90.7	96.1	95.8	96.3	98.1	86.8	99.5	....	97.3
1933.....	131.4	110.8	127.6	128.8	143.9	134.5	106.0	104.1	104.5	113.0	....	113.3
1934.....	117.4	105.5	140.9	163.8	222.0	205.0	116.9	101.5	100.2	125.4	100.4	129.1
1935.....	171.6	125.1	161.0	196.5	287.3	299.0	126.3	116.5	112.9	137.5	104.0	143.3
1936.....	170.2	141.6	169.8	213.2	354.6	389.5	134.1	100.8	97.5	150.6	109.8	151.9
1937.....	242.3	161.6	199.2	229.5	458.2	483.0	156.3	97.4	100.6	165.7	151.2	172.4
1938 Jan. ...	210.1	171.4	245.4	275.6	555.1	375.4	136.0	109.8	109.5	171.2	141.3	162.1
" Feb. ...	196.4	160.9	227.4	255.6	573.6	373.1	136.1	109.1	109.2	157.6	134.4	164.6
" Mar. ...	213.0	163.5	224.0	255.5	653.8	379.8	132.0	113.3	127.7	182.0	134.1	179.1
" Apr. ...	276.2	145.0	179.7	269.3	620.9	376.4	143.9	112.8	107.1	177.7	127.7	175.7
" May ...	257.5	144.5	179.1	282.4	628.1	386.2	142.5	122.0	106.3	185.7	125.3	175.3

(Continued)

	*Mining Products							Total Average of Mfg. and Mining Industries
	Gold	Silver	Copper	Petroleum	Sulphur	Coal	Average	
1931.....	95.6	97.7	104.7	117.7	70.1	94.3	96.8	91.1
1932.....	97.3	94.9	99.4	97.6	97.8	95.6	96.3	97.2
1933.....	106.5	107.8	95.9	85.4	132.1	110.1	106.7	112.5
1934.....	114.2	124.3	94.5	90.6	160.4	121.0	115.4	127.4
1935.....	140.7	147.5	97.8	114.9	192.9	127.9	124.1	141.0
1936.....	166.6	173.8	109.4	149.3	225.5	139.5	138.0	150.2
1937.....	175.0	182.3	117.0	152.2	298.5	149.9	169.7	169.7
1938 Jan. ...	....	....	....	....	....	....	149.6	160.6
" Feb. ...	....	....	....	....	....	....	149.8	162.8
" Mar. ...	....	....	....	....	....	....	169.9	178.0
" Apr. ...	....	....	....	....	....	....	158.9	173.6
" May ...	....	....	....	....	....	....	162.9	173.8

Note: * Publication of figures after June, 1937 is suspended, excepting those of total averages.

RECENT SITUATION

The Sino-Japanese hostilities, commencing in July, 1937 have affected Japanese industries considerably. Some of the manufacturing enterprises, such as those in the munitions industry, have been operating at full capacity, while others have been forced to cut down production. Those industries which depend largely upon exports have been severely affected due to the restriction of imports of raw materials and to the advance in wholesale prices.

Several laws were passed at the extraordinary sessions of the Imperial Diet held from July 25 to August 7, 1937 and from September 4 to September 8 of the same year with a view to facilitating the production of war requirements. Under the measures enacted all industrial enterprises are divided into three groups. The first group in general comprises the heavy industries such as the mining of ferrous and non-ferrous metals, the armament industries properly speaking, the production of mineral oil and fuel substitutes, optical glasses, etc. These industries constitute a favoured group, the expansion of which is stimulated with ample funds provided for the purpose.

In the interest of such expansion, the semi-official Industrial Bank of Japan is authorized to issue loans up to 500 million yen, despite Article 12 of the Industrial Bank of Japan Law, and the Hypothec Bank of Japan may also issue loans equivalent to a net receipt of 200 million yen. Industries belonging to the first group may, with Government sanction, increase their capital to cope with the extension of business, and may also issue debentures to an amount twice the paid-up capital, despite Article 200 of the Commercial Code which provides that the total issue of debentures must not exceed the paid-up capital of a company.

Other official measures taken through the Bank of Japan, involving a reduction in discount rates and a moderation of terms on loans, also tend to increase the credit facilities for this group of industries.

The second group of non-essential industries which includes the silk, cotton, woollen and rayon industries, knitted goods, cement, porcelain, etc. is practically debarred from expansion during the emergency period. Some of these industries, notably the cotton, rayon and woollen

industries, may find their operations curtailed by the Law Relating to the Regulation of the Import Trade and the Consumption of Goods which provides for the restriction of output of articles from specified raw materials including cotton, pulp and wool, whilst the production of staple fibre, a comparatively new industry, should be greatly stimulated by the compulsory admixture of this fibre in woollen cloth of certain descriptions.

Whilst the expansion of basic industries, notably the heavy industries, is thus being given free scope to the detriment of non-essential industries which include many of the chief productions of Japan, many industries which are not considered vital should profit by the new regulations concerning the import trade, which, from sheer necessity and as an emergency measure, practically prohibit the import of certain manufactured articles, luxury goods and foodstuffs.

Among the industries most adversely affected by the Sino-Japanese hostilities were the textile enterprises. Taking the years 1931, 1932 and 1933 as 100, the production index for cotton yarn was down to 90 in May, 1938. The high point in cotton yarn production was recorded in 1937 when the index was up to 140.4.

On the other hand the index of mining production shows little change in spite of the war in China. While the announcement of the production index of specific minerals has been suspended since 1937, the composite index of various minerals continue to be published. According to data available the average production index for the aggregate of gold, silver, copper, petroleum, sulphur and coal was at 162.9 in May, 1938 as compared with 169.7 for the whole year of 1937 and at 138.0 for 1936.

Production statistics in the principal industries are tabulated as follows:

Table 3. Production and Number of Factories and Operatives of Principal Industries

(1936)

	Production (¥1,000)	No. of Factories	Prod. per Factory (¥)	No. of Operatives	Production per Operative (¥)
Textile:					
Reeling	504,158	2,637	191,186	251,793	2,002
Cotton Spinning	993,778	473	2,101,009	183,504	5,415
Cotton Fabrics	603,120	4,943	122,014	133,507	4,517
Silk Fabrics	197,688	3,230	61,203	71,284	2,773
Woollen & Mixed Fabrics	223,018	1,092	204,228	41,661	5,353
Knitted Goods	85,228	1,679	50,760	26,901	3,168
Total incl. others	3,654,888	26,358	138,657	1,027,917	3,556
Metallic:					
Iron and Steel	1,625,210	742	2,190,377	97,116	16,887
Casting	154,775	2,136	72,464	51,347	3,014
Others	329,439	4,634	71,070	84,631	3,892
Total incl. others	2,208,867	8,251	267,709	246,858	8,948
Machineries:					
Electric Machine & Tool	205,512	612	335,804	46,315	4,487
Insulating Wire & Cable	116,234	116	1,002,018	7,735	15,027
Rolling Stock	159,649	1,760		61,229	
Shipbuilding & Materials	220,281	444	496,127	70,053	3,144
Total incl. others	1,716,353	11,766	145,874	456,963	3,756
Ceramics:					
Pottery & Porcelain	61,411	1,491	41,187	36,297	1,691
Glass & Glassware	99,685	765	130,307	24,658	4,042
Cement	99,116	39	2,541,435	8,517	11,637
Enamelledware	18,121	96	188,764	6,257	2,896
Total incl. others	329,316	4,222	78,000	101,702	3,238
Chemicals:					
Industrial Chemicals	262,036	421	622,414	26,148	10,021
Dyestuff	65,400	59	1,109,481	6,244	10,474
Rubber & Rubber Goods	145,840	784	186,020	37,140	3,926
Paper	294,183	608	483,854	34,961	8,414
Rayon	216,543	46	4,707,463	84,951	2,549
Fertilizer	286,278	325	880,854	12,416	23,057
Total incl. others	2,110,915	4,998	42,235	273,487	7,718

	Production (¥1,000)	No. of Factories	Prod. per Factory (¥)	No. of Operatives	Production per operative (¥)
Wood & Woodworking:					
Lumbering	164,856	3,594	45,869	46,347	3,556
Woodworking	115,381	4,194	27,510	46,946	2,457
Total	280,237	7,788	25,853	93,293	3,004
Printing & Bookbinding:					
Printing	229,415	3,097	74,076	54,533	4,206
Bookbinding	5,573	353	15,787	4,306	1,294
Total	234,988	3,450	68,112	58,839	3,994
Provision:					
Sake Brewery	336,281	4,932	68,183	54,144	6,210
Beer "	114,323	14	8,165,941	2,752	41,541
Soy, "Miso," etc.	99,296	1,368	72,584	13,741	7,226
Flour	159,095	147	1,082,277	2,706	58,793
Sugar	143,097	103	1,389,292	3,961	36,126
Total incl. others	1,259,661	14,021	89,769	165,310	7,619
Other Industries:					
Hat & Cap Making	23,335	472	49,439	9,407	2,480
Leather & Hide and its manufactures	22,685	334	67,919	5,498	4,126
Paperware	59,767	1,213	49,271	19,173	3,117
Total incl. others	440,662	9,178	48,013	159,597	2,761
Gas & Electricity:					
Gas	21,692	109	199,009	2,939	7,343
Electricity	9	461	21	5,782	2
Total	21,701	570	38,073	8,721	2,478
GRAND TOTAL	**12,257,588**	**90,602**	**135,295**	**2,592,687**	**4,728**

Table 4. Number of Factories and Operatives By Industry

	1934			1935			1936		
	No. of factories	%	No. of operatives (1,000)	%	No. of factories	%	No. of operatives (1,000)	%	No. of factories	%	No. of operatives (1,000)	%
Textile	24,399	30.4	969	44.8	25,562	30.0	1,007	42.5	26,358	29.1	1,028	39.7
Metal	6,610	8.2	185	8.5	7,318	8.6	218	9.2	8,251	9.1	247	9.5
Machine & tool	9,181	11.4	315	14.6	10,352	12.2	367	15.5	11,766	13.0	457	17.6
Ceramic	3,722	4.6	82	3.8	3,896	4.6	93	3.9	4,222	4.7	102	3.9
Chemical	4,313	5.4	192	8.9	4,644	5.5	229	9.6	4,998	5.5	278	10 5
Lumber and Woodworking	6,730	8.4	77	3.5	7,267	8.5	85	3.6	7,788	8.6	93	3.6
Printing and Bookbinding	3,234	4.0	57	2.6	3,358	3.9	61	2.6	3,450	3.8	59	2.3
Provision	13,500	16.8	148	6.8	13,684	16.1	158	6.7	14,021	15.5	165	6.4
Gas & Electric	552	0.7	8	0.4	549	0.6	8	0.3	570	0.6	9	0.3
Others	8,070	10.1	131	6.1	8,544	10.0	144	6.1	9,178	10.1	160	6.2
Total	80,311	100.0	2,163	100.0	85,174	100.0	2,369	100.0	90,602	100.0	2,593	100.0

Table 5. Consumption of Fuel & Motive Power By Industries

	Coal (Metric tons)	Cokes (Metric tons)	Charcoal (Metric tons)	Petro'eum (1,000 Hecto-litres)	Gas (Million cft.) Self supplied	Gas (Million cft.) Other	Electricity (Million kwh.) Self supplied	Electricity (Million kwh.) Other
1930	9,358,874	515,490	78,640	1,327	1,570	563	881	4,959
1931	8,705,128	538,885	79,746	1,873	1,259	662	1,377	4,937
1932	9,059,974	539,772	76,111	2,982	1,698	274	1,556	5,598
1933	10,513,772	784,149	86,141	3,846	2,050	209	1,446	7,198
1934	14,122,720	838,722	98,076	4,668	6,742	190	2,232	8,027
1935	15,864,050	1,054,027	107,400	6,200	9,347	238	2,718	9,518
1936	17,509,694	1,109,690	107,845	7,198	9,199	252	3,110	10,483

	Coal (Metric tons)	Cokes (Metric tons)	Charcoal (Metric tons)	Petroleum (1,000 Hectolitres)	Gas (Million cft.) Self supplied	Gas (Million cft.) Other	Electricity (Million kwh.) Self supplied	Electricity (Million kwh.) Other
1936 Textile	3,297,611	5,936	18,669	335	9	23	119	2,225
" Metallic	3,109,973	540	39	3,733	8,405	53	448	1,938
" Machinery	600,227	178,448	19,277	1,118	111	118	139	695
" Ceramic	3,057,206	62,167	1,440	428	528	16	747	243
" Chemical	4,951,412	58,159	5,823	1,308	75	10	1,389	4,640
" Lumbering and Woodworking	16,812	823	1,642	12	3	...	3	125
" Printing & Bookbinding	25,050	472	2,750	42	...	9	...	44
" Provision	1,150,783	20,982	16,471	136	46	19	14	368
" Gas & Electric	1,133,004	236,809	....	31	22	...	248	56
" Miscellaneous	167,565	6,208	2,529	56	...	4	2	149

Dependence on Foreign Raw Materials

Japan is dependent on foreign sources for a considerable amount of her basic raw materials. In iron ore, zinc, lead, nickel, tin, mineral oils, crude rubber, raw cotton and flax, to name a few, the country relies on imports to meet the greater part of her domestic requirements. The following table indicates the demand and supply situation in basic raw materials.

Table 6. Volume Ratio of Domestic Production to Demand of Principal Raw Materials in 1936

(Consumption—100)

	Home production	Imports from colonies	Imports from foreign countries (incl. Manchoukuo)	Imports from Manchoukuo	Consumption
Iron ores	12.5	5.3	82.2	0	100
Pig iron	64.6	4.0	31.4	8.8	100
Steel	91.6	1.6	6.8	0	100
Copper	61.7	0.8	37.5	2.7	100
Aluminium	40.5	—	59.5	—	100
Zinc	37.0	0	63.0	—	100
Lead	8.0	0	92.0	—	100
Nickel	—	—	100.0	—	100
Tin	28.8	—	71.2	—	100
Magnesium†	100.0	—	—	—	100
Sulphide Iron ore	100.0	—	—	—	100
Coal	89.2	1.6	9.2	4.9	100
Mineral oil	10.0	0	90.0	—	100
Crude rubber	—	—	100.0	—	100
Timber*†	67.8	2.4	29.8	0.2	100
Pulp	70.2	0	29.8	0	100
Rayon	100.0	—	0	—	100
Silk cocoons	99.6	0.2	0.2	0	100
Raw Cotton	0	1.3	98.7	0	100
Raw Wool	0	—	100.0	0	100
Hemp, flax, etc.†	11.8	0.7	87.5	0	100
Oil materials†	27.2	0	72.7	33.0	100
Leather and hides*	58.3	3.9	37.8	0	100
Phosphorus ores*	10.7	—	89.3	—	100
Salt	29.0	4.8	66.2	2.0	100
Wheat and wheat flour	78.1	0.3	21.6	9.2	100

† In 1935.
* Value percentage.

Working Hours and Wages

The textile industry accounts for the largest amount of labor-hours. In 1936 the aggregate labor-hours for this industry stood at 3,080 million hours, representing about 38 per cent of the total for all enterprises. Wages per hour were highest in the gas and electric and metal industries, and lowest in the textile factories.

Table 7. Labor-Hours and Wages (1936)

	Total Labor hours (Million Hours)	Total wages paid (Million Yen)	Wages paid per hour (Sen)
Textile	3,050	235	8
Metal	760	151	20
Machine and Tool	1,425	268	19
Ceramic	295	42	14
Chemical	817	106	13
Lumbering and Woodworking	272	35	13
Printing and Bookbinding	201	33	17
Provision	372	47	13
Gas and Electric	33	8	23
Others	468	46	10
Total or Average	7,693	972	13

Subsidies to Industries

The Government sees the need of supporting some of the industries in their infant stage of development and annually makes an appropriation for this purpose. The principal enterprises receiving government subsidy or bounty since the fiscal year 1934 are the following:

Table 8. State Subsidies for the Development of Key Industries
(In ¥1,000)

Year ending March 31:	1934	1935	1936	1937	1938
For Exploitation of Petroleum Resources in N. Karafuto	284	1,216	1,200	1,220	2,825
For Low-temperature carbonization Industry	—	296	252	84	234
For Study of Charcoal Gas Generating Plant	—	90	90	30	28
For Manufacture of Steel Balls	79	75	64	76	24
For Cinema Film Manufacturing Industry	200	400	400	200	369
For Manufacture of Motor Cars	915	687	736	601	518
For Industrial Research Institutions	150	180	150	150	150
For Storage of Petroleum	—	—	—	2,636	3,049
For Iron Foundries	1,612	1,377	1,800	1,440	1,941
Prospecting of Mines	—	—	45	78	1,800
Prospecting of Petroleum	251	—	232	383	692

INDUSTRIAL ASSOCIATIONS

The control of medium and small industries by industrial associations organized under the Industrial Association Law has shown marked progress in recent years. These associations numbered 1,172 (including 59 federations) at the end of 1937, as against 344 (23 federations) in 1933. Members affiliated with these associations numbered 88,354 representing a capitalization of ¥10,789,000, an increase of 64,523 members and ¥5,749,000 compared with 1933. The annual production of members now reaches approximately 3,000 million yen or more than one fourth of the total industrial production in Japan and about half of that of medium and small manufacturers. The number of industrial associations showed a further advance in January 1938, totalling 1,239 (62 federations) at the end of month.

Industrial associations were first instituted in 1925. The object of the Export Industries Association Law was to encourage the formation of associations, promote rational management and facilitate joint and economic installation of modern equipment in the export industries. A further purpose of the Law was to stimulate the voluntary enforcement of centralized control. The Law included a provision for the control of industries, which was to comprise outsiders in addition to members, according to Art. 8. The desirability of industrial control was rendered more acute by the general economic depression.

The Export Industries Association Law was later extended to include other manufactures engaged in the production of goods for the home market, by changing the name of the Law to Industrial Association Law, which was made effective in July, 1931.

A substantial revision of the Industrial Association Law was made in August, 1937. The main features of the revision were as follows:—

(a) Abolition of the specification of industries governed by the Law—Industries governed by the Law were formerly specified by the Minister of Commerce and Industry. Over 100 branches of industry had thus been specified in July, 1937. In the revised Law, the article relating to the specification of industry was suppressed.

(b) Extension of regulations in regard to the control of industry—Restrictive agreements in regard to volume of production, selling prices, manufacturing charges etc. shall be notified to the competent authorities, in order to check unfair agreements. The issue of the compulsory instructions to non-members as well as members provided for by Art. 8 has been extended to safeguard the rational improvement of industries.

The most important revision was the establishment of compulsory control associations. According to the revised Law, the competent authorities may issue orders for the establishment of industrial associations to specific districts and qualified persons, for the control of specific industries.

(c) Other revision—The extension of business of the association, supplementary regulations to deal with offenders, extension of power exercised by the competent authorities and partial transfer of such power to prefectural authorities are the principal items of later revisions.

The great expansion recently witnessed in the number of industrial associations is mainly due to the fact that the latter are no longer confined to certain specified industries, and the transfer to prefectural authorities of the permissive powers relating to the establishment of associations.

Table 9. Recent Development of Industrial Associations

	No. of industrial associations	Federations	Members	Capital paid-up (¥1,000)	Annual production of members (¥1,000)
1933 Dec.	344	23	23,831	5,040	....
1935 "	662	36	53,793	8,536	1,768,173
1936 "	850	46	68,539	9,321	2,527,182
1937 Mar.	922	50	77,088	9,593	2,614,109
1937 Dec.	1,172	59	88,354	10,789	3,020,276
1938 Jan.	1,239	62	....	....	3,280,000§

Note: § Estimated figure, compiled by the Central Union of Industrial Associations.

Functions of Industrial Associations

Industrial control, as exercised by the industrial associations now extends to practically all industries of the country. Of 872 associations at the end of March, 1937, excluding 50 federations, the textile industry ranked first with 271 associations of which 91 represented cotton tissues, 48 silk tissues and 38 rayon tissues.

The ceramic industry ranked second with 107 associations, followed by foodstuffs (103 associations), machines and tools (96), timbering and woodworking (73), chemicals (60), metals (43), and printing (7). The other 110 associations related to miscellaneous industries.

The principal functions of industrial associations are inspection, control of production, prices and distribution, joint purchases and sales, joint utilization of equipment, finance, etc. In a sense, the functions of these associations can be divided into two categories, such as joint facilities and the control of industry. The functions of control were especially important and spread to a marked degree during the depression period, and are now exercised by almost all associations. Most associations have, however, only local importance, and centralized control is effected through the amalgamation of local associations into national federations in several leading industries, such as habutae, cotton flannel, cotton crepe, striped drill, sarong, rayon tissues, enamelled ironware, china and earthenware, rubber manufactures, matches, etc.

The control of industry was formerly largely confined to production and prices, but control relating to the distribution of raw materials has, under the stress of war-time conditions, become an important function of industrial associations, as imports of raw material, particularly raw cotton, wool, crude rubber, etc. are more and more restricted.

According to statistics compiled by the Central Union of Industrial Associations at the end of March, 1937, out of 872 associations, 87 did not report, inspection was enforced by 391 associations, control of production by 265, price agreements by 195, regulation of markets by 114, joint sales by 234, joint purchases by 265, joint utilization of equipment by 195, and finance by 210.

References:
Table Nos.: 1 a, 2-7 b, 8 c, 9 d.
Key: a—Statistical Bulletin by the League of Nations.
b—Department of Commerce and Industry.
c—Department of Finance.
d—The Central Union of Industrial Associations.

CHAPTER XXXII

TEXTILE INDUSTRY

The textile industry commands a unique position in the manufacturing industries of Japan. From the viewpoint of value of production, number of factories, scale of employment and value of exports it continues to rank without a peer.

Many factors have contributed to the success of this enterprise. These would include labour, which is highly skilled yet cheap, efficient equipment, propinquity to markets and, since the reimposition of the gold embargo in 1931, of a favourable exchange rate.

The position of the textile industry, however, among other manufacturing industries of Japan seems to be losing ground gradually in the last few years. This has been due partly to the imposition of high tariff rates on Japanese textiles by foreign countries and partly to the fact that the tempo of expansion of this enterprise has been slower than that of some of the other industries lately. In addition, note must be made of the development of the textile industry in certain countries which formerly obtained some or most of their requirements from Japan. Among these countries are China and India.

Factories.—According to the investigations of the Department of Commerce and Industry the rayon weaving enterprise accounted for the largest number of factories followed by the cotton and silk weaving industries. Rayon yarn factories have increased by 226% between 1933 and 1936.

Operatives.—In the number of operatives the silk reeling enterprise headed the list accounting for over 30 per cent. of the operatives in the entire textile industry. This was followed by the cotton spinning industry with from 12 to 17 per cent. of total operatives.

The textile industry of Japan is characterized by the large proportion of female operatives employed. In 1933 female workers accounted for 80.2% of the total employed. In the silk reeling enterprise as much as 92.5% were females, followed by the cotton spinning and cotton weaving industries with about 85% each. Lowest in the number of female operatives was the processing enterprise, such as the dyeing business, with 16%.

Production Value per Operative.—The production value per operative in the textile industry is largest in the cotton spinning enterprise. In 1933 the per worker output value was ¥5,189 as compared with ¥4,693 in the woolen weaving, ¥4,386 in cotton weaving and only ¥1,639 in the silk reeling enterprises. The high output per operative in cotton spinning and weaving is due to the appliance of modern technical improvements on a mass production scale, while on the other hand silk reeling establishments are small in scale and do not lend themselves so easily to mass production.

Table 1. Volume Indices of Textile Production

	Cotton Yarn	Rayon	Raw Silk	Silk Yarn	Woollen Yarn	Average
1928	100	100	100	100	100	100
1930	103	164	114	125	87	106
1931	93	214	116	131	115	114
1932	115	294	99	152	129	126
1933	126	413	102	149	150	141
1934	142	632	116	147	140	160
1935	145	921	116	141	144	174
1936	147	1,193	99	119	156	186

Table 2. Japan's Position in Number of Spindles and Consumption of Raw Cotton

Country	Spindles (1,000) Mule	Ring	Total	Kinds of Raw Cotton Consumed (1,000 bales) American Cotton	Indian Cotton	Egyptian Cotton	Total incl. others
Great Britain	28,002	10,751	38,753	641	226	206	1,455
Germany	2,893	7,343	10,236	134	88	65	541
France	2,303	7,480	9,783	307	117	81	602
British India	587	9,289	9,876	9	1,315	27	1,540
Japan	8	11,872	11,880	747	1,004	67	2,061
U. S. A.	438	26,545	26,983	3,998	38	28	4,091
World's Total	39,768	109,850	149,618	6,612	3,057	638	14,808

Note: Based on investigation by the International Federation of Master Cotton Spinners and Manufacturers Association (at half year ending July 31, 1937).

Table 3. Comparison of British and Japanese Cotton Fabric Exports

(Unit: Million Square Yards)

	Japan	Britain
1928	1,418.7	3,866.5
1929	1,790.6	3,671.6
1930	1,571.8	2,406.2
1931	1,413.8	1,716.2
1932	2,031.7	2,198.0
1933	2,089.9	2,031.4
1934	2,568.1	1,993.4
1935	2,725.1	1,930.9
1936	2,709.8	1,916.9
1937	2,644.0	1,922.4

Cotton Spinning

Cotton spinning claims the largest share in the value of output in the textile industry, with 26 per cent. of the total production. In this phase of the enterprise Japan has come to to rank side by side with Great Britain as the largest cotton spinning countries of the world.

In the past twenty-five years the cotton spinning enterprise has increased its paid-up capital by over six folds, the figure rising from 72.8 million yen in 1912 to 483.9 million yen in 1936. The number of looms in that period have multiplied roughly five times, the number of ring and doubling spindles by a commensurate extent. Mills have increased in those intervening years from 147 to 282, while capital reserves show over a ten fold increase, advancing from 28.5 million yen to 292.3 million yen.

Operatives.—The number of operatives in the cotton spinning industry stood at 168,800 in 1935, representing about 7 per cent. of the operatives in the entire manufacturing industry.

Production Value.—The value of production from the spinning industry was 877 million yen in 1935, accounting for about 8% of the output from the entire manufacturing industry and for about 26% of the output from the textile industry as a whole.

Table 4. Cotton Cloth Output, Etc. By Member Companies of the Japan Cotton Spinners' Association**

		No. of producing Cos.	Working looms	Output (Million Yards)	Output per day per loom (Yards)	Yarn used (Million Pounds)	Waste (Million Pounds)	Operatives Male	Operatives Female
1913	1st Half	—	25,975	204.7	55.28	54.3	1.5	3,264	22,034
	2nd "	—	23,623	212.1	52.14	56.8	1.6	3,331	21,878
1918	1st "	—	35,359	326.9	53.14	79.2	1.1	5,268	29,276
	2nd "	—	37,430	330.0	50.79	81.1	1.8	5,796	30,150
1922	1st "	42	53,317	503.4	53.90	130.0	1.8	7,879	40,791
	2nd "	42	52,626	497.3	53.23	120.0	1.7	8,045	40,306
1928	1st "	42	68,601	668.1	64.73	145.1	1.4	8,115	35,390
	2nd "	45	72,611	713.9	64.97	157.9	1.5	8,404	35,503
1933	1st "	42	73,098	833.4	65.50	178.1	1.6	5,291	29,150
	2nd "	42	74,835	840.5	64.80	195.6	1.6	5,301	28,876
1934	1st "	41	78,850	877.8	65.37	189.3	1.6	5,207	30,319
	2nd "	41	80,410	916.0	64.66	184.2	1.7	5,282	31,099
1935	1st "	41	82,515	943.6	65.05	200.7	1.7	5,141	32,718
	2nd "	41	82,279	899.9	61.36	191.9	1.8	4,909	31,608
1936	1st "	40	84,773	903.0	60.57	190.4	1.9	4,745	32,628
	2nd "	44	87,174	899.4	56.31	193.9	2.0	4,831	34,714
1937	1st "	43	89,905	952.9	60.54	206.6	2.2	5,126	37,827
	2nd "	44	90,489	937.7	57.42	200.4	2.2	5.043	39,177

Note: * Companies enumerated in this column have their own factories.
** The Japan Cotton Spinners' Association acts as a central organization for the control of the cotton spinning industry. Established in 1882 the membership of this Association comprised in 1937 72 cotton spinning companies out of 82 companies existing in Japan proper and Chosen, while association membership embraces practically all the importers and exporters connected with the cotton industry. The Association forms a complete cartel system and controls about 97% of the total number of spindles.

Table 5. Output of Cotton Cloth Classified

(a) Broad Cloths (In kms.)

	Drills & jeans	Satins	Shirting	Sheeting	T-cloth	Crepe
1927	394,121	158,249	613,416	192,953	164,771	85,570
1932	555,581	122,423	1,031,909	293,750	177,571	66,497
1933	627,621	122,046	1,156,124	307,177	221,425	71,853
1934	630,467	114,805	1,381,191	310,496	285,630	55,555
1935	613,532	103,198	1,488,751	345,192	276,961	49,178
1936	664,997	90,812	1,444,829	293,347	256,446	37,704
1937	730,341	84,858	1,573,542	258,619	233,003	34,893

(Continued)

	Kokura	Flannel	Ducks	Velvets	Striped & unfigured coloured tissues	Total value incl. others (¥1,000)
1927	48,556	263,949	....	....	....	463,741
1932	47,609	317,848	14,758	30,091	160,264	423,824
1933	64,466	298,389	19,279	38,005	355,959	610,887
1934	72,166	308,686	22,338	59,453	447,765	743,976
1935	76,982	308,583	27,647	47,953	473,786	731,695
1936	79,052	258,406	29,918	57,746	405,680	711,781
1937	77,037	259,625	44,633	67,392	439,724	865,963

(b) Narrow Cloths (In rolls)

	White tissues	Striped tissues	Figured tissues	Coloured tissues	Crepe	Total value incl. others (¥1,000)
1927	86,949	44,944	15,053	8,326	2,128	179,597
1932	79,859	23,123	9,741	5,700	1,311	81,493
1933	81,874	18,499	7,247	5,148	1,422	87,166
1934	78,665	16,542	6,172	5,121	667	85,073
1935	82,232	15,486	6,208	5,347	1,125	88,315
1936	82,044	16,058	6,408	5,249	530	90,303
1937	78,974	15,529	5,101	4,584	336	96,453

(c) Special Cloths

	Towels (1,000 dozens)	Sheets (1,000 dozens)	Blankets & shawls etc. (1,000 pieces)	Belting (Kms.)	Tape (Kms.)	Total value incl. others (¥1,000)
1927	11,154	...	....	142	160,394	27,873
1932	13,699	308	7,839	685	139,876	33,944
1933	17,843	267	10,808	3,635	147,749	44,700
1934	17,203	313	11,897	3,756	142,520	45,671
1935	19,833	420	14,449	4,975	153,718	55,783
1936	20,273	515	13,456	4,304	170,160	62,916
1937	21,499	776	13,543	4,579	178,633	76,352

Table 6. Cotton Yarn Production

(Bales)

	Average Working Spindles	Coarse Yarn (under 19 counts)	20 to 22 counts	(23 to 44 Medium counts)	Fine Yarn (45 counts and over)	Total
1929	6,836,516	827,363.5	878,405.5	984,991.5	101,825.5	2,792,586.0
1930	7,214,001	780,498.0	808,560.0	834,426.5	101,214.5	2,524,996.0
1931	7,535,146	809,822.5	803,442.0	814,395.5	139,370.5	2,567,133.5
1932	7,964,850	797,180.0	896,921.5	937,915.0	158,420.5	2,810,437.0
1933	8,643,928	877,043.0	941,139.5	1,146,009.0	136,665.5	3,099,856.5
1934	9,530,574	962,109.0	1,100,935.0	1,305,405.0	103,988.0	3,472,422.0
1935	10,649,048	999,282.0	1,026,007.0	1,412,900.5	122,643.0	3,560,832.0
1936	12,139,408	1,015,599.0	1,027,276.0	1,425,635.0	138,948.5	3,621,907.5
1937	12,567,296	1,101,887.4	1,166,956.2	1,549,246.5	148,111.5	3,966,201.6

Production Costs.—The cost of production in the cotton spinning industry has been reduced considerably in the past few years. It is estimated that between 1930 and 1935 the production costs have been cut by about 50%. This saving has been obtained mainly by the installation of new equipment, by increased efficiency of operatives and by further reduction of miscellaneous waste.

COTTON WEAVING

In contrast to the prevalence of large scale cotton spinning mills the cotton weaving industry is characterized by the smallness of factories, about 90 per cent. of the total being equipped with ten looms or less. Of roughly 755,000 looms in existence in 1934 about 54 per cent. were comprised of the following kinds of looms: broad-cloth looms, 241,240; narrow-cloth looms, 79,995; hand-looms, 55,469. In recent years a significant expansion in the manufacture of broad cloths has been noted.

Raw Cotton Imports

Practically all of the raw cotton consumed by the cotton spinning industry of Japan is met by imports. In 1936 the imports of this item was valued at 850.4 million yen, representing about 30 per cent. of Japan's total imports for that year. The principal suppliers of raw cotton in 1936 were the United States (372 million yen), British India (315 million yen), Egypt (36 million yen) and China (23 million yen). In that year Japan followed the United States as the largest consumer of raw cotton.

The government's policy has been to increase production of cotton in Chosen and in Manchoukuo as well as in Japan's sphere of influence in North China with a view to meeting more of the domestic requirements of this item. Chosen in 1936 produced about 124,000 metric tons of raw cotton or 41,800 metric tons when transformed into ginned cotton. According to the 20 year plan launched by the Government-General of Chosen in 1933 production will be increased to 360,000 metric tons of raw cotton by the end of that period.

Manchoukuo's raw cotton 20 year plan instituted in 1934 calls for a production of 90,000 metric tons when the plan is completed. North China, which produces about 70 per cent. of China's yield of raw cotton, is looked upon as a highly potential region for the expansion of this industry.

Table 7. Japan's Import of Raw Cotton By Countries of Origin

(Volume: Piculs; Value: ¥1,000)

		China	British India	D. E. I.	U.S.A.	Egypt	Total incl others
1933	Volume	569,070	3,977,280	17,226	7,434,880	280,454	12,489,201
	Value	24,348	168,797	269	381,656	19,085	604,847
1934	Volume	330,644	5,792,383	21,734	6,486,731	549,551	13,554,852
	Value	15,693	252,435	578	400,919	39,787	731,425
1935	Volume	427,410	5,211,039	39,259	5,758,430	536,917	12,283,739
	Value	20,705	259,037	968	371,952	43,009	714,262
1936	Volume	463,944	6,726,944	37,187	5,928,746	445,463	15,211,168
	Value	22,778	315,061	701	372,415	36,415	850,416
1937	Volume	400,824	7,016,238	66,325	4,223,964	670,390	13,764,913
	Value	23,610	363,635	1,173	306,388	58,759	851,163

Table 8. Raw Cotton Consumption Classified

(1,000 Kwan)

	American Cotton	Indian Cotton	Egyptian Cotton	Chinese Cotton	African Cotton	Korean Cotton	Annamese and Saigon Cotton	Total incl. others
1930	56,702	75,912	3,089	1,384	1,110	2,452	234	141,650
1931	68,098	70,266	3,925	315	302	1,704	147	145,357
1932	109,993	40,109	4,525	245	20	611	58	156,373
1933	105,262	55,786	4,917	950	1,339	2,015	69	171,652
1934	103,659	73,609	6,406	1,379	2,248	1,949	155	193,219
1935	101,465	81,421	8,211	528	1,066	2,682	35	200,321
1936	83,354	87,478	7,649	2,555	4,544	3,706	41	202,724
1937	83,820	97,320	10,476	3,997	4,240	1,808	11	221,528

Cotton Yarn

Exports.—Cotton yarn exports have been rising at a rapid pace in recent years. In 1936 exports amounted to 331,000 piculs representing an expansion of about one-third over 1934. The principal destination continues to be British India, but Manchoukuo is becoming an increasingly important market.

Cotton Cloth

Exports.—The export trade in cotton cloths amounted in 1935 to roughly ¥484,000,000, showing an increase of approximately ¥100,000,000 since 1933 and accounted for more than half of total production. Such countries as British India and Manchoukuo are among Japan's best customers, However, while India's takings from Japan have been decreasing perceptibly, her share in 1929 being 109 million yen as compared with 72 million yen in 1936, Manchoukuo on the other hand has been rapidly forging ahead. While in 1929 Manchoukuo took only 15 million yen's worth she trebled her takings from Japan to 47 million yen in 1936.

Among the new markets for Japanese cotton cloths are Central and South America.

Of the Japanese exports of cotton cloth amounting to 484 million yen in 1936, grays accounted for 143.5 million yen, bleached for 85.2 million yen and "others" for 254.7 million yen.

Table 9. Japan's Exports of Cotton Yarn by Destinations

(Volume: Piculs; Value: ¥1,000)

	1934		1935		1936		1937	
	Volume	Value	Volume	Value	Volume	Value	Volume	Value
Manchoukuo	36,189	3,631	50,826	4,627	74,863	6,391	82,272	8,333
Kwantung Province	5,221	513	6,111	539	5,259	477	12,772	1,423
China	971	175	1,257	198	1,697	279	5,977	1,024
Hongkong	1,059	132	10,555	943	20,349	1,840	31,259	3,625
British India	72,955	11,111	134,641	20,093	126,528	18,050	110,657	19,846
Dutch East Indies	13,556	1,695	39,564	4,502	46,147	5,489	92,138	13,790
Philippines	3,254	339	7,527	717	13,938	1,259	17,925	1,761
Siam	1,448	274	7,565	968	8,257	993	3,110	543
Egypt	2,235	228	4,236	395	63	6	861	74
Australia	10,105	955	4,369	417	3,857	391	1,736	234
Others	47,540	4,427	23,098	2,468	30,615	3,196	30,030	4,249
Total	194,533	23,484	289,749	35,873	331,573	38,344	389,192	54,906

Table 10. Japan's Exports of Cotton Cloth by Destinations

(¥1,000)

	British India	Dutch East Indies	China	Egypt	Manchoukuo	Total including others
1928	70,185	39,275	158,497	17,637	15,073	352,217
1929	109,138	42,283	150,115	24,409	15,358	412,706
1930	61,218	28,284	86,914	20,525	9,186	272,116
1931	49,866	28,279	43,073	14,957	6,172	198,732
1932	80,653	50,228	38,229	27,068	18,300	288,713
1933	71,163	78,273	25,605	38,351	21,626	383,215
1934	74,133	82,828	13,030	46,833	40,253	492,351
1935	85,182	66,573	11,912	31,683	35,733	496,097
1936	72,517	55,391	7,861	20,525	47,221	483,591
1937	62,541	85,703	11,296	10,509	55,748	573,064

Table 11. Japan's Exports of Cotton Cloth by Kinds

	Gray (million Sq. yds.)	Bleached (million Sq. yds.)	Other Tissue (million Sq. yds.)	Total quantity (million Sq. yds.)	Total value (¥1,000)
1928	607.4	115.8	695.0	1,418.4	352,217
1929	815.6	128.0	846.0	1,789.7	412,706
1930	672.1	162.8	736.4	1,571.4	272,116
1931	559.8	189.9	662.1	1,412.0	198,732
1932	748.9	359.5	924.2	2,032.7	288,713
1933	611.3	463.7	1,015.2	2,090.2	383,215
1934	772.5	509.8	1,294.9	2,577.2	492,351
1935	945.3	511.3	1,268.5	2,725.1	496,097
1936	963.4	529.0	1,217.5	2,709.9	483,591
1937	810.5	648.6	1,184.9	2,644.0	573,064

No. of Companies.—The number of companies has of late years shown a tendency to decrease in contrast to an expansion in production. This is due to amalgamations. Over 6,553,000 spindles, representing about 61 per cent. of the aggregate spindles in Japan, are under the control of ten companies of a total of 74 companies as at the end of 1936. Besides cotton spinning the larger companies play an important role in kindred enterprises such as bleaching, dyeing, silk spinning and rayon manufacturing.

Table 12. Results of Cotton Spinning Cos.

(In Million Yen)

End of 2nd half	No. of Cos.	Capital Authorized	Capital Paid-up	Reserves	Debentures & Borrowings	Fixed Capital	Net Profit %	Divided %
1930	60	510.3	385.7	248.6	123.2	565.7	−3.6	14.7
1931	60	506.4	378.6	236.3	114.8	563.4	22.8	17.9
1932	62	526.5	385.7	240.3	124.3	570.1	27.4	19.3
1933	60	530.0	391.9	248.0	124.9	555.6	32.7	21.0
1934	60	549.4	424.9	264.5	131.7	571.5	37.1	25.7
1935	61	587.5	444.9	274.3	136.8	619.2	35.2	26.3
1936	67	658.8	466.5	280.6	184.6	699.4	36.8	25.9
1937	72	756.6	577.0	294.4	218.3	777.1	50.6	34.4

Table 13. Statistics of Cotton Spinning Companies

	No. of Cos.	Capital Authorized (¥1,000)	Capital Paid-up (¥1,000)	Reserves (¥1,000)	Mills	Spindles (1,000) Ring	Mule	Doubling	Looms
1912	41	105,136	72,867	28,533	147	2,125	51.7	217	21.9
1913	44	113,036	86,444	33,808	152	2,365	49.4	321	24.2
1914	42	109,676	85,820	36,639	157	2,606	51.2	349	25.4
1915	41	110,176	86,012	38,663	161	2,754	53.4	355	30.1
1916	40	137,290	99,642	48,952	161	2,826	50.0	371	31.3
1917	43	162,830	115,623	70,037	170	3,009	52.0	383	36.2
1918	43	192,878	138,495	92,426	177	3,176	52.0	385	40.4
1919	54	221,928	165,759	139,074	190	3,436	52.3	411	44.4
1920	56	394,328	276,536	165,097	198	3,761	52.3	466	50.6
1921	61	420,578	295,648	182,041	217	4,117	44.5	533	55.0
1922	64	462,168	317,148	202,774	235	4,472	45.5	602	60.8
1923	70	530,278	530,278	217,408	241	4,422	14.4	510	64.5
1924	69	575,303	398,163	219,043	247	5,100	25.2	686	68.6
1925	64	551,363	382,715	223,531	243	5,413	34.1	760	73.4
1926	64	539,238	391,305	231,149	247	5,645	35.1	790	77.0
1927	64	535,078	391,551	238,367	257	6,079	37.0	788	78.4
1928	72	552,196	419,792	249,979	259	6,426	41.7	809	81.2
1929	70	560,846	429,415	259,757	258	6,796	41.0	808	77.9
1930	74	561,990	425,346	252,095	263	7,172	42.5	803	79.5
1931	72	537,965	398,855	240,828	263	7,498	37.0	802	77.8
1932	71	540,561	397,675	245,940	265	7,930	35.3	810	79.3
1933	69	543,761	403,899	255,498	268	8,609	35.3	843	86.3
1934	72	567,229	438,579	273,316	275	9,495	35.3	868	91.1
1935	74	609,203	458,956	282,589	281	10,614	35.3	913	96.0
1936	74	678,678	483,967	292,389	282	12,131	7.9	1,170	100.5
1937	82	782,278	595,886	309,828	291	12,559	7.9	1,371	108.1

Table 14. Results of Leading Spinning Mills

(2nd half of 1937: In ¥1,000)

	Capital Authorized	Capital Paid-up	Reserves	Fixed capital	Net Profit	Dividends Amount	Dividends %
Dai-Nippon Spinning	110,000	66,500	42,198	93,376	5,448	3,990	12
Toyo "	72,725	72,725	69,012	108,566	8,242	6,077	12
Fukushima "	16,000	10,000	13,625	10,642	1,482	1,000	20
Tenma Weaving	10,500	10,500	3,093	14,596	627	503	10
Naigai Cotton	33,000	24,500	20,243	32,651	1,519	1,470	12
Kinka Spinning	26,000	15,684	3,810	15,536	1,132	784	10
Kishiwada "	20,000	12,312	12,637	11,300	1,408	795	15
Hinode "	21,000	8,925	2,774	9,552	502	380	8
Kurashiki "	35,000	27,500	7,415	22,681	1,903	1,064	15
Kureha "	20,000	20,000	4,336	22,325	1,588	1,009	12
Toyoda Weaving	15,600	11,700	4,285	6,074	660	468	8
Kanegafuchi Spinning	60,000	60,000	59,901	115,276	9,590	7,023	25
Fuji Gas "	50,000	37,375	11,483	52,662	2,243	1,495	8
Nisshin "	27,000	24,099	7,929	27,421	2,305	1,446	12
Nitto "	29,600	18,350	1,520	23,010	2,422	834	12

Cotton Spinning Control Policy

The Japan Cotton Spinners' Association, established in 1882, controls about 97 per cent. of the total number of spindles and thus may be said to govern completely the cotton spinning industry. The function of the Japan Cotton Spinners' Association may be divided into four branches: (a) control over production, (b) control over dealings in raw material, (c) control over sales of manufactured articles and (d) control over employment. As is evident from the above, the control exercised by the Japan Cotton Spinners' Association covers a wide sphere, and the results of the control have generally been satisfactory. The Association has also contributed to the adjustment of trade problems which have arisen between Japan and other countries, particularly Great Britain, British India, and the Netherlands. It has done much to assist the Government in establishing commercial relations.

SILK TEXTILES

Production of Silk Fabrics.—The production of silk fabrics has amounted in recent years to more than three hundred million yen yearly, thereby constituting a major industry. The output of pure silk fabrics, which stood at approximately 326 million yen in 1930, increased to 341 million yen in 1934 but fell to 301 million yen in 1936. About 70 per cent. of the output is for domestic consumption and is represented by the narrower width stuffs and what are termed as "Special kinds." The rest or 30 per cent. of the total is exported and is represented by the wider width stuffs. The export of pure silk and silk mixtured fabric combined amounted to 342 million yen in 1937.

Recent Situation in Silk Fabrics Exports.—The export of silk fabrics shows a decline of late due to depressed conditions abroad. The principal exports consist of habutae, pongee, fuji silk, crepes, kabeori, satin, taffeta, poplin and kaiki silk. Shipments abroad of kabeori and crepe, satin and taffeta and poplin have been showing a steady decline but exports of habutae, on the contrary, has been increasing.

Table 15. Number of Factories, Looms and Operatives of Silk and Silk Mixture Fabrics

	No. of factories	No. of Looms		No. of Operatives		
		Power looms	Hand looms	Male	Female	Total
1927.....	86,782	101,435	112,364	35,273	182,498	217,771
1928.....	84,348	111,104	106,945	35,965	181,666	217,631
1929.....	83,107	125,849	99,190	34,212	181,713	215,925
1930.....	79,864	133,244	92,944	32,737	173,805	206,542
1931.....	77,723	144,802	89,641	35,942	177,343	213,285
1932.....	72,448	160,475	85,214	38,454	186,107	224,561
1933.....	71,273	176,289	84,089	41,110	195,887	236,997
1934.....	72,907	216,731	84,990	46,547	220,798	267,345
1935.....	72,311	251,977	82,868	52,474	238,438	290,912
1936.....	72,599	287,842	81,477	36,311	254,048	310,359

Table 16. Production Value of Silk Fabrics

(¥1,000)

	Silk			Mixture of Silk and cotton			Mixture of Silk & Hemp, Ramie, etc.	Mixture of Silk & wool	Total value*
	Broad	Narrow	Special	Broad	Narrow	Special			
1932.....	98,850	204,181	10,832	7,694	6,509	6,604	45	1,353	336,068
1933.....	122,175	188,844	11,761	9,190	6,224	6,656	38	1,758	346,647
1934.....	120,187	208,227	12,687	10,512	4.658	9,284	41	744	366,349
1935.....	113,999	222,252	13,145	11,329	6,851	11,888	25	993	380,481
1936.....	102,848	186,543	11,618	11,674	6,447	12,114	11	615	331,871
1937.....	126,746	180,560	11,422	7,662	5,363	9,752	46	461	342,013

Table 17. Japan's Exports of Silk Fabrics Classified

	Habutaye (Kin)	Kabeori & crepe (sq. yards)	Satin (sq. yards)	Pongee (sq. yards)	Taffets & popl (sq. yards)
1930.....	1,174,153	20,806,160	3,292,557	17,040,794	73,837
1931.....	692,136	21,203,203	3,593,214	25,630,094	25,914
1932.....	707,761	23,814,928	3,322,123	24,220,010	649,128
1933.....	663,154	28,877,440	2,998,536	31,075,151	148,446
1934.....	911,281	42,999,183	7,215,382	22,011,046	205,127
1935.....	*20,840,757	50,605,137	6,279,801	17,093,049	640,264
1936.....	*26,664,387	42,318,800	5,790,387	9,191,322	1,477,972
1937.....	*39,318,132	40,744,955	2,969,167	19,300,689	228,816

* Sq. yards.

RAYON

The development of the rayon industry in Japan has been phenomenal. In 1926 the country produced only 2,268 metric tons of rayon yarn, representing about 2.36% of world production. In 1936 Japan's output had risen to 118,761 metric tons which is 27.38% of world production. In the latter year she vied with the United States for first place, America's share in world production having been 27.64%.

This remarkable growth is due to technical improvements and to a strong foreign demand which, however, of late seems to be confronted with a barrier in the form of high tariff walls.

Table 18. Japan's Position in Rayon Yarn Production

(Prepared by Rayon Organon)

(In thousands of pounds)

	U.S.A.	Japan	Italy	Germany	England	France	World Total
1931.....	150,880	48,950	74,000	61,500	52,700	44,000	499,740
1932.....	134,670	69,600	62,200	69,400	69,900	50,600	514,850
1933.....	213,500	98,300	73,200	62,400	80,000	57,000	663,130
1934.....	208,320	153,100	85,600	84,600	88,300	57,200	771,095
1935.....	257,560	224,319	85,800	105,000	111,300	52,800	932,900
1936.....	277,625	275,000	85,800	100,000	117,800	42,500	1,004,300
1937*.....	295,000	330,000	104,300	110,000	120,100	48,000	1,119,150

* Estimate (prepared by the Economist, Commercial History of 1937).

Table 19. Production Value of Rayon Fabrics

(¥1,000)

	Artificial silk			Mixture of rayon & cotton	Mixture of rayon hemp, ramie, etc.	Mixture of rayon & wool	Total value
	Broad	Narrow	Special				
1932.....	89,203	12,813	19,725	13,387	28	14,796	149,951
1933.....	111,471	20,073	18,476	20,372	136	19,377	189,905
1934.....	154,142	24,921	21,908	33,226	83	23,381	257,662
1936.....	147,367	38,841	27,410	35,152	28	30,848	279,646
1936.....	208,015	64,283	34,392	40,938	101	36,053	383,782
1937.....	270,099	74,333	38,823	48,959	904	40,033	472,151

Table 20. Demand & Supply of Rayon Yarn

(Unit: case containing 100 lbs.)

	Production	Import	Total Supply	Export			Net Domestic Consumption
				Yarn	Textile (1,000 yds.)	Total*	
1930.....	359,589	16,460	366,049	32,253	84,209	171,198	194,851
1931.....	467,641	2,229	469,870	27,429	139,517	257,632	222,238
1932.....	649,420	3,813	653,233	73,528	241,564	472,109	181,124
1933.....	904,280	5,116	909,400	90,420	260,043	519,491	389,909
1934.....	1,377,952	678	1,378,630	223,901	345,656	794,233	584,397
1935.....	2,010,316	448	2,010,764	306,711	424,141	1,006,544	1,004,220
1936.....	2,618,248	326	2,608,574	446,863	527,954	1,317,987	1,290,587
1937.....							

* 1,000 yards calculated as 1.65 case.

Exports.—The exports of rayon yarn and rayon fabrics have increased markedly in recent years. In 1936 rayon exports amounted to 334,892 piculs, the principal markets having been British India, Kwantung Province, Mexico and China. Foreign purchases of Japanese rayon fabrics in the same year amounted to 525 million square yards valued at 149 million yen.

Imports.—The imports of rayon at present is practically nil, although in 1925 it was roughly one million pounds a year. In 1927 rayon imports reached the high mark of 3,300,000 pounds. Since then due to the establishment of rayon plants in Japan exports have steadily fallen. In 1937 rayon imports amounted to 65,889 pounds valued at ¥145,000.

Production Curtailment.—In view of the expansion of rayon production capacity by companies consequent upon the increase in demand the country has been faced for some time now with surplus output. As a result curtailments of various degrees have been established to rationalize the situation between demand and supply. While rayon exports slowed down due to the erection of trade barriers, the efficiency of rayon producing plants has further developed so much so that the rate of curtailment contemplated for 1938 is 65 per cent. of capacity.

Table 21. Rayon Yarn Exports by Destinations

(In piculs)

	1934	1935	1936	1937
Kwantung Province	61,885	54,310	98,558	11,798
China	7,126	23,976	22,230	41,113
British India	63,865	76,603	106,868	231,858
Germany	658	945	1,933	2,663
Mexico	11,585	17,940	28,400	54,152
Australia	350	11,645	12,331	4,743
Others	22,456	44,614	64,754	80,295
Total	167,925	230,033	334,892	426,622

Table 22. Rayon Fabrics Exports

	Volume (Square yards)	Value		Volume (Square Yards)	Value
1931	139,516,978	¥ 39,712,933	1935	424,192,997	128,260,226
1932	214,564,781	60,529,940	1936	527,547,322	149,169,597
1933	260,042,649	77,365,540	1937	485,128,078	154,860,384
1934	345,666,455	113,469,964			

Table 23. Results of Leading Rayon Companies

(Second half of 1937)

Companies	Authorized capital (¥1,000)	Paid-up capital (¥1,000)	Profit (¥1,000)	Profit rate (%)	Dividend (%)
Teikoku Rayon	36,000	32,250	6,516	41.2	15.0
*Asahi Bemberg	46,000	37,000	4,017	21.9	10.0
Toyo Rayon	30,000	25,000	4,037	35.9	12.0
Kurashiki Rayon	50,000	30,000	4,101	27.3	10.0
Nippon Rayon	30,000	22,500	3,517	36.5	12.0

* 1st half of 1938.

STAPLE FIBRE

The staple fibre enterprise, which is a recent addition to the textile industry of Japan, has shown the greatest rate of expansion. From an annual production of 6,000 metric tons in 1935 the output in Japan soared to 20,000 metric tons in 1936, and to 55,000 metric tons in 1937. Production estimates for 1928 are approximately 130,000 metric tons.

Production Capacity.—Daily production capacity of staple fibre in 1937 was approximately 300 metric tons, but within 1938 it is planned to step up this daily capacity to over 1,000 metric tons. This marked increase in production is due partly to the limitation of imports of raw cotton and wool which in 1938 is expected to run up to roughly 340,000 metric tons. But it is expected that in the near future staple fibre production will outstrip that of rayon.

Exports.—The exports of staple fibre and yarn in 1937 were valued at roughly ¥15,000,000 and tissues at ¥7,000,000, totalling ¥22,000,000.

Table 24. Japan's Position in Staple Fibre Production

(Prepared by Rayon Organon)

(In 1,000 lbs.)

	Japan	U.S.A.	Italy	Germany	England	France	World's Total
1931	....	880	1,400	4,400	1,200	500	8,300
1932	550	1,100	9,400	5,500	2,200	1,650	20,765
1933	965	2,100	11,500	9,250	2,750	2,200	29,205
1934	4,720	2,200	21,600	15,800	3,300	4,400	52,685
1935	13,625	5,200	67,550	34,300	10,000	8,000	139,755
1936	45,850	12,400	109,900	90,000	26,200	12,000	298,865
1937*	174,000	24,000	157,000	200,000	35,000	13,500	608,000

* Estimate.

WOOLEN CLOTH AND WORSTED YARN

The woolen industry was started in Japan in 1876 when the Senju Woolen Works was established under government control. It is since the World War that this industry has expanded by giant strides, however. By the depreciation of the yen in 1931 the woolen enterprise was presented with a great advantage in opening up foreign markets, and woolen goods imports are almost completely closed.

Wool Imports.—As the country does not produce wool to any marked extent the requirements of this material are almost fully met by imports. Purchases of foreign raw wool, which come mostly from Australia, New Zealand and Africa, have been on the increase. In 1925 raw wool imports amounted to roughly 70 million pounds; in 1935 it was up to over 243 million pounds. Tops, on the other hand, has slumped perpendicularly, imports which amounted to 11 million pounds having dipped to 79,000 pounds in 1935.

Woollen and Worsted Yarns.—The production of woollen yarns has more than doubled since 1930. In 1936 it amounted to roughly 122 million pounds. The expansion is largely attributed to the increase in foreign demand. Technical improvements in the manufacture of woollen and worsted yarns have been spectacular in the last ten years and a high grade product is now produced.

Woollen and Worsted Tissues.—The production value of woollen and worsted tissues in Japan has increased by leaps and in 1935 output was valued at roughly ¥296,000,000 as contrasted with ¥164,500,000 in 1930. The largest items are accounted for by serges for foreign style clothing and muslin.

Table 25. Output of Woolen Fabrics

(Volume in kms.; Value in ¥1,000)

	1927	1931	1932	1933	1934	1935	1936	1937†
Musline:								
Volume	159,644	147,818	164,581	132,594	121,576	134,242	99,936	39,557
Value	99,058	49,476	51,380	48,276	50,848	53,807	47,078	....
Serges for Kimono:								
Volume	24,686	35,937	32,481	31,245	28,989	36,170	22,923	....
Value	32,384	30,831	29,727	29,161	29,627	36,990	23,297	....
Serges for Foreign Style Clothing:								
Volume	12,681	19,670	23,977	30,382	53,812	50,122	63,841	60,127
Value	32,446	33,959	43,847	63,850	114,433	127,490	180,491	....
Woolens:								
Volume	8,888	8,209	10,393	11,985	14,814	16,183	15,306	16,259
Value	27,086	18,497	21,930	29,927	36,710	41,100	43,141	....
Flahnel:								
Volume	2,986	3,460	4,132	3,744	2,397	2,649	2,113	1,962
Value 2	4,772	3,393	4,224	3,782	3,062	3,454	2,981	....
Blankets (inclusive of shawls and cushions):								
Volume (100 sheets)	1,049 / 96*	1,171	1,025	1,446	1,982	2,039	2,804	....
Value	5,712	4,272	3,644	5,898	6,580	7,751	10,913	....
Total value (incl. others)	238,706	153,824	167,010	201,137	264,131	296,227	339,857	....

Note: * In Kin.
† Estimate; Based on Monthly Statistics on Principal Production of the Dept. of Com. & Ind.

Table 26. Demand and Supply of Woolen Yarn

(In 1,000 lbs.)

	Production*	Import	Total Supply	Export	Total Consumption
1930	55,048	8,010	63,058	617	62,441
1931	77,586	9,549	87,135	698	86,437
1932	89,660	3,219	92,879	1,289	91,590
1933	101,361	1,638	102,999	3,163	99,831
1934	103,145	919	104,064	5,919	98,145
1935	112,775	1,088	113,363	5,319	108,544
1936	123,263	934	124,196	5,141	116,056
1937	125,330	576	125,906	7,402	118,504

* Production by member Cos. of Woollen Industry Association.

Table 27. Japan's Wool Imports By Countries of Origin

(Volume in 1,000 Piculs; Value in ¥1,000)

	Manchoukuo		China		England		Chile		Argentina	
	Volume	Value	Volume	Value	Volume	Value	Volume	Value	Volume	Value
1932	...	...	0.6	67	4.3	376	0.8	22	8	481
1933	0.1	13	1.4	129	9.2	1,051	12.4	465	31	2,427
1934	0.6	43	4.9	341	6.3	905	7.7	934	59	7,553
1935	0.2	15	1.7	95	5.7	756	10.7	875	7	612
1936	4.6	269	5.1	611	8.5	1,190	16.6	1,744	57	6,562
1937	3.0	527	3.0	382	6.3	1,073	20.5	2,376	127	17,613

	Federation of S. Africa		Australia		New Zealand		Total incl. others	
	Volume	Value	Volume	Value	Volume	Value	Volume	Value
1932	17	1,032	1,488	84,246	....	....	1,544	87,559
1933	29	2,529	1,706	156,514	....	....	1,806	164,192
1934	39	5,780	1,165	159,241	76	9,804	1,363	186,455
1935	19	1,872	1,727	182,007	55	4,007	1,841	191,761
1936	141	17,389	1,169	147,493	179	18,316	1,641	200,898
1937	559	82,763	737	118,196	296	42,822	1,954	298,404

Table 28. Japan's Imports of Woolen Tissues By Country of Origin

(In thousands of yen)

	1932	1933	1934	1935	1936	1937
Great Britain	8,598	6,834	5,042	6,536	9,389	8,971
France	157	51	28	50	42	31
Germany	1,542	297	105	130	195	200
Italy	8	7	2	2	3	12
U. S. A.	18	5	8	8	3	42
Total including others	10,488	7,213	5,199	6,753	9,675	9,292

Table 29. Japan's Exports of Woolen Tissues By Destinations

(In thousands of yen)

	1932	1933	1934	1935	1936	1937
Manchoukuo	172	1,361	1,540	1,397	1,052	3,800
Kwantung Province	2,926	5,944	8,281	8,729	13,187	17,903
China	431	1,687	2,975	3,043	3,616	3,823
British India	592	1,647	8,219	4,921	5,254	9,884
Dutch East India	....	....	....	1,213	333	5
Egypt	....	....	....	2,278	4,051	4,671
Hawaii	24	35	42	33	24	27
Total including others	4,481	12,377	29,849	32,401	45,956	50,082

Table 30. Results of Leading Woolen Mills for 2nd Half of 1937

Companies	Authorized capital (¥1,000)	Paid up capital (¥1,000)	Profit (¥1,000)	Profit rate %	Dividend %
Nippon Keori	50,000	35,000	6,002	34.3	12.0
*Showa Keito	20,000	10,000	1,052	21.0	10.0
Toyo Boshoku	15,000	13,036	812	15.3	7.0
Daito Boshoku	10,703	7,778	407	10.5	3.0

Note: * 1st half, 1938.

Table 31. Japan's Import of Wool, Camel and Goat Hair, Etc.

(Volume in 1,000 Piculs; Value in ¥1,000)

	Wool		Camels & Goat Hair	
	Volume	Value	Volume	Value
1932	1,544	87,559	740	792
1933	1,806	164,192	1,381	1,626
1934	1,373	186,455	991	1,212
1935	1,841	191,761	1,359	1,331
1936	1,641	200,898	2,078	3,444
1937	1,954	298,404	493	1,096

HEMP CLOTH

The production of hemp cloth has been increasing steadily, rising from ¥14,624,000 in 1930 to ¥19,852,000 in 1936. The broad varieties show the largest gains in production, having doubled between 1930 and 1936. The imports of hemp and flax are also increasing in value, though a slight decrease in the volume of imports was noted in 1937 as compared with the previous year.

Table 32. Production of Hemp Cloth, Etc.

	No. of Factories	No. of Looms	No. of Operatives	Production Value (in ¥1,000)			
				Broad	Narrow	Special	Total incl. others
1930	14,222	20,708	21,261	6,131	5,501	2,991	14,624
1931	14,375	20,414	20,519	6,118	5,364	1,955	13,436
1932	13,821	19,192	19,593	8,002	6,279	1,299	15,581
1933	12,775	18,139	18,679	7,551	5,729	2,198	15,477
1934	12,062	18,413	18,675	9,531	7,116	1,868	18,515
1935	10,926	17,854	19,313	10,687	7,052	2,481	20,220
1936	10,880	17,315	18,371	12,534	5,115	2,203	19,852

Table 33. Crops of Hemp, Ramie, Flax, Etc. in Japan Proper

(Volume in 1,000 Kwan; Value in ¥1,000)

	Hemp		Ramie		Flax		Jute	
	Volume	Value	Volume	Value	Volume	Value	Volume	Value
1931	1,913	1,688	17	28	4,663	878	226	161
1932	2,209	2,085	22	44	3,117	514	282	182
1933	2,098	2,446	43	82	5,242	1,224	322	214
1934	2,066	2,529	79	150	7,891	1,613	291	190
1935	1,885	3,154	172	324	7,240	1,825	300	209
1936	2,112	3,277	321	550	7,097	1,362	316	214

Table 34. Import of Hemp, Flax, Etc.

	Raw Materials		Tissues of Flax, Hemp, etc.		Total Value (¥1,000)
	Volume (1,000 kin)	Value (¥1,000)	Volume (1,000 sq. yards)	Value (¥1,000)	
1933	1,529	23,137	9,099	2,954	26,416
1934	1,848	27,462	1,404	952	28,414
1935	1,995	27,795	2,614	818	28,613
1936	2,158	37,301	996	560	37,861
1937	1,867	40,995	2,416	901	41,896

References:

Table Nos.: 1 a, 2 b, 3-4 d, 5 e, 6-8 d, 9-11 c, 12-14 d, 15-16 e, 17 c, 18 h, 19 e, 20 c & e, 21-22 c, 23 g, 24 h, 25 e, 26 f, 27-29 c, 30 g, 31 c, 32 e, 33 i, 34 c.

Key: a—Research of the Oriental Economist.
b—International Federation of Master Cotton & Manufacturers Association.
c—Official Annual of Department of Finance.
d—Cotton Spinners' Association.
e—Research of Department of Commerce & Industry.
f—Woolen Industry Association.
g—Japan Manchoukuo Year Book Co.
h—Rayon Organon.
i—Department of Agriculture and Forestry.

CHAPTER XXXIII

ELECTRIC AND GAS INDUSTRIES

ELECTRICITY

Development of Electric Generation. — The electric industry was started in Japan in 1887 when the Tokyo Electric Light Company was established. Starting with the generation of electricity on a meagre scale by that company in that year, the industry has developed into the enterprise commanding the largest capital outlay in the industrial circles of the country. This rapid development of the industry is due largely to the comparative abundance of water power, the mainland as a whole being liberally endowed with rivers and lakes that can be harnessed.

The industry was dependent mostly on thermal power for electric generation for the first fifteen years owing to the fact that installation of thermal plants was more economical than that of hydro-electric plants. But with the rise in the price of coal and due to improvements effected in the transmission of electric power the number of hydro-electric plants increased at an accelerated pace and by 1912 had outstripped the steam plants in the amount of electricity generated, the capacity of hydro-electric plants at the end of the year being 233,339 k.w. as against 228,864 k.w. shown by that of thermal electric plants, making a total capacity of 460,000 k.w., about ten-fold that of ten years before. Influenced by the war boom the electric industry had made so much development that at the end of 1922 the capacity of hydro-electric plants stood at 1,070,060 k.w. and that of thermal electric plants at 709,112 k.w., totalling 1,779,173 k.w. By the end of 1936 the capacity of hydro-plants had increased to 3,759,000 k.w. and that of thermal plants to 3,018,000 k.w., aggregating 6,777,000 k.w.

In order to meet the growing demand for electric power, the Department of Communications drew up a programme for providing additional equipments for generating 955,000 k.w. of hydro-electric power and 840,000 k.w. of electric power, totalling 1,795,000 k.w. in five years from the financial year of 1936-37 on.

Generation Sites.—As may be seen from the natural features of the land districts forming the broadest section in Central Japan contain the most important sites for electric generation. The river system of the Kiso exploited by the Daido Electric Company, of the Kurobe by the Nippon Electric Power Company, and some other heads, all in the high alpine table land supply high tension current to the districts of Tokyo-Yokohama, Kyoto-Osaka-Kobe and Nagoya.

Rivers and Average Potential Amount of H.P.s Per Annum

The following table gives the name of principal rivers in the Eastern and Western zones with their average yearly amount of H.P.s, the rivers being divided for convenience's sake into those emptying into the Japan Sea and those into the Pacific Ocean:

Table 1. Principal Rivers & Average Potential Output of H.P.'s Per Annum
(1937)

Rivers	Average Output in H.P.s
Japan Sea Group:	
Agano	990,000
Hime	145,287
Ishikari	200,000
Kurobe	550,000
Kuzuryu	120,000
Jintsu	416,341
Joganji	92,856
Mogami	213,785
Shinano	1,280,000
Sho	292,268
Tetori	80,464
Pacific Ocean Group:	
Abukuma	111,507
Arakawa	63,324
Fuji	288,872
Kiso	1,160,000
O-i	200,000
Kitakami	114,574
Sagami	200,000
Sakawa	60,518
Tenryu	690,000
Tone	158,460
Yahagi	59,289
Yodo	200,000

Largest Load Centres

The three largest load centres in Japan are Kei-Hin (around Tokyo and Yokohama) Chukyo (around Nagoya) and Kei-Han (around Kyoto, Osaka and Kobe).

The territory around the three centres may be divided into the following two zones:—

(1) Eastern zone with the centre in Kei-Hin district (Tokyo and Yokohama).

(2) Western zone with the centre in Chukyo district (Nagoya) and Kei-Han district (Kyoto, Osaka and Kobe).

These two zones are geographically separated by the Japan Alps and the River Tenryu.

Consumption of Electric Power

Electric power consumption has been steadily rising and in 1936 it was about two and a half times larger than for the comparative figure for 1927. Consumption for 1936 was 24,133 million kw.h. which works out at 343 kw.h. per capita.

Consumption of electric power by industries has shown a spectacular advance, rising from 3,680 million kw.h. in 1926 to 13,365 million kw.h. in 1936. The chemical industry accounted for over 40 per cent. of total consumption.

Table 2. Power Generating Capacity
(In 1,000 Kw.)

	Hydro-electric plants			Thermal electric plants			Grand total		
	(A)	(B)	Total	(A)	(B)	Total	(A)	(B)	Total
1903.....	9	4	13	20	11	31	30	14	44
1907.....	26	13	39	49	28	76	74	40	115
1914.....	377	40	417	178	121	299	555	161	716
1927.....	1,791	319	2,111	995	460	1,356	2,687	779	3,467
1929.....	2,061	520	2,581	1,127	484	1,611	3,188	1,005	4,193
1930.....	2,271	526	2,797	1,081	519	1,601	3,353	1,046	4,399
1931.....	2,368	686	3,056	1,084	515	1,599	3,453	1,203	4,656
1932.....	3,013	92	3,105	1,261	566	1,827	4,275	657	4,933
1933.....	3,086	82	3,168	1,426	486	1,912	4,513	568	5,080
1934.....	3,171	98	3,269	1,568	655	2,223	4,739	753	5,492
1935.....	3,309	99	3,408	1,828	810	2,638	5,138	909	6,047
1936.....	3,652	108	3,759	2,142	876	3,018	5,794	983	6,777

Note: (a) Output for supply.
(b) Output for self-consumption.

Table 3. Demand for Electric Lights

	No. of customers	No. of lamps installed	No. of lamps per household	No. of lamps per 100 pop.		No. of customers	No. of lamps installed	No. of lamps per household	No. of lamps per 100 pop.
1924....	8,976,991	24,447,732	2.7	41.0	1930....	11,352,372	36,839,607	3.2	56.8
1925....	9,652,058	27,320,740	2.8	45.4	1931....	11,446,539	37,413,988	3.3	56.9
1926....	10,165,739	30,159,042	3.0	49.5	1932....	11,530,440	38,300,059	3.3	57.4
1927....	10,547,235	32,322,991	3.1	52.4	1933....	11,383,235	38,382,771	3.4	57.1
1928....	10,847,342	33,909,420	3.1	54.3	1934....	11,715,694	40,532,219	3.5	59.4
1929....	11,170,618	35,893,352	3.2	56.7	1935....	11,948,953	42,477,828	3.6	61.3
					1936....	12,176,098	44,405,699	3.6	63.2

Table 4. Consumption of Electric Power by Industries
(Prepared by the Electric Bureau, Department of Communications)
(In 1,000 Kw. H.)

	Self-supplied		Supplied by companies	Total
	Hydro-electric	Thermal Electric		
1926	722,052	740,205	2,218,533	3,680,790
1930	906,316	833,271	3,707,741	5,447,323
1931	913,697	817,453	3,707,747	5,438,897
1932	765,764	944,140	4,637,662	6,347,566
1933	402,657	1,096,846	6,006,940	7,506,443
1934	378,411	1,693,105	7,193,052	9,264,568
1935	448,774	2,094,606	8,836,947	11,380,327
1936	443,470	2,558,923	10,363,297	13,365,696
1936:				
Textiles	146	134,573	1,667,702	1,802,421
Mining	109,589	432,924	1,143,775	1,686,288
Metallic	—	507,241	1,712,661	2,219,902
Machinery	—	1,089	465,377	466,466
Chemical	330,879	801,273	4,763,197	5,895,349
Ceramic	1,430	664,520	156,869	822,819
Provision	1,426	12,818	107,807	122,051
Miscellaneous Industries ...	—	4,491	345,909	350,400
Total	443,470	2,558,923	10,363,297	13,365,696

Note: The corresponding table used in the 1938 issue of the Japan-Manchoukuo Year Book, which was prepared by the Department of Industry & Commerce, has been replaced as latest statistics are not issued for publication.

Table 5. Consumption of Hydro-Electric and Thermal Electric Power

(In million Kw. H.)

	Hydro-electric power	Thermal-electric power	Ratio of thermal-electric power (%)	Total	Per capita consumption (kw.h.)		Hydro-electric power	Thermal-electric power	Ratio of thermal-electric power (%)	Total	Per capita consumption (kw.h.)
1927..	9,290	1,221	13.1	10,612	172	1932..	14,195	1,533	11.0	15,740	238
1928..	10,771	1,187	11.1	11,958	193	1933..	15,775	2,248	14.2	18,023	268
1929..	11,562	1,780	15.1	13,312	212	1934..	16,233	3,470	21.4	19,703	289
1930..	12,525	1,509	12.0	14,033	218	1935..	18,454	3,701	20.1	22,155	320
1931..	12,978	1,318	10.2	14,296	219	1936..	19,554	4,579	23.4	24,133	343

Table 6. Length of Electric Wiring, Etc.

	Transmission line (km.)	Distribution line (km.)	Electric-car line (km.)	Total incl. others (km.)	No. of Poles (1,000)	No. of Transformers (1,000)
1933.....	35,500	240,031	6,403	277,848	5,523	592
1934.....	34,747	237,990	5,847	279,809	5,633	668
1935.....	37,322	243,865	6,018	285,506	5,717	698
1936.....	38,477	245,811	6,056	291,709	5,828	700

Table 7. Fuel Consumptions by Power Stations

(Volume in Metric tons; Value in ¥1,000)

	Coal		Gas, Cokes, smokeless coal charcoal, etc.		Heavy Oil, Light Oil, Petroleum, etc.		Total Value
	Volume	Value	Volume	Value	Volume	Value	
1930.....	1,384,634	12,027	4,064	122	2,992	147	12,296
1931.....	1,023,397	7,194	3,673	77	3,323	141	7,411
1932.....	1,126,213	8,006	2,383	54	2,634	115	8,175
1933.....	1,624,920	11,331	2,082	43	5,119	228	11,602
1934.....	2,714,896	24,548	2,658	49	5,971	282	24,892
1935.....	2,722,062	25,353	2,318	41	4,630	227	25,641
1936.....	3,421,092	31,111	2,187	44	5,917	293	31,487

Financial Aspects

As alluded to elsewhere, the electric industry occupies as regards the total capital invested the foremost place among all industries in Japan. The total paid-up capital of the industry for 1936 was ¥3,660,013,000. The fixed capital amounted to ¥5,985,299,000 as follows:—

Table 8. Financial Position of Electric Industry

(1936; In 1,000 yen)

	Gross Capital	Paid-up Capital	Fixed Capital	Debentures & Borrowing	Reserves
Supply Cos.	2,678,312	2,099,516	3,067,428	1,399,155	163,635
Railways Cos.	578,500	411,610	792,541	379,320	18,156
Special Supply Cos.	539,072	354,856	407,608	126,750	34,537
Supply and Railways Cos.	1,054,026	788,631	1,709,946	1,011,169	78,968
Special Supply and Railway Cos.	6,000	5,400	7,776	1,250	1,240
Total	4,855,910	3,660,013	5,985,299	2,917,644	296,546

Table 9. Receipts of Electric Industry By Business for 1936

	Receipt	Proportion to total (per cent)	Proportion to total at end of 1935 (per cent)		Receipt	Proportion to total (per cent)	Proportion to total at end of 1935 (per cent)
Lights .....¥	304,404,408	25.2	27.0	Railways ...	193,021,553	16.0	16.3
Power	482,820,087	40.0	39.0	Total inclusive of others	1,205,733,407	100.0	100.0
Heat	17,376,060	1.5	1.5				

Table 10. Results of Leading Electric Companies (First Half, 1938)

(Amount in ¥1,000)

Companies	Authorised Capital	Paid Up Capital	Operating Capital	Profit	Profit Rate %	Dividend rate %
Tokyo Electric Light.....	429,562	429,562	978,151	34,029	15.8	8.0
Toshin Electric	68,350	68,350	88,389	4,900	15.9	9.0
*Kinugawa Hydro Electric.....	45,000	27,675	62,435	1,550	11.2	7.0
*Dai-Nippon Electric Power.....	108,080	80,986	128,396	5,883	14.5	8.0
Toho Electric Power.....	266,000	266,000	442,209	19,424	14.6	8.0
Daido Electric Power.....	187,410	163,395	322,808	9,107	11.2	6.0
Nippon Electric Power.....	216,800	160,180	311,871	10,044	12.8	7.0
Kyoto Electric Light.....	80,000	59,000	121,769	3,956	13.4	8.0
Ujigawa Electric Power.....	200,000	119,378	267,456	7,700	12.9	6.0
*Hiroshima Electric Light.....	100,000	70,938	111,190	4,443	12.5	8.0
*Taiwan Electric Power.....	45,750	42,936	131,377	2,917	14.1	6.0
Kyushu Hydro Electric.....	130,000	97,000	156,227	12,496	11.1	7.0
Chugoku Godo Electric.....	50,000	35,750	71,873	2,771	15.5	9.0

Note: * 2nd half, 1937.

ELECTRIC POWER CONTROL

With a view to rationalizing the electric power industry the Government passed at the 73rd session of the Diet which closed on March 27, 1938 the Electric Power Control Law. The fundamental objectives of the national electric power is revealed at the commencement of this law: "The Government is authorized to manage the generation and transmission of electric power, in order to lower the cost of electricity, ensure an adequate supply of power and to promote a wider range of its use (Art. 1)." The practical management of the plants, however, is conferred upon the Japan Electric Generation and Transmission Company (Art. 2). A Bureau called "Electricity Bureau" will be newly established to supervise the new company, and under this bureau, practical plants for the erection of plants will be decided (Art. 3). An advisory council will be established to assist the above bureau in deciding power rates and other important problems (Art. 5).

Japan Electric Power Generation and Transmission Company Law.—The Japan Electric Power Generation and Transmission Company will be established to take over all major new water and steam power equipment and all the main transmission systems. As a general principle, however, existing water-power equipment will be left as at present, but the power generated will be conveyed through the transmission system controlled by the new company. As regards the valuation of the plants taken over, a half of the total value of construction costs and profit value will be considered as share of the private companies.

GAS

As at the end of March, 1937 there were 141 gas producers, possessing a daily capacity of 2,673,000 cubic meters of gas. The output of gas has risen steadily and in March, 1937 stood at 872,512,000 cubic meters.

By-products.—There are several by-products of gas such as cokes, coaltar, sulphate of ammonia, etc. The production of cokes which is higher in price than coal, has no small bearing upon the earnings of the company.

Table 11. Statistics of Gas Industry

(A) Production

Year ending Mar. 31:	No. of Producers	Daily Capacity (1,000 cubic meter)	Length of conduction pipe (1,000 km.)	Coal consumption (1,000 M. ton)	Output: Cokes (1,000 M. ton)	Output: Coaltar (kilolitre)	Output: Gas (1,000 cubic meter)
1933.....	127	2,258	13.6	1,282	659	65,947	769,947
1934.....	129	2,506	14.1	1,401	727	73,956	766,622
1935.....	131	2,586	14.8	1,461	755	76,757	803,725
1936.....	136	2,679	15.2	1,522	1,013	83,893	830,182
1937.....	141	2,673	16.1	1,614	1,069	86,204	872,512

Note: Conduction pipe with diameter of/or above 5 m.m.

(B) Demand & Supply of Gas

Year ending March 31:	Total Supply (1,000 cubic meters)	Consumption: Volume (1,000 cb. m.)	Consumption: No. of households (1,000)	Consumption: Per day (1,000 cb. m.)	Consumption: Per households (cb. m.)
1933..	712,718	707,917	1,785	877	373
1934..	709,967	709,967	1,866	875	356
1935..	741,898	741,788	1,906	1,066	366
1936..	771,948	771,847	1,996	1,058	366
1937..	810,095	810,194	2,112	1,108	367

Table 12. Results of Leading Gas Companies
(Second Half of 1937)

Companies	Authorized capital (¥1,000)	Paid-up capital (¥1,000)	Profit rate %	Dividend %
Tokyo Gas Co..	150,000	112,500	11.8	8.0
Osaka Gas Co..	51,000	42,500	17.9	10.0
Kyoto Gas Co..	16,000	12,800	18.1	12.0
Kobe Gas Co..	30,000	15,000	19.5	10.0
*Toho Gas Co..	24,275	13,275	16.8	10.0
Hokkaido Gas "	4,000	3,250	15.1	8.0

Note: * 1st half, 1938.

References:

Table Nos.: 1-9 a, 10 b, 11-12 c.
Key: a—Electric Bureau, Department of Communications.
b—Research of the Japan-Manchoukuo Year Book Co.
c—Research of the Imperial Gas Association.

CHAPTER XXXIV

CHEMICAL & CERAMIC INDUSTRIES

CHEMICAL INDUSTRY

The chemical industry has advanced with giant strides and in the five years from 1931 to 1935 doubled its value of production. Available statistics, which are for factories employing or with equipment for five or more operatives, indicate that the chemical industry accounted in 1936 for 17.2 per cent. of the value of production of the entire manufacturing industries, being preceded in this category only by the textile industry. In 1936 the output from the chemical enterprise amounted to 2,111 million yen.

There are six large branches in the chemical industry of Japan, these being the manufacturing of industrial stuff, dyes, rubber and rubber ware, paper, artificial silk and fertilizer. These six enterprises accounted for 1,370 million yen in the value of production of the chemical industry in 1936.

Japan is favoured with the basic raw materials for the chemical enterprise, such as sulphur, coal, lumber, sea-weeds, and salt. She has also a plentiful supply of electric power which is the major factor contributing to the remarkable development of the electro-chemical industry.

While there are a number of large chemical companies in the country they belong to no special monopolistic organ, such as the E. G. Farbenindustrie of Germany or of Imperial Chemicals of England. They are, however, mostly affiliated with a handful of the larger concerns of Japan.

Table 1. Volume Indices of Chemical & Ceramic Production

	Chemical: Caustic Soda	Soda Ash	Bleaching Powder	Sulphate of Ammonia	Nitro-Lime	Superphosphate of Lime	Average	Paper	Ceramic: Cement	Sheet Glass	Average
1928...	100	100	100	100	100	100	100	100	100	100	100
1930...	117	184	103	128	608	88	141	105	98	92	96
1931...	131	300	87	178	362	78	147	102	95	102	94
1932...	150	433	101	319	455	105	206	101	98	91	94
1933...	187	645	141	378	654	114	267	110	125	119	123
1934...	201	929	154	428	585	108	305	122	126	131	127
1935...	278	1,135	168	510	853	128	380	132	153	137	148
1936...	311	1,229	166	675	934	129	436	140	146	149	146

FERTILIZER

The fertilizer used in Japan may be roughly divided into two kinds, namely, natural or self-supplying fertilizers and artificial or commercial fertilizers. The former are such as green manure, night soil, etc. The latter comprise fish manure, oil-cake, chemical fertilizers. Fish manure is the oldest of the marketable fertilizers. Until three or four decades after the restoration of Meiji fish manure had kept the most predominant position on the market. It was only from the closing years of the Meiji era (1868-1912) that fish manure began gradually to be replaced by bean-cake, which had been increasingly imported. Superphosphate of lime also began to be used quite a long time ago. It was after the Russo-Japanese War that it came to be widely used. As for sulphate of ammonia, it was considerably used already before the World War. During the war the import of sulphate of ammonia discontinued for a time to increase the demand for bean-cake. It was after the World War that the demand for sulphate of ammonia increased tremendously.

Production of Commercial Fertilizer.—Owing to an increase in the demand for fertilizer accompanying the progress of agriculture and the development of the chemical industry, the production of chemical fertilizers has of late years greatly increased.

The production of the various kinds of fertilizers for the last few years is given below:—

Table 2. Output Value of Commercial Fertilizer

(¥1,000)

	Animal & Aquatic	Vegetable	Chemical	Mixed	Miscel-laneous	Total incl. Others
1930.....	12,703	30,061	76,953	38,551	62	184,330
1931.....	13,092	24,083	61,557	25,910	85	150,626
1932.....	19,678	25,806	81,798	30,659	48	183,989
1933.....	25,891	31,563	102,026	42,408	48	227,836
1934.....	30,026	33,338	109,867	42,812	87	242,130
1935.....	27,612	36,396	150,988	53,528	101	290,625
1936.....	34,739	41,272	179,178	57,803	113	340,105

Table 3. Production of Chemical Fertilizers Classified

(Volume in 1,000 Metric tons; Value in ¥1,000)

	Sulphate of Ammonia		Calcium Cyanamide		Superphosphate of Lime		Muriate of Potash		Total Value incl. Others
	Volume	Value	Volume	Value	Volume	Value	Volume	Value	
1926...	147	23,080	141	11,960	786	28,870	4.9	420	69,714
1930...	366	23,936	228	16,959	957	29,830	5.2	404	76,953
1931...	393	25,422	168	8,743	862	22,952	8.0	592	61,557
1932...	460	36,126	181	10,660	1,041	29,219	8.4	764	81,798
1933...	471	41,151	223	15,159	1,117	33,148	10.0	871	102,026
1934...	494	42,310	197	14,323	1,126	34,771	9.2	645	109,867
1935...	612	56,667	261	20,633	1,332	42,755	8.8	547	150,988
1936...	880	78,167	290	23,276	1,437	47,417	18.2	1,653	179,178

Table 4. Demand & Supply of Fertilizer

(¥1,000)

	Output		Imports from		Exports to		
	Commercial	Self Supplied	Foreign Countries	Colonies	Foreign Countries	Colonies	Total Supply
1927.....	196,590	334,740	150,210	13,829	2,180	11,110	624,579
1932.....	183,989	260,270	50,900	24,128	6,583	11,755	456,042
1933.....	227,936	297,900	66,511	21,569	13,261	16,995	520,724
1934.....	242,130	299,920	74,296	28,054	17,275	26,755	528,761
1935.....	290,625	328,560	87,321	30,941	12,414	34,834	605,261
1936.....	340,105	355,560	105,061	36,311	15,179	49,759	680,505

Table 5. Imports of Chemical Fertilizers

(In Metric tons)

	Sulphate of Ammonia	Nitrate of Soda	Sulphate of Potash	Bean Oil-cake	Phosphorite	Muriate of Potash
1931.....	222,148	34,994	38,510	1,032,680	412,016	28,470
1932.....	118,735	23,757	18,698	629,407	559,418	14,181
1933.....	108,949	34,902	23,381	539,586	703,686	33,707
1934.....	160,901	39,804	48,875	646,032	682,546	45,683
1935.....	238,598	62,526	84,623	431,978	757,680	76,865
1936.....	314,131	81,106	71,625	376,783	829,812	78,924
1937.....	224,208	43,685	140,105	540,604	922,317	111,167

Industrial Chemicals

Developments in the manufacture of industrial chemicals have been rapid in recent years, and in certain kinds of chemicals the production has multiplied several times over since 1930. The following table indicates the progress that has been made in this particular branch of enterprise.

Table 6. Output of Industrial Chemicals

(In Metric tons)

	Sulphuric acid	Hydrochloric acid	Soda Ash	Caustic Soda	Carbonate of Calcium	Dichromic Kali	Dichromic Soda	Iodic Kali	Oxygen
1930.....	959,590	35,305	57,233	34,638	282,507	675	990	52	26,599
1931.....	1,077,134	39,290	93,244	48,536	170,742	742	1,320	81	43,165
1932.....	1,332,167	46,218	134,802	75,116	233,892	1,008	1,800	59	31,551
1933.....	1,613,369	78,481	272,135	110,953	216,728	1,270	2,359	58	38,324
1934.....	1,745,477	80,461	170,622	177,771	254,174	1,522	2,911	56	36,531
1935.....	1,890,800	106,490	364,613	233,288	388,911	1,296	4,293	65	41,825
1936.....	1,974,284	135,298	367,205	284,999	823,652	1,907	4,489	33	49,651

	Hydrogen	Carbonic Acid	Acetic Acid	Alcohol	Glycerine	Phosphor	Carbonic Magnesia	Sulphuric Aluminium
1930.....	2,628	1,054	5,335	1,121	4,963	426	13,616	18,984
1931.....	2,838	1,177	5,888	686	3,875	478	14,269	19,366
1932.....	2,613	1,569	4,515	1,156	6,312	469	14,440	19,948
1933.....	2,979	1,831	6,586	1,490	6,281	1,344	17,485	22,531
1934.....	2,258	2,180	8,248	1,562	6,921	1,245	16,280	21,684
1935.....	3,629	2,496	10,546	1,184	8,535	1,549	17,611	26,819
1936.....	2,855	2,747	12,841	5,558	8,342	1,622	18,940	34,800

Ammonium Sulphate

The ammonium sulphate industry in Japan is of comparatively recent growth, but must be considered of paramount importance from the viewpoint of agriculture, national defense and the international balance of payments. The development of the industry has been facilitated by the abundance of necessary materials, particularly coal, pyrites and electricity.

Price.—Wholesale prices of ammonium sulphate are subject by the Fertilizers Control Law enforced in 1936 to Government sanction and the Government may also restrict the import and export of the same item in case of necessity.

Production.—Production of ammonium sulphate reached the figure of 880,000 metric tons in 1936, nearly doubling the output of 460,000 metric tons in 1932. Most of the product produced in Japan is made synthetically, especially by direct ammonia, by-product sulphate from coke factories and gas plants constituting but a minor portion of the total. Productive capacity of ammonium sulphate in Japan and Chosen in 1937 was in the neighbourhood of 2,000,000 metric tons, and is expected to reach more than 3,000,000 metric tons in the near future.

DYE-STUFFS

Development of Dye-stuff Industry in Japan.—It was in 1883 that dye-stuff appeared for the first time on the list of imports, but they were only 67 metric tons in volume and ¥137,000 in value. The imports gradually increased until in 1913 they rose to 5,700 metric tons in volume and ¥8,000,000 in value. The outbreak of the World War caused a serious consternation to the dye-stuff markets of the world, because of the discontinuance of German exports. All countries had to suffer a shortage of dye-stuff supply. But this proved a rare opportunity for the Japanese dye-stuff industry to develop. The imports of dye-stuffs for 1915 fell to about one-sixth of the figure for 1913. Inclusive of domestic production, the supply of dye-stuff was not more than 1,200 metric tons, which was about one-fourth of the supply for 1913. Naturally, the market price of dye-stuffs soared sky-high. Some descriptions rose even ten to twenty-fold at a time. This gave rise to public opinion urging that the country be self-supplying in dye-stuffs. In June, 1916 the Law for Encouragement of Dye-stuffs and Medicines was promulgated, resulting in the protection of the manufacture of coaltar and glycerine. In March of the same year the Japan Dye-stuff Company was established in Osaka under government encouragement. At that time there were twenty-seven dye-stuff companies in Japan. But still domestic production was not enough to meet the whole of the requirements, which had sharply increased due to the war boom. In September, 1917 the country went off gold. This gave a fillip to the rising trend of dye-stuff prices. Contrasted with 1913 dye-stuff prices had risen forty times on the average. In these circumstances dye-stuff works were established in emulation of one another. In 1918 they numbered 97 with a productive capacity of 5,000 metric tons.

Due to the financial crisis accompanying the

close of the World War in November, 1918 the dye-stuff industry found itself in a sorry predicament. The market fell seriously, and many companies came to grief. On the other hand, the imports of dye-stuffs from America began greatly to increase to bring pressure to bear upon the domestic industry, and that notwithstanding the duties being raised.

The industry was further affected by the restoration of Germany and the consequent recovery of her dye-stuff industry. In order to meet the serious situation, the importation of materials of coaltar, was placed under ban in June, 1924, by the Ordinance of the Department of Agriculture and Commerce. Thanks to this measure taken by the Government, the industry more or less regained strength.

The lifting of the gold embargo in January, 1930 did not affect the dye-stuff industry so seriously as had been expected. The domestic markets for dye-stuffs rather expanded for the spirit of giving preference to national produce was aroused thereby. About this time the dye-stuff industry had become worthy of an independent industry both in form and substance.

The reimposition of the gold embargo in December, 1931 gave a new turn to the industry, and production has since increased.

Dye-stuff Production.—Dye-stuff production, which was only 9,812 metric tons in 1930, was up to 17,200 metric tons in 1937.

Sulphur dyes occupy the greater part of the production of the country. In 1935 it was produced to the extent of 13,840 metric tons, which was about 71 per cent. of the whole dye-stuff production.

Table 7. Japan's Position in Dye-stuff Production

(Prepared by German Statistical Annual)

(In 1,000 Metric tons)

	Japan	Germany	U.S.A.	U.K.	USSR	France	Italy
1931.....	9.7	67.0	37.9	22.1	16.3	13.0	5.2
1933.....	16.0	....	45.8	24.0	16.0	12.2	8.1
1934.....	17.1	....	35.5	24.0	20.0	13.5	7.5
1935.....	19.4	*65.0	46.2	26.6	25.0	10.7	..

Note: * Estimate.

Table 8. Demand & Supply of Dye-stuffs

(Volume in Metric tons; Value in ¥1,000)

	Production		Import		Export		Consumption	
	Volume	Value	Volume	Value	Volume	Value	Volume	Value
1930.....	9,812	8,191	1,698	6,256	2,085	823	9,425	13,624
1931.....	9,744	8,522	1,998	8,782	2,011	509	9,631	16,775
1932.....	14,109	14,230	1,975	10,666	4,521	1,523	11,553	28,373
1933.....	15,973	22,060	972	8,060	6,116	2,895	10,829	27,225
1934.....	17,116	22,497	1,103	9,147	6,420	4,258	11,793	27,336
1935.....	19,372	24,912	1,256	9,338	8,882	7,304	11,750	26,946
1936.....	19,115	29,190	2,045	11,404	7,000	5,990	14,160	34,604
1937*.....	17,200	28,000	2,257	16,928	6,062	6,269	13,395	38,659

Note:—Being high class grade, import value is rather high compared with its volume.
* Estimate.

Table 9. Imports of Dye-stuffs By Countries of Origin

(Volume in Metric tons: Value in ¥1,000)

	1933		1934		1935		1936		1937	
	Volume	Value	Volume	Value	Volume	Value	Volume	Value	Volume	Value
Great Britain.	2.6	22.9	6.6	44.1	4.6	32.3	2.5	16.8	1.8	14.5
France	56.5	579.6	51.6	574.1	38.9	364.5	52.8	370.9	75.9	418.2
Germany ...	634.6	5,217.9	722.8	5,979.7	845.4	5,716.8	1,129.1	6,983.1	1,620.8	12,313.1
Switzerland .	128.7	1,236.2	182.1	1,336.2	156.8	1,790.5	152.2	1,664.1	200.3	2,227.1
U. S. A.	128.7	881.7	182.1	1,116.1	205.9	1,390.6	704.9	2,347.3	353.7	1,932.0
Others	18.8	121.9	12.6	96.9	5.3	43.9	3.7	21.9	4.6	22.9
Total	972.1	8,060.2	1,103.6	9,147.2	1,256.9	9,338.6	2,045.2	11,404.3	2,257.1	16,927.9

Exports of Dye-stuffs.—With the checking of imports, the exports of dye-stuffs are yearly increasing. Especially remarkable is the prosperity shown by the export trade since the reimposition of the gold embargo. The volume of dye-stuff exports, which stood at 2,011 metric tons in 1931, increased to 6,062 tons in 1937.

The greater portion of the exports was accounted for by sulphur dyes. The chief destinations are China, British India, Manchoukuo, Kwantung Province, Siam, the Dutch East Indies, etc.

BLEACHING POWDER

Production.—The production of bleaching powder was more than 5,000 metric tons about twenty years ago, but it has since gradually increased amounting in 1937 to 91,903 metric tons. Production has always exceeded domestic requirements and the surplus is exported. The production of bleaching powder in recent years is tabulated below:

Table 10. Demand and Supply of Bleaching Powder

(In Metric tons)

Year	Production	Exports	%	Supply
1920.....	29,936	2,670	8.9	27,266
1925.....	36,890	2,542	6.9	34,348
1930.....	49,471	3,446	7.0	46,025
1931.....	45,005	3,514	7.8	41,461
1932.....	47,485	2,858	6.0	44,627
1933.....	61,142	3,392	5.5	57,750
1934.....	66,155	4,247	6.4	61,908
1935.....	77,080	6,489	8.8	70,591
1936.....	78,321	8,505	7.8	69,816
1937.....	91,903*	6,990	8.9	84,913

* Estimate.

The principal markets are China, Manchoukuo, British India, Hong-kong, Kwantung Province, the Dutch East Indies, the Philippines, the U.S.A., etc.

CAUSTIC SODA

Due to the recent great development of the rayon industry the demand for caustic soda and its production have increased considerably. The production of caustic soda has increased about three-fold during the last three years. On the other hand, the import has greatly decreased, and since 1932 domestic produce has been increasingly exported. Thus this industry has not only attained the stage of self-supply but also has extended its activities to overseas markets.

Principal destinations of caustic soda are China, the Dutch East Indies, Argentina, British India, Manchoukuo, Kwantung Province, Hong-Kong, Holland, the Philippines, etc.

Table 11. Demand and Supply of Caustic Soda & Soda Ash

(In Metric tons)

	Caustic Soda				Soda Ash			
	Production	Exports	Imports	Total Supply	Production	Imports†	Exports	Total Supply
1920.....	4,108	26,349	3,829	26,628	5,987	61,718	——	67,705
1925.....	25,423	22,154	216	47,361	11,162	130,069	——	141,231
1930.....	34,738	37,591	17	72,312	57,233	65,206	——	122,439
1931.....	48,536	41,595	10	90,121	93,244	54,336	——	147,580
1932.....	75,116	28,185	2,237	101,064	134,802	46,434	——	181,236
1933.....	110,953	12,477	5,116	118,314	272,135	46,447	——	318,582
1934.....	177,771	9,928	12,293	175,406	170,622	37,159	15,402	192,359
1935.....	233,288	19,936	17,496	235,728	364,613	38,308	30,521	37,240
1936.....	284,999	11,587	23,911	297,323	367,205	40,308	21,400	386,113
1937.....	240,771*	27,429	3,676	364,524	231,648*	46,272	12,276	265,633

* Estimate.
† Inclusive of natural soda.

PAPER

Output.—The paper industry of Japan has made great progress in recent years. The output of paper (foreign paper produced by the members of the Japan Paper Association) in 1937 was 2,129 million lbs. Few industries in Japan have made such swift developments. The country has not only become self-sufficient in paper supply but also is opening outlets abroad.

Table 12. Japan's Position in Paper Production

(Prepared by League of Nations)

(In 1,000 Metric tons)

	1931	1932	1933	1934	1935	1936	1937
Japan	360	264	422	457	511	549	....
U. S. A.	4,662	3,993	4,342	4,341	4,846	5,416	....
Canada	2,185	1,888	1,984	2,530	2,691	3,126	....
Germany	2,006	1,803	1,903	2,100	2,203	2,521	2,850
England	....	....	1,678	1,900	1,962	....	....
Sweden	624	614	638	694	752	779	....
U.S.S.R.	505	479	506	566	641	702	....
Finland	328	340	372	413	447	528	....
World's Total	14,950	13,780	14,750	16,210	17,460	19,200	....

Paper Trust.—The Japanese paper industry is under the control of the Japan Paper Association. As at the beginning of 1936 the Association was composed of twelve companies. The total authorized capital of these member companies is ¥334,000,000, approximately, of which ¥217,000,000 is paid up. This is the largest capitalization in the chemical industries. The most powerful of the member companies is the Oji Paper Manufacturing Company, capitalized at ¥300,000,000, of which ¥187,000,000 is paid up. The capacity of the Association is over 2,000 million pounds a year. Of the total production of paper about 80% is accounted for by the Oji Paper Manufacturing Company.

Output and Sales.—The output and sales of paper are tabulated below:—

Table 13. Demand and Supply of Paper

(In Million lbs.)

	Production	Imports	Stock at beginning of the year	Total supply	Exports	Stock at end of the year	Home consumption	Consumption per capita (lbs.)
1925	932	100	102	1,134	81	86	968	16.2
1930	1,368	98	195	1,661	170	209	1,282	19.9
1931	1,331	146	209	1,686	141	206	1,338	20.5
1932	1,311	116	206	1,634	88	154	1,391	21.0
1933	1,444	104	154	1,703	105	117	1,481	22.0
1934	1,591	139	117	1,847	102	102	1,644	24.1
1935	1,720	167	102	1,939	113	111	1,765	25.5
1936	1,826	194	111	2,130	127	114	1,890	26.9
1937	2,129	135	114	2,378	136	201	2,042	....

Note: Production, import and export based on the investigation of the Paper Producer's Association; Stocks on the Japan Warehouse Association.

Table 14. Output and Sales of Paper By Kinds

(In 1,000 lbs.)

	1935		1936		1937	
	Output	Sales	Output	Sales	Output	Sales
Superior Printing Paper	153,575	145,992	157,176	166,226	166,896	154,574
Printing Paper	170,589	164,564	204,355	206,198	254,542	240,226
Writing and Drawing Paper	59,452	56,398	73,430	75,451	88,023	78,786
Imitation Paper	125,642	107,482	109,234	122,206	146,202	143,012
Art Paper	33,715	30,155	39,940	38,266	44,387	43,199
Newsprint	736,245	729,586	768,143	766,535	825,189	811,291
Roll Paper	45,957	41,391	42,416	46,978	41,436	36,105
Coloured Paper	13,444	12,579	11,205	12,409	12,416	11,246
Wrapping Paper	212,946	226,541	230,434	244,652	279,233	257,756
Machine Filtered and Japanese Paper	29,270	28,595	30,299	33,132	42,397	40,997
Paste Board	79,845	79,124	89,356	90,527	109,551	101,994
Miscellaneous	58,956	58,256	69,861	70,062	118,843	113,688
Total	1,719,637	1,680,670	1,825,848	1,872,640	2,129,026	2,032,873

Paper Export.—The export of paper is only about 10 per cent. of the production. The paper industry has been essentially domestic in character. It has lately been extending its activity to foreign markets.

Table 15. Paper Export By Destinations

	1934		1935		1936		1937	
	Volume (1,000 Kin)	Value (¥1,000)	Volume (1,000 Kin)	Value (¥1,000)	Volume (1,000 Kin)	Value (¥1,000)	Volume (1,000 Kin)	Value (¥1,000)
Manchoukuo	8,891	1,934	11,860	2,532	14,429	3,008	26,296	5,931
Kwantung	43,163	6,851	48,970	7,158	68,484	9,669	84,670	13,814
China	39,989	6,153	40,697	6,572	40,932	7,413	30,201	6,940
Hongkong	10,068	1,251	13,115	1,669	10,197	1,213	12,056	1,777
British India	12,504	750	17,984	1,107	14,401	1,025	19,845	1,613
Straits Settlements	1,983	294	2,502	344	2,383	360	3,122	564
Dutch East Indies	3,362	514	5,924	747	4,622	916	8,331	1,830
Russia in Asia	167	57	108	74	187	100	192	42
Philippines	1,213	264	1,339	285	2,256	317	2,483	404
Great Britain	260	323	378	409	396	515	410	802
Germany	445	429	355	221	268	281	265	372
U. S. A.	754	636	1,061	845	1,535	1,116	1,678	1,777
Other Countries	790	387	931	405	8,720	1,582	13,778	2,847
Total	129,330	20,650	149,982	23,085	168,810	27,545	203,324	38,708

Pulp.—The principal pulp supplying districts in Japan are Karafuto and the Hokkaido, the former representing 77% and the latter 19%.

Although pulp production is consistently pursuing an upward course as shown by the table appended, the import of pulp also continues increasing owing to a swift increase in the demand consequent upon the ever growing paper industry and the development of such new industries as rayon and staple fibre.

Pulp Output Expansion.—To meet the recent increasing demand for pulp, the Government, with the Ministry of Commerce and Industry and the Planning Board as centre, decided early in 1938 on a pulp production increase plan. The year 1937 saw a heavy shortage of pulp to the amount of 450,000 tons, the amount of the home supply having been only 870,000 tons against a demand of 1,320,000 tons. Under the new plan, a new pulp company will be established, which by 1942 will produce pulp to the annual amount of 162,000 tons. With the full execution of the programme, the pulp supply of the country will be increased to 1,650,000 tons.

Table 16. Japan's Position in Wood Pulp Output

(Prepared by League of Nations)

(In 1,000 Metric tons, dry weight)

	Japan	U.S.A.	Canada	USSR	Germany	Finland	Norway	Sweden	World's Total
1930	646	4,200	3,219	384	2,088	1,076	931	2,447	16,922
1931	584	4,000	2,815	409	1,805	1,084	551	2,198	15,319
1932	573	3,412	2,368	436	1,709	1,263	900	1,996	14,512
1933	647	3,879	2,703	483	1,769	1,379	855	2,563	16,282
1934	716	4,025	3,298	525	2,011	1,568	982	2,870	18,148
1935	749	4,465	3,510	591	2,153	1,728	860	2,975	19,364
1936	772	5,160	4,029	701	2,367	1,976	992	3,180	21,563
1937	837	5,754	....	....	....	2,131	1,045	3,430	....

Table 17. Demand and Supply of Pulp

(In Metric tons)

	Supply			Consumption		
	Production		Import			
	Japan	Manchoukuo		Paper	Rayon, etc.	Total
1931	566,709	8,718	100,636	646,806	27,633	674,439
1932	551,120	11,704	101,168	675,690	40,002	715,692
1933	620,039	17,361	159,974	737,599	56,544	794,143
1934	708,996	13,737	227,122	798,771	91,984	890,755
1935	757,477	13,718	272,082	874,907	129,432	1,004,339
1936	802,565	13,171	326,552	....	....	1,384,257
1937	767,600	13,200	466,608	....	....	1,344,814

RUBBER

Although Japanese rubber manufacturing has already grown into a comparatively large industry consuming about 62,000 metric tons or 6.0% of the world consumption of crude rubber in 1936, and ranking fourth in rubber consumption after the United States, the United Kingdom and Germany, the general scale of factory production is as yet small. According to Factory Statistics compiled by the Ministry of Commerce and Industry, the number of workers in 784 factories at the end of 1936 was 40,829 or 52 per factory.

Value of Production.—The value of the production of rubber manufactures in Japan decreased from 75 million yen in the prosperous year of 1929 to 56 million yen in 1931, since when production again increased sharply, reaching the high level of 135 million yen in 1936. These figures do not include the output of rubber-soled "jika tabi," (Japanese canvas shoes) and rubber cloth which is of great importance.

Japan now manufactures almost every variety of rubber goods to meet the home demand, the most important articles being tyres and rubber footwear, which, in 1936, amounted to 51 million yen and 31 million yen respectively. Belting, toys and tubes come next in importance.

Tyre Production.—The production increase in tyres has been most conspicuous, the total value reaching 51 million yen in 1936 as against 26 million yen in 1929 and 19 million yen in 1931.

Table 18. World Consumption of Rubber
(In 1,000 long tons)

	1932	1933	1936	1937
Japan	53.0	62.0	61.0	60.0
U. S. A.	314.6	416.0	574.8	543.1
U. Kingdom	78.5	79.4	80.8	112.0
Germany	41.0	50.0	66.0	96.0
France	60.0	62.0	58.0	61.0
U.S.S.R.	30.0	31.0	34.0	28.0
Canada	19.0	18.0	29.0	34.0
Italy	13.0	17.0	18.0	23.0
Total incl. others	670.2	818.3	1,020.1	1,083.2

Rubber Imports.—An attempt was once made to introduce rubber trees in the Bonin Islands and in Formosa, but it proved a failure. Japan now derives the whole of her supply of crude rubber from abroad, the volume reaching 1,063,000 piculs in 1937. The most important source is British Malaya, followed by the Netherlands East Indies.

The tyre trade in this country is practically dominated by the Dunlop Rubber Co., whose fine new plant is located at Wakinohama, Kobe. This organization, which is a tribute to British energy and enterprise, also makes an important contribution to the welfare of the country in the form of payments of wages, taxes, etc. It supplies the country with tyres of fine quality at moderate prices, and covers a goodly per cent. of the large requirements of General Motors and Ford. Together with the Yokohama Rubber Company, manufactures of Goodrich tyres, and the Bridgestone Tyre Company, the Dunlop Rubber Company furnishes virtually all of the requirements of the Japanese Empire.

Table 19. Imports of Raw Rubber and Exports of Principal Rubber Goods
(In ¥1,000)

	Imports of raw rubber		Exports of Rubber Manufactures				
	Quantity (1,000 Piculs)	Value	Boots & shoes	Tires of vehicles	Toys	Others	Total
1930	557	17,930	6,592	5,273	2,049	1,279	15,194
1931	737	13,183	4,394	3,858	2,198	1,044	11,495
1932	952	15,988	4,889	3,725	5,506	1,479	15,600
1933	1,165	29,685	8,213	8,839	8,633	3,327	29,013
1934	1,197	57,337	3,332	9,994	6,406	5,215	24,948
1935	995	51,636	2,699	9,945	4,195	6,568	23,408
1936	1,065	72,956	1,832	9,939	4,641	7,423	23,575
1937	1,063	99,217	2,886	12,983	4,279	10,215	30,363

Table 20. Production Value of Rubber Goods
(In ¥1,000)

	Shoes & other footwear								
	No. of pairs (1,000)	Value	Toys	Tyres & accessories	For machinery	Belts	Rubber tube	Hard rubber manufactures	Total incl. others
1930	47,290	20,379	2,313	19,285	1,420	4,576	1,972	1,203	60,766
1931	32,266	15,929	3,320	19,454	636	4,005	1,747	1,112	56,104
1932	34,294	17,352	5,027	24,080	1,173	4,438	2,191	1,054	65,882
1933	40,867	21,827	5,562	31,826	1,000	5,662	2,989	1,722	86,704
1934	44,305	25,102	3,547	40,588	491	7,165	3,448	2,715	103,218
1935	54,802	28,973	4,619	45,882	1,132	8,262	4,422	2,620	119,052
1936	44,391	31,791	4,984	51,067	859	8,750	5,230	3,559	135,288

Rubber Plantations.—The development of Japanese rubber plantations abroad may be seen from the following table:—

Table 21. Statistics of Japanese Rubber Plantations Abroad

(A) Plantations

Place:	Leased Acre	Plantation Acre	Production Acre
Malay	104,076	75,932	58,383
British Borneo	23,565	13,487	12,765
Sarawak	7,848	5,134	3,219
Dutch Sumatra	147,019	22,886	17,539
" Borneo	40,806	13,657	11,731
" Java	4,539	4,193	3,038
" Celebes	1,489	131	123
Philippines	123	123	123
Total	329,465	135,544	106,921

(B) Rubber Output of Japanese Rubber Plantation Abroad

Year	Output Volume in ton
1926	9,000
1927	10,000
1928	12,000
1929	12,500
1930	13,000
1931	14,500
1932	17,000
1933	18,000
1934	18,000
1935	12,000
1936	16,000
1937 (Estimate)	19,000

CERAMIC INDUSTRY

The ceramic industry has shown a steady progress and the value of production has doubled in the five years from 1931 to 1935. In 1936 it ranked as the sixth largest in the list of manufacturing industries, accounting for 2.7 per cent. of total production value. The ceramic industry, according to the classification of the Department of Industry and Commerce, consists of four large enterprises, their importance from the standpoint of value of output in 1935 being as follows: Cement, ¥99,116,000; Glass & Glass Ware, ¥99,685,000; Pottery and Porcelain, ¥61,411,000; Enamelled Ware, ¥18,121,000.

Table 22. Ceramics Production

	No. of		Value (¥1,000)					
	Factories	Operatives	Kitchen utensils	Fixtures	Industrial materials	Insulators	Toys	Total incl. others
1920	7,006	49,892	40,466	8,294	5,936	....	4,297	26,840
1925	7,496	43,771	50,151	13,959	3,456	5,061	1,273	78,177
1930	6,435	41,226	34,737	11,880	2,235	6,006	936	62,420
1931	6,328	40,320	31,926	9,388	2,305	4,155	1,103	54,198
1932	6,474	43,948	35,733	11,593	2,935	4,743	2,595	65,263
1933	6,586	53,292	46,205	14,910	6,131	5,886	2,004	85,247
1934	6,473	57,172	54,002	15,573	5,877	6,166	2,981	92,364
1935	6,624	61,135	54,617	15,505	6,755	9,245	3,471	99,368
1936	6,686	63,955	58,801	16,846	7,357	10,865	3,879	108,172

Table 23. Production of Tiles, Drainage Pipes and Bricks
(Value in ¥1,000)

	Tiles				Drainage Pipes			Bricks & Fireproof Materials	
	Number		Output Value						
	Factories	Operatives	Roof tiles	Total incl. others	Factories	Operatives	Output Value	Factories	Output Value
1925	13,104	41,762	44,397	48,192	896	3,043	3,738	227	11,390
1930	11,962	38,066	19,753	22,640	832	3,150	4,301	298	10,311
1931	11,725	38,072	18,345	20,999	784	2,865	3,814	275	6,775
1932	11,445	38,268	18,071	20,855	827	2,966	3,093	275	7,513
1933	11,213	37,628	19,126	22,237	918	3,310	3,761	309	14,271
1934	11,021	38,680	20,740	23,933	937	3,453	4,228	354	22,987
1935	10,809	39,398	21,278	24,652	944	3,913	4,432	367	26,637
1936	10,688	39,576	23,077	26,612	891	3,593	4,964	390	27,545

Table 24. Export Value of Ceramics by Destinations
(In ¥1,000)

	1932	1933	1934	1935	1936	1937
Manchoukuo	87	531	1,238	1,222	1,391	2,222
Kwantung Province	757	1,193	1,768	2,162	1,859	2,353
China	539	992	1,388	1,339	1,127	1,146
British India	3,463	3,965	3,200	3,530	3,696	4,240
Dutch East India	2,412	3,729	3,169	2,133	2,388	3,109
Great Britain	825	1,296	1,161	1,187	1,275	1,171
Holland	848	982	761	499	608	542
U. S. A.	6,441	10,180	14,314	15,776	15,530	19,460
Canada	1,317	1,399	1,508	1,458	2,025	2,038
Australia	1,768	2,707	2,331	2,805	2,291	2,599
Total incl. others	22,937	35,634	41,877	43,316	43,548	53,971

POTTERY AND PORCELAIN

The value of production of pottery and porcelain in Japan in 1936 amounted to over 61 million yen. About 70 per cent. of the output is exported. The largest foreign markets for this product are the United States, Dutch East Indies, British India and Australia.

Aichi prefecture ranks first in the list of producers, followed by Gifu prefecture, Osaka City and Miye prefecture.

CEMENT

Development of Cement Industry.—The cement industry was started in Japan in the closing decade of the 19th century. Begun on a small scale, its growth is largely attributed to the efforts of the late Soichiro Asano, the noted shipping and industrial magnate.

Cement Production.—The production of cement has shown a steady expansion, and in the ten years ending 1936 the total output approximately doubled. In recent years the industry has been confronted with over-production and a curtailment ratio of over 50 per cent. has been the rule for some time. About 10 to 20 per cent. of total output is being exported. One of the chief markets has been Manchoukuo, but due to the development of the cement enterprise in that country the amount of exports shows indication of dwindling.

The production of Portland cement was over 27,000,000 barrels in 1937.

Table 25. Japan's Position in Cement Production
(Prepared by League of Nations)
(In 1,000 Metric tons)

	Japan*	U.S.A.	Germany†	U.K.	USSR	France	Italy	World's Total
1933	4,784	10,905	3,931	4,470	2,710	4,653	3,554	48,230
1934	5,125	13,374	6,625	5,280	3,533	4,603	4,092	57,870
1935	5,565	13,260	8,808	5,900	4,465	4,061	4,196	63,020
1936	5,456	19,507	11,689	6,700	5,845	4,272	3,859	75,080
1937	6,034	20,200	....	7,300	....	....	4,258	....

* Inclusive of Colonies.
† " " Saar.

Table 26A. Consumption of Cement Classified By Uses
(In 1,000 Metric tons)

	1935	1936	1937
Railways	235.2	246.7	284.7
Electric Works	300.6	248.1	421.4
Harbour works	109.3	102.2	109.0
Roads & Bridges	284.5	267.8	239.8
Other public works	376.0	373.5	374.6
Buildings	1,072.9	1,028.7	1,148.9
Mining	80.0	62.3	101.5
Retails	1,255.2	1,268.8	1,300.7
Cement products	115.1	111.2	162.1
Miscellaneous	14.0	20.6	20.3
Total	3,843.9	3,730.1	4,168.4

Table 26B. Production of Cement Classified
(Quantity in 1,000 barrels; Value in ¥1,000)

	Portland Cement		Clinker		Total Value
	Quantity	Value	Quantity	Value	
1929	21,075	95,735	1,385	4,624	100,359
1930	14,553	50,749	3,358	10,530	61,280
1931	15,885	51,780	3,053	9,837	61,617
1932	17,215	67,783	143	450	68,233
1933	21,789	84,567	154	515	85,082
1934	26,690	90,814	39	1,389	92,204
1935	30,854	99,147	706	1,694	100,840
1936	32,376	95,591	2,085	5,707	101,298
1937*	27,355	....	1,776	....	....

* Excluding the Onoda Cement, Electro-Chemical Ind. and Oita Cement Cos.

Table 27. Cement Export By Destinations
(In 100 kin; 100 kin=60 k.g.)

	1933	1934	1935	1936	1937
Manchoukuo	175,358	150,283	66,149	66,185	3,711
Kwantung Province	1,642,785	3,684,807	1,811,373	1,786,646	220,465
China	428,670	377,546	372,627	375,846	220,827
Hongkong	1,475,258	1,037,250	1,166,724	915,181	264,794
British India	1,095,538	570,716	286,423	224,950	259,305
Straits Settlements	674,689	1,087,338	1,409,923	1,504,992	1,368,842
Dutch East Indies	1,460,777	876,073	742,201	816,301	1,408,005
Philippines	64,181	33,715	16,972	42,247	134,337
Kenya, Uganda & Tanganyika	....	....	173,656	262,315	396,399
Total incl. others	7,904,095	8,998,422	10,918,062	11,702,749	9,771,889

GLASS

Production.—Japan has risen to one of the great glass manufacturing countries of the world, her production of sheet glass being only second to that of the United States in 1936. From an importer the country has turned to exporter of this item. In 1937 the export of glass manufactures accounted for over 33 million yen. Japan consumes about 95 per cent. of her glass output and about 50 per cent. of her glass manufactures. Through technical improvements the country is almost self-supplying in plate glass and other special glass, which until recent years were practically all imported.

Distribution of the Industry.—Osaka, Fukuoka, Hyogo, Kanagawa, Tokyo and Aichi are the most noted glass producing districts. These six prefectures claim over 96 per cent. of the production of the whole country.

Table 28. Glass Production by Kinds
(In ¥1,000)

	Kitchen utensils	For decorative purposes	For illuminating purposes	Bottles	Sheet glass	Total incl. others
1925	2,610	2,805	2,426	20,765	17,286	47,855
1930	2,871	1,833	1,083	14,766	15,427	40,584
1931	2,455	710	1,384	10,927	15,033	34,389
1932	4,193	1,415	1,125	11,193	14,171	37,233
1933	4,143	1,139	1,779	16,846	22,373	52,527
1934	5,454	1,569	1,886	20,349	23,427	58,857
1935	6,632	1,561	1,689	23,717	26,981	68,173
1936	6,473	2,623	2,683	25,319	31,596	78,361

Table 29. Import, Export & Domestic Consumption of Glass
(¥1,000)

	Production	Imports	Exports	Balance or Consumption		Production	Imports	Exports	Balance or Consumption
1926	44,681	8,861	15,809	37,733	1933	52,527	7,374	16,417	43,484
1928	44,670	9,912	14,519	40,063	1934	58,857	7,442	19,454	46,845
1930	40,584	7,516	10,892	37,208	1935	68,173	6,322	23,337	51,158
1931	34,389	5,797	7,349	32,837	1936	78,361	3,845	25,627	56,579
1932	37,233	6,795	10,349	33,879	1937	....	3,989	33,572	....

Table 30. Exports of Glass and Glass Ware By Destinations
(¥1,000)

	1934	1935	1936	1937
Manchoukuo	517	698	822	1,370
Kwantung Province	509	637	799	1,180
China	1,191	1,389	1,319	1,161
British India	5,473	6,226	5,817	7,215
Straits Settlements	1,042	939	1,087	1,337
Dutch East Indies	1,932	1,983	2,206	3,436
Philippine Islands	881	1,060	1,330	1,991
Great Britain	357	511	488	890
U. S. A.	1,816	2,309	3,059	4,543
Fed. of S. Africa	757	785	831	1,070
Australia	832	1,048	1,114	1,412
Total including others	19,454	23,337	25,627	33,572

Vegetable Oil

The value of output of vegetable oils reached over 90 million yen in 1936, showing an increase of almost three folds since 1930. Production of soya bean oil was largest, accounting for ¥20,016,000 in 1936.

Table 31. Vegetable Oil Production

(Volume in Metric tons; Value in ¥1,000)

	Rape Seed		Sesamum		Peanuts		Camellia		Cotton Seeds		Coconut	
	Vol.	Val.	Vol.	Val.	Vol.	Val.	Vol.	Val.	Vol.	Val.	Vol.	Val.
1930	29,388	8,051	6,408	2,151	512	168	15	36	5,828	2,336	6,946	2,690
1931	18,091	5,547	7,415	2,365	1,464	374	26	38	6,077	1,234	9,892	2,182
1932	22,297	5,785	6,805	2,477	611	228	41	105	5,830	1,307	8, 94	2,183
1933	21,185	7,074	6,129	2,580	995	363	47	37	9,632	2,581	12,053	3,182
1934	32,700	10,329	6,584	2,546	1,178	457	69	59	10,151	3,013	14,775	2,940
1935	45,354	16,780	5,616	2.877	1,140	569	81	58	19,423	6,5-9	17,598	4,828
1936	39,099	17,684	6,933	3,584	1,028	551	47	42	20,586	7,829	20,287	6,557

(Continued)	Soya Bean		Linseed		Yemola		Hemp Seed		Paulownia		Total Value
	Vol.	Val.	Vol.	Val.	Vol.	Val.	Vol.	Val.	Vol.	Val.	incl. others
1930...	36,977	9,313	2,539	1,161	5,286	2,371	2,955	826	105	41	32,245
1931...	47,851	9,059	3,473	1,128	6,574	1,753	1,419	351	191	68	26 999
1932...	39,092	9,720	3,261	888	6,838	1,816	854	189	93	36	28,494
1933...	42,743	12, 91	8,426	3,662	9,198	4,753	600	221	113	57	44,264
1934...	52,568	13,341	8,893	3,606	7,072	3,698	1, 69	6 1	161	73	46,715
1935...	43,769	15,775	8,443	3,466	20,790	10,542	3,024	1,869	244	104	70,907
1936...	50,699	20,016	9,159	3,106	30,454	16,316	701	3,7.5	52	142	90,157

Table 32. Import and Export of Principal Oils and Fats

(In ¥1,000)

	Export				Import		
	Bean oil	Rape seed oil	Whale oil	*Camphor oil	Volatile oil	Cotton seed oil	Beef tallow
1930	4,360	4,672	361	340	2,392	——	3,895
1931	1,049	1,963	146	478	1,988	——	2,481
1932	1,010	1,308	466	619	2,541	583	2,454
1933	342	2,245	132	485	2,656	1,066	3,412
1934	624	5,025	155	465	2,547	449	3,380
1935	1,420	11,212	629	522	3,161	615	2,340
1936	931	10,547	874	971	3,244	928	1,644
1937	1,918	3,409	751	1,110	4,730	3,300	1,949

Note: * Including Safrol Oil.

Fish Oil

Japan produces a significant amount of cod, herring, sardine and whale oil. The value of sardine oil showed a sudden spurt in 1936 and rose to 26,596 metric tons as compared with 6,244 metric tons in 1935. The value and volume of output of fish oil is subjoined:

Table 33. Production of Fish Oil

(Volume in Metric tons; Value in ¥1,000)

	Cod		Herring		Sardine		Whale		Others
	Vol.	Val.	Vol.	Val.	Vol.	Val.	Vol.	Val.	Val.
1930	1,274	826	1,009	137	27,461	3,492	2,646	517	473
1931	1,282	278	297	27	6,150	422	1,623	169	321
1932	592	96	501	59	12,545	802	3,512	615	1,148
1933	1,279	296	194	36	3,309	456	2,768	498	2,019
1934	1,240	301	135	24	3,794	602	3,605	673	990
1935	2,143	1,158	94	20	6,244	829	5,716	989	5,257
1936	4,682	2,366	74	17	26,596	6,056	6,991	1,616	4,669

Animal Fat

The volume and value of production of animal fat is indicated in the following table:

Table 34. Production of Animal Fat

(Volume in Metric tons; Value in ¥1,000)

	Puna oil (Cocoon)		Beef Tallow		Pork Tallow		Total Value
	Vol.	Val.	Vol.	Val.	Vol.	Val.	incl. others
1930	451	97	1,911	997	145	169	6,461
1931	597	67	2,629	712	607	161	2,354
1932	429	76	2,197	666	258	144	3,659
1933	439	90	2,544	859	766	312	5,077
1934	378	111	1,880	630	498	287	4,400
1935	917	180	6,544	2,696	1,055	378	12,418
1936	754	262	2,379	944	899	450	16,768

Soap

A large increase in the production of soap has been noted in recent years. In 1936 the total value of output was ¥51,909,000 as compared with ¥35,362,000 in 1930. Exports of soap have also shown a marked increase, advancing from ¥1,410,000 in 1930 to ¥4,246,000 in 1936.

Table 35. Production and Export of Soap

	Laundry (M. tons)	Medicinal (M. tons)	Industrial (M. tons)	Toilet (1,000 doz.)	Powder (M. tons)	Total output (¥1,000)	Total export (¥1,000)
1930	28,623	104	9,091	17,131	4,575	35,362	1,410
1931	28,635	140	5,173	21,064	9,908	29,901	692
1932	48,085	300	3,683	17,387	13,284	32,344	1,197
1933	46,442	98	6,612	18,027	12,240	37,692	3,203
1934	61,761	230	6,324	20,303	15,364	42,934	3,541
1935	70,833	578	10,426	19,701	15,539	50,258	3,981
1936	91,132	338	28,330	20,732	14,682	51,909	4,246

Menthol

The production of peppermint, peppermint oil and the export of menthol oil and menthol crystal are tabulated as follows:

Table 36. Menthol Production

(Volume in kilograms; Value in yen)

	Peppermint		Peppermint oil		
	Volume	Value	Volume	Value	Total Value
1930	230,996	3,136,262	250,345	1,059,940	4,196,202
1931	212,960	2,726,206	232,560	923,883	3,650,089
1932	214,945	4,264,451	210,002	1,463,340	5,727,791
1933	230,839	4,729,770	289,333	1,844,545	6,574,315
1934	297,972	5,469,284	329,478	2,161,742	7,631,026
1935	343,276	6,185,306	438,456	2,981,994	9,167,300
1936	339,944	6,181,836	373,193	3,098,506	9,280,342

Table 37. Export of Menthol Oil and Menthol Crystal

(Volume in 100 kin; Value in ¥1,000)

	Menthol oil		Menthol Crystal		Total
	Volume	Value	Volume	Value	Value
1933	5,217	2,007	5,308	5,284	7,291
1934	5,413	1,838	5,097	4,557	6,395
1935	5,385	2,282	5,157	5,401	7,683
1936	5,779	2,963	4,923	4,986	7,949
1937	6,328	2,976	6,242	6,116	9,091

Camphor

Japan produces a goodly amount of camphor. In 1936 the value of production of camphor was almost 9 million yen, while camphor oil accounted for ¥1,642,000. Japan exported in 1937 camphor to the amount of 23,171 piculs valued at ¥4,774,000.

Table 38. Output of Camphor, and Camphor Oil

(Volume in Metric tons; Value in ¥1,000)

	Camphor		Camphor oil			Camphor Export	
	Volume	Value	Volume	Value	Total Value	Volume (piculs)	Value
1932.....	3,730	6,060	1,896	877	6,937	23,492	3,541
1933.....	3,699	6,264	2,004	1,027	7,291	27,604	4,445
1934.....	2,905	6,008	2,118	1,327	7,336	27,964	4,603
1935.....	4,419	8,619	1,741	1,486	10,105	28,335	5,039
1936.....	4,704	8,932	2,561	1,642	10,574	24,661	4,843
1937.....	....	....	....	....	....	23,171	4,774

Celluloid

A remarkable expansion in production of celluloid and celluloid manufactures is noted in recent years. The output of sheet and bar celluloid amounted to 13,814 metric tons in 1936, while the value of celluloid manufactures were ¥8,957,000.

Table 39. Output of Celluloid and Celluloid Manufactures

	Output of Sheet & Bar celluloid		Output of celluloid manufactures (¥1,000)			
	(Metric ton)	(¥1,000)	Toys	Combs	Total incl. others	Grand Total
1930.....	4,146	8,030	1,757	365	4,316	12,346
1931.....	4,848	7,801	861	394	2,603	10,404
1932.....	5,701	7,975	1,041	1,057	4,243	12,218
1933.....	8,894	16,675	2,629	1,503	7,530	24,202
1934.....	10,394	20,277	1,636	1,091	7,368	27,645
1935.....	13,034	24,650	1,976	1,209	9,393	30,042
1936.....	13,814	24,439	1,990	1,170	8,957	33,396

Table 40. Export of Celluloid and Celluloid Manufactures

(In Yen)

	Celluloid Manufactures					Celluloid Manufactures			
	Celluloid	Toys	Combs	Sundries		Celluloid	Toys	Combs	Sundries
1930..	298,759	4,423,465	631,527	1,267,907	1934..	3,303,514	3,708,302	4,260,550	3,223,332
1931..	504,934	3,041,486	763,317	920,753	1935..	3,469,522	6,064,840	4,414,150	5,049,858
1932..	876,482	2,527,879	1,467,891	1,494,388	1936..	3,716,864	6,338,082	3,857,360	6,043,172
1933..	2,363,013	3,178,037	3,110,415	2,346,751	1937..	3,952,441	7,605,716	4,854,171	8,113,845

References:

Table Nos.: 1 a, 2-4 b, 5 c, 6 d, 7 e, 8 f, 9 c, 10-11 d & c, 12 g, 13 h & j, 14 h, 15 c, 16 g, 17 j, 18 k, 19 c, 20 d, 21 k, 22-23 d, 24 c, 25 g, 26 l, 27 c, 28 d, 29 c & d, 30 c, 31 d, 32 c, 33-34 d, 35 c & d, 36 d, 37 c, 38-39 d, 40 c.

Key: a—Oriental Economist.
b—Fertilizer Annual, by Dept. of Agriculture and Forestry.
c—Monthly Bulletin of Foreign Trade, Dept. of Finance.
d—Dept. of Commerce and Industry.
e—German Statitical Annual.
f—Japan Dyesuff Mfg. Co.
g—League of Nations.
h—Paper Producers' Association.
i—Japan Warehouse Association.
j—Forestry Bureau, Dept. of Agr. & For.
k—South Seas Rubber Plantation Assn.
l—Cement Mfrs.' Association.

CHAPTER XXXV

FOODSTUFF INDUSTRY

SUGAR

Sugar Production.—Favoured by a steady increase in the production of cane sugar in Taiwan, the Japanese Empire has been on a self-sufficing basis in sugar since 1929. In the crop year 1936-37 the production of cane sugar and beet sugar amounted to 20,012,000 piculs in Japan and her colonies. Of this amount about 96% is represented by cane sugar. Whatever beet sugar that is obtained is grown in Hokkaido and Korea.

Cane sugar output in Taiwan has increased by over five-folds since 1910.

Table 1. Japan's Position in Cane Sugar Production

(In 1,000 Metric Tons)

Japanese Empire	1934-35	1935-36	1936-37
Proper	105	119	94
Taiwan	966	902	1,008
S. Sea Islands	68	49	58
Total	1,139	1,070	1,159
British India	3,130	3,600	4,090
Cuba	2,460	2,477	2,825
Dutch East Indies	510	592	1,300
Philippines	740	1,054	1,200
Brazil	1,155	1,171	1,000
Hawaii	840	936	909

Table 2. Sugar Production of Japanese Empire

(1,000 piculs)

Year Ending Sept 30:	Cane Sugar			Beet Sugar			
	Taiwan	South Seas	Japan Proper	Hokkaido	Chosen	Karafuto	Total
1910.....	3,404	—	1,093	—	—	—	4,407
1922.....	5,878	4	1,260	73	15	—	7,229
1930.....	13,508	345	1,222	424	11	—	15,511
1931.....	13,288	643	1,273	362	15	—	15,581
1932.....	16,484	696	1,652	406	25	—	19,261
1933.....	10,561	730	1,702	403	—	—	13,397
1934.....	10,783	750	1,552	383	—	—	13,459
1935.....	16,098	1,135	1,752	587	—	—	19,569
1936.....	15,028	819	1,947	516	—	—	18,310
1937.....	16,789	961	1,559	678	—	49	20,037
1938.....	16,499	1,242	1,772	695	—	62	20,270

Sugar Consumption.—Sugar consumption in Japan proper has yearly expanded until it now amounts to more than 17,000,000 piculs as compared with 3,220,000 piculs in 1912. Per capita yearly consumption has also risen from 3.7 kilogrammes in 1912 to 14.8 kilogrammes in 1935. In the latter year the per capita consumption in Germany was approximately 23 kilogrammes while Great Britain, one of the largest sugar consumers, accounted for 48 kilogrammes.

Exports of Sugar.—Exports of sugar consist chiefly of refined sugar and candy. During the World War sugar exports showed so much activity that it opened outlets in Europe. At present the destinations for Japanese sugar are limited to China, Manchoukuo and Kwantung Province. Sugar exports for the last few years are as follows:—

Table 3. Sugar Export

(In piculs)

	Refined Sugar	Rock Sugar	Others	Total
1931...	2,622,211	27,822	13,293	2,663,226
1932...	1,389,507	71,134	14,131	1,474,792
1933...	2,172,317	105,214	20,544	2,298,075
1934...	2,019,968	79,745	24,932	2,124,545
1935...	2,669,213	63,114	32,091	2,764,418
1936...	2,978,643	64,360	126,947	3,169,950
1937...	2,482,145	42,068	167,662	2,691,875
1938				
1st half	1,468,331	27,440	61,898	1,557,669

Table 4. Export of Refined Sugar By Destinations

(In piculs)

	Manchoukuo	Kwantung Province	China	Total (inclusive of others)
1931..	88,922	370,812	1,893,667	2,622,211
1932..	54,790	799,840	466,877	1,389,507
1933..	96,703	1,015,941	901,525	2,172,317
1934..	162,255	715,093	1,041,527	2,019,868
1935..	227,389	792,578	1,481,898	2,669,213
1936..	193,222	1,790,225	905,171	2,978,643
1937...	216,087	1,001,814	1,159,358	2,482,145
1938				
1st half	136,308	814,770	516,725	1,468,331

Imports of Sugar.—The sugar industry of the country already attained to a self-supplying stage in 1929, so that it is no longer necessary to import sugar for domestic requirements. The sugar imported in recent years has all been in the crude state intended for re-export as refined sugar. There is no import tariff on crude sugar as long as it is intended for re-export as refined sugar, this being undertaken to encourage the sugar refining industry of Japan.

Table 5. Sugar Import
(In piculs)

	Java	Total (inclusive of other countries)
1931.....	3,304,251	3,305,273
1932.....	644,927	671,299
1933.....	2,184,499	2,210,124
1934.....	1,727,686	1,732,188
1935.....	2,323,117	2,341,841
1936.....	3,396,964	3,600,079
1937.....	2,698,347	2,845,068
1938		
1st half.....	620,894	623,697

Table 6. Statistics on Modern Process Sugar Companies
(Year Ending Oct. 31, 1938)

	No. of Refineries	Raw Materials Consumed (1,000 kin)	Refined Sugar Output (1,000 kin)	Molasses Output (1,000 kin)
Taiwan Sugar Co.	13	3,394,391	427,811	87,996
Shinko Sugar Co.	1	184,779	23,993	5,709
Meiji Sugar Co.	7	2,330,855	294,196	55,680
Dai-Nihon Sugar Co.	9	3,374,738	397,744	92,067
Ensuiko Sugar Co.	7	2,117,918	250,639	53,211
Teikoku Sugar Co.	6	929,514	117,745	25,825
Showa Sugar Co.	4	580,971	71,021	14,094
Daitō Sugar Co.	1	138,642	17,484	3,475
Sango Koshi	1	83,727	9,808	2,137
Total	49	13,135,534	1,610,441	340,197

Table 7. Results of Leading Sugar Companies
(First Half of 1938)

Companies	Authorized capital (¥1,000)	Paid-up capital (¥1,000)	Profit (or loss) (¥1,000)	Profit rate %	Dividend %
Taiwan Sugar	63,000	43,080	9,743	45.2	12.0
Meiji Sugar	58,000	45,200	7,219	34.6	12.0
Ensuiko Sugar	60,000	36,935	2,837	19.4	8.0
Teikoku Sugar	27,000	20,250	2,037	20.1	10.0
Dai Nihon Sugar	61,970	56,333	8,047	28.6	12.0

FLOUR MILLING

Production.—Flour output has increased by roughly three-folds in the past twenty-five years. In 1936 total production amounted to 13,213,000 barrels. The chief flour milling districts are the prefectures of Kanagawa, Aichi, Hyogo, Fukuoka and Gunma.

Imports.—Imports which were large in the Meiji and Taisho era have dwindled to an insignificant figure due to the development of the domestic flour milling industry and to the erection of high tariff walls. Flour imports in 1935 which were ¥326,463 were up to ¥1,948,980 in 1934. The import of wheat declined, that in 1937 being valued at 29.6 million yen as compared to 44 million yen in 1933.

Exports.—The exports of flour in recent years have averaged about one-third of domestic production. The factors leading up to this remarkable expansion are the reimposition of the gold embargo, the establishment of new markets in Manchoukuo and China and government encouragement of the flour milling industry.

Table 8. Wheat Import
(In piculs)

From:	1933	1934	1935	1936	1937
China	1	17,820	3,000	321,947	25,202
U. S. A.	9,367	2,220,803	45,994	61,824	18,898
Canada	1,874,606	1,325,549	881,786	1,600,655	655,178
Australia	6,593,331	4,455,025	5,558,084	2,810,246	1,679,998
Total incl. others ..	8,520,470	8,155,061	7,417,300	5,171,079	3,114,102
Total Amount (¥)	44,384,004	40,748,550	43,199,110	33,650,887	29,604,451

Table 9. Demand and Supply of Flour
(In 1,000 bags)

	Production	Import	Export	Home consumption and in stock		Production	Import	Export	Home consumption and in stock
1920.....	24,352	631	83	24,900	1933.....	47,706	40	14,321	33,425
1925.....	36,483	205	3,113	33,588	1934.....	46,084	45	11,954	34,175
1930.....	40,962	877	5,396	36,448	1935.....	49,700	93	13,026	36,767
1931.....	42,088	258	6,080	36,266	1936.....	38,993	101	5,852	33,242
1932.....	41,989	112	9,976	32,125	1937.....	38,000	410	7,251	31,159

Table 10. Capacity and Production of Four Principal Companies

	Capacity (Barrels) (1 barrel=38.8 kgs.)					Total production incl. others (bags) (1 bag=22.2 kgs.)
	Nisshin Flour Mills	Japan Flour Mills	Nitto Flour Mills	Masuda Flour Mills	Total	
1929.....	20,100	17,600	2,000	2,500	42,200	43,159
1930.....	20,100	17,600	2,000	2,500	42,200	40,962
1931.....	16,650	17,600	2,000	2,500	39,750	42,088
1932.....	18,200	17,600	3,000	2,500	41,300	41,989
1933.....	22,200	17,600	3,000	2,500	45,300	47,706
1934.....	22,200	17,700	3,000	2,500	45,400	46,084
1935.....	22,200	17,800	3,000	2,500	45,500	49,700
1936.....	22,800	18,800	3,000	2,500	47,100	38,993
1937.....	22,800	18,800	5,000	3,000	49,600	38,000

Table 11. Flour Export By Destinations
(In piculs)

	1933	1934	1935	1936	1937
Manchoukuo	1,427,036	1,402,032	2,035,048	736,486	231,900
Kwantung Province	3,318,691	2,899,819	2,366,348	1,065,858	1,047,577
China	482,700	17,133	29,123	89,965	1,283,384
Straits Settlements	2,730	2,029	7,375	24,356	1,063
Philippines	33,251	57,297	159,279	118,664	80,191
Dutch East Indies	10,390	8,988	10,323	19,567	9,796
Total including others	5,304,249	4,427,372	4,819,629	2,165,330	2,683,066
Total amount (Yen)	34,955,093	28,451,525	33,699,761	17,621,809	30,745,616

Table 12. Results of Leading Flour Milling Companies
(Second Half of 1937)

	Authorized capital (¥1,000)	Paid-up capital (¥1,000)	Profit (¥1,000)	Profit rate %		Dividend %
Japan Flour Mills	12,000	12,000	1,222	22.2		10.0
Nisshin Flour Mills.....	25,000	15,500	1,440	18.6	Special	2.0
					Ordinary	8.0
Nitto Flour Mills	12,300	6,728	361	17.3	Special	2.0
					Ordinary	8.0
*Nichiman Flour Mills	10,000	6,000	369	12.3		7.0

Note: * 1st half, 1938.

BREWING

Saké

Saké brewing is one of the large industries of Japan. While there have been fluctuations in the amount of production in recent years the output has been in the vicinity of 4,000,000 koku, valued roughly at 600 million yen. From 2,500,000 to 3,000,000 koku of rice, or about 6 per cent. of the crop, is allocated yearly for the producing of this liquor. There are about 7,800 saké breweries in the country but this number has been declining somewhat in recent years.

The new method of brewing saké from molasses obtained in Taiwan in place of rice is gaining popularity. There is some export trade in saké, and most of it is accounted for by Japanese living abroad.

Table 13. Production of Sake by Kinds
(In 1,000 koku)

Year ending September 30:	Refined sake	Unrefined sake	White sake	Sweet sake	Distilled liquor	Total
1920	5,877.1	28.5	10.3	100.3	528.9	6,545.3
1925	5,179.9	13.5	12.9	94.1	494.8	5,795.4
1930	4,238.3	7.4	8.6	88.8	467.0	4,810.1
1931	3,581.4	6.9	6.8	70.7	456.0	4,121.8
1932	3,284.5	5.8	6.4	87.3	446.0	3,829.9
1933	3,807.9	5.7	6.3	100.0	509.2	4,429.2
1934	4,012.4	6.4	6.7	92.4	528.8	4,646.6
1935	3,772.3	5.5	6.3	87.6	499.7	4,371.4
1936	3,784.0	5.0	6.0	97.0	534.6	4,426.6
1937	3,983.5	5.0	5.8	105.2	542.9	4,642.6

Beer

The beer brewing industry has shown a steady expansion and production has increased by over 30 per cent. in the five years up to 1937. Total output in 1937 was in excess of 1,300,000 koku (koku=47.65 U.S. gallons).

Exports.—Beer exports in 1936 amounted in value to ¥5,912,000. The principle markets are Kwantung Province, Manchoukuo, British India and China.

Table 14. Production & Export of Beer
(Volume in koku; Value in thousands of yen)

(a) Production			(b) Export		
Year ending Feb.	No. of brewery	Production Volume		Export Volume	Export Value
1931	14	846,014	1931	36,637	3,034
1932	14	797,544	1932	68,812	4,835
1933	14	779,283	1933	132,373	7,684
1934	14	959,762	1934	118,009	5,535
1935	14	980,175	1935	135,157	5,871
1936	14	1,047,213	1936	132,503	5,912
1937	15	1,312,496	1937	134,977	5,686

Note: Koku=47.65 U.S. gallons.

Table 15. Beer Exports By Destinations
(Volume in koku; Value in yen)

	1934		1935		1936		1937	
	Volume	Value	Volume	Value	Volume	Value	Volume	Value
Manchoukuo	21,937	992,681	29,160	1,196,340	28,497	1,157,982	7,507	308,249
Kwantung Province	48,874	2,189,448	50,780	2,011,450	41,466	1,749,593	52,680	1,980,415
China	11,670	587,280	11,792	544,927	12,679	554,875	23,523	943,818
British India	11,176	528,428	14,167	639,124	13,926	649,791	16,969	753,289
Siam	6,591	326,563	5,175	253,048	5,945	290,381	3,926	186,540
Straits Settlements	2,033	92,086	2,444	108,459	2,880	139,668	2,973	140,564
Dutch East Indies	4,209	224,743	3,669	188,445	3,108	164,335	2,481	126,212
America	91	5,185	488	29,524	655	41,392	862	53,611
Hawaii	280	14,108	2,262	117,629	5,194	264,784	7,723	397,060
Total (incl. of other places)	118,009	5,535,420	135,107	5,870,840	132,503	5,912,139	134,977	5,686,395

Note: Koku=47.65 U.S. gallons.

Table 16. Results of Leading Beer Breweries
(Second Half of 1937)

Companies	Authorized capital (¥1,000)	Paid-up capital (¥1,000)	Profit (¥1,000)	Profit rate %	Dividend %
Dai-Nippon Brewery	94,000	59,800	6,518	21.3	12.0
Kirin Beer	10,800	10,800	2,126	51.2	10.0
Sakura Beer	2,647	2,647	....	18.0	5.0

Canned Provisions

The canned provisions industry owes its satisfactory growth in recent years to the activity in the export trade. About 70 per cent. of Japanese canned provisions are of aquatic origin, of which canned salmon takes the largest share. Lately, canned vegetable foodstuffs has grown in popularity, while tinned fruits continue to be in great demand.

Table 17. Production and Exports of Canned Provisions
(In ¥1,000)

		1932	1933	1934	1935	1936	1937
Salmon	Japan Proper	722	3,646	6,158	2,326	9,744	....
	Soviet territory	14,432	9,815	18,383	7,263	11,250	....
Trout	Japan Proper	1,215	4,828	2,860	10,669	5,291	....
	Soviet territory	5,469	3,604	8,077	6,675	6,338	....
Crab	Japan Proper	1,346	4,687	6,676	6,052	5,194	....
	Floating canneries	5,468	7,476	7,733	8,429	9,490	....
	Soviet territory	1,671	1,169	1,399	1,748	2,610	....
Total including others		34,313	42,368	51,160	52,637	62,964	....
Meats		2,248	2,217	2,470	2,369	2,879	....
Fruits		972	2,448	3,787	3,647	7,578	....
Vegetables		3,126	3,031	4,179	4,993	5,919	....
Grand total (incl. others)		46,084	62,373	70,651	71,811	88,726	....
Exports		22,164	45,923	49,235	55,971	69,982	85,876

ISINGLASS

Japanese isinglass or "kanten" has been exported of late years to Europe and America as a product peculiar to Japan, the article being used there chiefly for making jam. The production of isinglass in recent years is as follows:—

Table 18. Production of Japanese Isinglass

Year Ending March 31:	Volume (Kgs.)	Value (¥)	Year Ending March 31:	Volume (Kgs.)	Value (¥)
1928	1,383,713	4,129,404	1935	2,320,654	5,257,378
1933	1,573,230	3,883,464	1936	2,494,935	6,390,315
1934	2,081,404	4,718,521	1937	2,549,693	9,712,497

VOLUME INDICES OF FOODSTUFF PRODUCTION

The average volume index of production for sake, beer, sugar and wheat flour showed a gradual increase from the year 1931 after having receded sharply from 1928. Of these products beer disclosed the largest gains, followed by sugar.

Table 19. Volume Indices of Foodstuff Production

	Sake	Beer	Sugar	Wheat Flour	Average		Sake	Beer	Sugar	Wheat Flour	Average
1928	100	100	100	100	100	1933	76	126	106	87	92
1930	86	90	98	75	88	1934	77	110	110	94	92
1931	78	89	104	74	85	1935	80	118	116	107	96
1932	77	96	107	75	86	1936	79	142	128	92	101

References:
Table Nos.: 1-2 a, 3-5 b, 6-7 a, 8 b, 9 c, 10 d, 11 b, 12 d, 13-14 e, 15 b, 16 d, 17 b & f, 18 f, 19 g.
Key: a—The Sugar Producers' Association of Japan.
b—Annual Return of Foreign Trade of Japan, by Dept. of Finance.
c—Nisshin Flour Mills Co.
d—Report from each co.
e—Finance Department.
f—Department of Agriculture and Forestry.
g—Oriental Economist.

CHAPTER XXXVI

MECHANICAL INDUSTRY

The mechanical industry has shown considerable growth in the past few years. The pace of expansion has been in fact so rapid that the industry has been faced by a shortage of raw materials and skilled labour. In enterprises such as the manufacturing of spinning and weaving machinery, electrical machinery, rolling stock and shipbuilding the industry has shown the greatest progress so far. Other enterprises which have of late developed rapidly are aeroplane and automobile manufacturing. The machine tool enterprise also has shown a remarkable development in the last few years.

Domestic production of such items as fall within the category of the mechanical industry were valued at 1,609 million yen in 1936 representing a four-fold increase since 1931.

Production of Principal Machine and Tools.—The production classified in the mechanical industry in recent years is as follows:—

Table 1. Demand and Supply in the Mechanical Industry

(¥1,000)

	Domestic Production	Imports	Exports	Import Excess	Domestic Requirements
1914.....	110,906	34,404	5,260	29,144	140,050
1919.....	716,241	120,206	37,170	83,036	799,277
1928.....	629,926	167,310	28,975	138,335	768,261
1929.....	682,162	186,833	38,611	148,222	830,384
1930.....	615,683	125,058	35,266	89,792	705,475
1931.....	443,341	80,530	29,891	50,639	493,980
1932.....	543,842	93,937	34,700	59,237	603,079
1933.....	805,115	106,575	67,622	38,935	844,068
1934.....	1,082,073	143,590	124,982	18,603	1,100,681
1935.....	1,380,558	158,984	141,206	17,778	1,398,336
1936.....	1,609,254	153,087	174,541	21,458	1,630,712
1937.....	....	242,201	227,699	14,502	....

Table 2. Output Classified in the Mechanical Industry

(¥1,000)

	1931	1932	1933	1934	1935	1936
Boilers	6,369	4,449	11,555	21,093	34,469	31,733
Motors	22,215	34,119	57,824	54,372	68,907	86,465
Electric Dynamos and Motors.....	15,223	14,187	29,274	45,994	58,699	64,754
Spinning & Weaving Machines and Apparatus	22,756	27,479	44,151	64,654	86,016	99,339
Machines and Tools for Chemical Industry	2,638	4,869	14,341	21,662	23,578	28,564
Weighing & Measuring instruments.	13,693	14,707	22,041	25,386	33,786	42,411
Illumination Machines and Tools ...	22,467	25,209	29,594	28,007	30,351	32,199
Guns, Shots and other Arms	13,444	23,186	32,218	42,162	59,914	57,179
Locomotives and Parts	8,206	5,112	9,707	16,793	25,734	36,633
Wagon and Cars, etc.	75,616	77,262	114,241	197,052	225,537	129,076
Ships	38,177	46,105	39,976	57,475	86,751	110,927
**Total including others ..... **	**443,342**	**543,842**	**805,115**	**1,082,073**	**1,380,558**	**1,609,254**

Principal Items of Export and Import

Exports.—The value of the principal items which come under the general head of the mechanical industry has increased by over three folds in the years from 1932 to 1937. Vehicles and parts lead the exports in amount of value, followed by spining and weaving machines and ships.

Table 3. Principal Items of Exports

(¥1,000)

Items	1932	1933	1934	1935	1936	1937
Clocks	920	2,092	3,221	3,400	3,501	4,524
Musical Instruments and Parts	190	435	466	629	698	950
Vehicles and Parts	11,506	28,342	46,590	53,053	48,377	60,620
Ships	7,488	1,724	1,112	1,289	8,165	23,148
Electric Machines	1,415	2,724	10,055	8,042	9,564	15,773
Telephone Apparatus	642	2,835	5,241	5,067	5,562	6,663
Spinning and Weaving Machines	3,651	4,879	8,378	12,547	15,121	25,440
Other Iron Manufactures	14,193	26,897	35,277	37,504	40,302	54,116

Imports.—The principal items of imports have been scientific instruments internal combustion engines, and metal working and wood working machines.

Table 4. Principal Items of Imports

(¥1,000)

Items	1932	1933	1934	1935	1936	1937
Internal Combustion Engines	12,471	16,148	20,778	15,559	14,409	....
Boilers and Fittings	1,192	1,791	4,091	6,111	3,930	....
Gas Compressors	310	669	1,742	1,053	1,815	2,318
Electric Generators and Motors.....	1,644	1,734	1,224	2,257	1,669	1,670
Metal Working and Wood Working Machinery	5,808	16,247	21,433	18,296	18,834	....
Spinning Machinery	7,998	3,520	6,395	4,613	2,278	3,103
Paper-making Machines	37	10	——	616	284	418
Sewing Machines	3,106	2,061	5,623	6,216	7,618	10,232
Railway Cars and Parts.....	73	48	66	62	106	103
Watches and Clocks including Parts thereof	2,997	2,245	2,796	4,213	3,912	5,933
Bicycles	583	512	511	323	491	365
Scientific Instruments	8,834	9,524	8,026	9,517	10,836	15,601
Fire-arms and Parts thereof	5,827	6,452	1,031	1,117	3,709	....
Automobile Parts	11,927	12,007	28,945	29,387	33,459	....
Ampere and Volt Meters, etc.	1,387	1,704	1,607	2,382	2,711	3,263

A brief survey of some of the most important mechanical products is given hereunder:—

Water Turbine.—The Dengyo-sha and Hitachi Works are principal makers in this line, the machines now turned out by them being of high-grade quality and developing of thousands of kilowatts. The growing activity of water-power exploitation at home and in neighbouring countries gives a good promise for the future of this particular enterprise.

Steam Turbines.—For turbines of various types of excellent make the Mitsubishi, Ishikawajima, Kawasaki Shipyards, Hitachi Works, Osaka Iron Works, etc., are noted. The Navy arsenals are no less active in this work and provide fully the requirements of warships.

Land Stationary and Traffic Engines.—As for the manufacture of land engines, Japanese makers have, as stated above, vast experience in the design and construction of marine units of large sizes and marine electric generating engines, and with such acquired experience and workmanship it is an easy matter to undertake the design and construction of land engines, as is evidenced by the results achieved. In fact, there are quite a number of land electric generating engines which deserve special attention. The only regret is that there is still not much demand in Japan for them, and the largest home-made unit so far installed is yet limited to 1200 B.H.P. The principal producers of this class of engine are the Mitsubishi Jukogyo Kabushiki Kaisha, the Niigata Tekkosho and some others.

Engines for land transportation uses, that is, small light type, high speed engines, are different in themselves from marine engines. Large type, low speed engines cannot directly be applied to the design of engines for land transportation purposes, as will be apparent to everpbody, and the Ikegai Tekkosho, Mitsubishi Jukogyo Kabushiki Kaisha and the Hitachi Seisakusho are now endeavouring to evolve their own special types for this purpose.

Table 5. Production of Various Machinery for Industrial Purposes

(¥1,000)

	For agriculture	For building and civil engineering work	Instruments for farming, etc.	For mining	For spinning and textile industries	For ceramic and cement industry
1929	4,419	1,273	4,181	3,558	30,059	2,774
1930	3,589	751	3,016	3,124	21,222	1,387
1931	2,915	981	2,460	2,047	22,756	710
1932	4,298	899	3,187	3,060	27,479	1,044
1933	4,756	1,559	5,024	6,190	44,151	4,352
1934	5,720	1,351	5,179	9,672	64,654	5,258
1935	8,600	1,639	5,815	14,326	86,016	3,870
1936	11,021	2,793	5,172	13,405	99,339	5,216

(Continued)	Printing	For saw mills	For paper manufacturing	For various chemical industries	For food manufacturing	Printing type	Miscellaneous
1929	7,076	1,625	1,410	3,876	4,930	2,682	4,319
1930	6,007	1,034	957	2,896	5,888	1,904	3,152
1931	5,321	1,419	696	2,638	3,443	2,463	3,697
1932	6,616	1,354	509	4,869	3,563	1,856	5,272
1933	6,993	1,977	1,643	14,341	5,496	2,085	6,789
1934	7,498	2,336	2,731	21,662	7,448	1,988	8,835
1935	7,334	3,172	3,891	23,578	9,421	2,251	11,331
1936	9,471	....	4,185	28,564	12,698	2,591	15,178

Scientific and Medical Instruments

The developments in scientific and medical instruments have been rapid as the value of output of these products indicate. Large numbers of precision instruments which formerly were imported exclusively are now being manufactured in Japan, and in certain instruments Japan has been able to turn into an exporter from an importer country.

Table 6. Production of Scientific and Medical Instruments and Testing Machines, Etc.

(In ¥1,000)

	Experimental and Testing Machines	Scientific Instruments	Surgical or Orthopaedic Instruments	Surveying & Drawing Instruments	Cash Registers, Typewriters, Adding Machines, etc.	Cameras, Magic Lanterns, Cinema Apparatus etc.
1929	736	7,176	2,296	904	1,529	770
1930	496	918	2,284	564	1,274	747
1931	481	476	1,903	428	1,389	1,126
1932	429	585	2,373	979	2,021	917
1933	1,415	872	4,573	778	2,157	1,085
1934	1,605	1,063	4,167	925	3,590	1,588
1935	1,470	1,879	4,971	1,154	3,698	2,571
1936	1,909	1,672	6,124	1,232	5,222	3,270

Table 7. Production of Optical Instruments

(In ¥1,000)

	Lenses incl. prisms	Microscopes	Telescopes	Field-glasses	Spectacles
1929	543	50	18	193	260
1930	403	94	16	2,956	318
1931	433	72	21	99	230
1932	573	55	182	227	360
1933	787	262	1,433	3,304	126
1934	955	329	2,160	5,539	62
1935	1,277	391	5,489	2,235	90
1936	1,537	553	4,319	2,109	53

Electric Apparatus, Machines, etc.—Leading concerns with a paid-up capital of one million yen or more in this country are the Shibaura Engineering Works, the Hitachi Works, Mitsubishi Electric, Fuji Electric, Tokyo Electric, Kawakita Electric, Yasukawa Electric, Meidensha, Ikegai Iron Works, Osaka Iron Works, Naigai Electric, etc. The output of machines and apparatus for the last few years is appended;—

Table 8. Output Value of Electric Machines and Apparatus

(¥1,000)

	Electric Dynamos	Electric Motors	Electric fans	Electric heaters	Insulated electric wires	Electric cables	Batteries	Transformers	Communication Instruments	Total
1930	4,415	14,796	1,855	990	27,135	18,062	13,803	10,308	15,466	29,295
1931	4,866	10,369	762	1,131	21,442	10,421	7,581	5,884	15,867	21,929
1932	4,638	9,886	610	1,311	26,329	10,199	8,598	6,618	18,597	24,167
1933	7,721	21,554	866	1,416	39,488	17,850	11,457	9,977	26,995	39,176
1934	11,244	34,751	1,188	2,125	42,930	16,186	13,845	15,400	39,564	50,722
1935	14,784	43,915	912	2,647	56,721	21,921	16,081	19,936	37,416	78,233
1936	19,159	45,594	1,670	2,528	65,799	36,592	16,503	26,258	59,816	79,233

Table 9. Output Value of Motors, Etc.

(¥1,000)

		Motors							
	Boilers	Steam engines	Steam turbines	Internal combustion engines	Total incl. others	Pumps	Gears, Wheels Shafts, etc.	Musical Instruments Gramophones, etc.
1929	5,650	2,615	755	27,123	33,936	8,069	3,498	6,964
1930	5,170	299	3,392	29,724	37,549	8,002	6,566	6,259
1931	6,369	81	1,459	18,494	22,215	6,888	5,963	7,078
1932	4,449	150	1,023	30,875	34,119	6,511	7,714	6,980
1933	11,555	581	7,269	46,605	57,824	9,401	14,311	9,462
1934	21,093	617	6,893	41,925	54,372	13,027	14,623	11,830
1935	34,469	1,308	10,551	47,649	68,907	15,154	21,690	11,492
1936	31,733	2,405	8,353	60,429	86,465	19,680	18,503	12,183

In the manufacture of electro-meters, indicators, other electric supplies and telegraphic machines the home industry has already reached the stage of self-sufficiency. The Shibaura Works and the Tokyo Electric Co., are well known for their meters of the General Electric Co., of the United States, and the Ashida Works for those of the American Sangamo Electric Co. The Yokokawa, Tokyo Keiki, Kyoritsu Denki, Nippon Denki, Kuwano Denki, Nisshin Denki and Shikishima Denki Cos., are leading makers of indicators, while telegraphic and wireless apparatus are turned out by the Oki Denki, Kyoeki Denki, Annaka Denki, Nippon Musen, Tokyo Musen and Yoshimura Cos. The bulk of telephone apparatus is also supplied by home manufacturers, only a small portion being imported. Leading makers in the line are the Nippon Denki, Oki Denki, Kyoritsu Denki, Kyoei Denki, Kawakita Denki and To-a Denki Cos.

Spinning & Weaving Machines.—Noted makers are the Toyoda, Harada and Enshu Shokki Cos., the first-named being especially known as the only factory capable of turning out the whole range of spinning machinery. Its production capacity is over 60,000 spindles a year. Foreign-made machinery is still predominant in Japan, about 5 million spindles in operation being of foreign origin.

Bridge Materials.—The Ishikawajima Dockyard (Tokyo), Yokokawa Works (Tokyo and Osaka), Osaka Iron Works, Mitsubishi Dockyards (Kobe) and Uraga Dockyards are leading manufacturers. Total annual production is estimated at over 200,000 tons.

Locomotives & Rolling Stocks.—Progress in this line has been rapid and Japan-made locomotives are now extensively used on Government railways and in China and Manchoukuo. The oldest and foremost in the line is the Kisha Seizo Kaisha, of Osaka, followed by the Japan Car Mfg. Co., Kawasaki Dockyards, Hitachi Works, Mitsubishi Dockyards, and others, their total capacity reaching 450 cars (about 40,000 tons) a year. The Hitachi Works, Mitsubishi, Kawasaki Dockyards and Shibaura Engineering Works manufacture electric locomotives which are used on the Government railway lines. In the manufacture of passenger and freight cars the Government Railway Works, Kisha Seizo Kaisha and the Japan Car Mfg. Co. stand high, their combined manufacturing capacity reaching 2,500 passenger cars and 10,000 freight cars, each of 10 tons capacity per year. For motors and brakes for electric cars there are the Government Works, Hitachi Works, Mitsubishi Electric Engineering Co., Kawasaki Dockyards, Toyo Denki Seizo, etc. The Mitsubishi Electric Co. and Japan Air Brake Co., manufacture air brakes. Sumitomo and Kobe Steel Works supply automatic couplers of excellent make.

Table 10. Production of Locomotives

(Value in ¥1,000)

	Steam Locomotives		Electric Locomotives		Gasoline Locomotives		Fittings, etc.	Total
	No.	Value	No.	Value	No.	Value	Value	Value
1929	229	13,630	36	1,286	78	484	2,631	18,031
1930	233	9,400	41	884	129	1,193	270	11,748
1931	109	5,030	47	1,506	163	1,454	216	8,206
1932	60	2,977	47	503	223	1,333	298	5,112
1933	167	6,270	29	609	288	1,487	1,340	9,707
1934	192	12,485	71	2,392	236	824	1,092	16,793
1935	347	21,879	51	846	336	2,197	812	25,734
1936	424	26,290	56	1,692	490	3,290	5,461	36,633

Table 11. Production of Rolling Stock

(Value in ¥1,000)

	Coaches & Freight Cars			Electric Cars			Rikisha	Wagons
	No.	Value	Fittings Value	No.	Value	Fittings Value	Value	Value
1929	3,996	14,532	919	535	5,883	1,618	108	185
1930	3,831	9,306	1,583	355	3,607	3,673	76	161
1931	1,508	3,881	221	180	2,020	1,492	72	166
1932	1,106	3,981	181	178	1,260	213	50	459
1933	1,452	8,065	853	129	1,664	502	58	314
1934	2,640	15,071	2,704	189	1,531	286	65	119
1935	4,804	18,987	3,035	237	2,783	225	63	216
1936	6,201	21,547	10,855	199	2,353	2,685	8	67

Marine Diesel Engines

An outstanding achievement of the mechanical world of Japan is the success obtained in the manufacturing of high grade Diesel engines. Patents for building Diesel engines have been obtained from some of the leading manufacturers abroad. Among leading manufacturers of Diesel engines in Japan are the Kawasaki Shipyards, the Mitsubishi Shipyards, Kobe Shipyards, Yokohama Dockyard, Tama Shipyards and the Kobe Seikosha. The following table gives an indication of the kinds of Diesel engines which are built in Japan and their dimensions.

Table 12. Marine Diesel Engines; Makers & Dimensions of Largest Engines Built

Makers and Engine Types	Cycles		Acting		Engine Dimensions				
	4	2	Single	Double	Cyl. No.	Bore mm.	Stroke mm.	R.P.M.	B.H.P.
Kawasaki Shipyard:									
M. A. N.	*	*	*	—	—	—	—	—	—
	—	*	*	*	8	700	1200	125	9000
Mitsubishi Shipyard:									
Sulzer	—	*	*	—	10	680	1200	120	5000
	—	*	—	*	7	760	1200	113	7600
M. S.	—	*	*	—	8	720	1250	132	4200
	—	*	—	*	—	720	1200	110	8000
Kobe Shipyard:									
Vickers	*	—	*	—	6	550	950	190	1650
Yokohama Dockyard:									
M. A. N.	*	*	*	—	6	425	600	230	700
	—	*	—	*	7	700	1200	105	6700
Tama Shipyard:									
Burmeister & Wain	*	—	*	—	10	740	1500	115	6000
	—	*	—	*	6	620	1400	110	7000
Kobe Seikosho:									
Sulzer	—	*	*	—	6	680	1200	110	3200
	—	*	—	*	7	760	1200	113	7600

Note:—* Indicates that the engines are being manufactured by the respective companies.

Cranes, Elevators, Etc.

The value of output of cranes has tripled in the years between 1929 and 1936. In the latter year the manufactures were valued at over 14 million yen as compared with approximately 4 million yen in 1929. In the depression of 1931 production fell off to ¥1,828,000. The production of elevators and hoists and conveyors have also increased to a marked extent.

Table 13. Production of Cranes, Elevators, Etc.

(Value in Yen)

	Cranes		Hoists conveyors, etc. value	Elevators	
	Quantity	Value		Quantity	Value
1929	2,538	4,052,380	4,157,486	502	1,408,330
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	14,642,386	10,961,871	1,232	3,846,096

Machine Tools

Developments in the production of high grade machine tools are taking place in Japan, although the country still imports a goodly quantity from foreign countries. The value of production in 1935 was ¥30,176,000, showing a marked increase over the previous years. Indications are that this enterprise will continue to develop extensively in Japan as much effort is being directed in this line.

Table 14. Production of Machine Tools and Accessories

(Value in ¥1,000)

	Machine Tools		Drill, Cutters, etc.		Total
	No.	Value	No.	Value	Value
1929	464,252	5,586	942,269	3,399	4,248
1930	32,737	4,437	1,167,163	3,180	4,347
1931	114,756	3,945	1,280,939	2,531	3,812
1932	33,654	8,198	879,924	3,082	3,962
1933	50,103	15,404	1,504,395	3,964	5,468
1934	330,863	23,460	3,430,479	6,322	9,752
1935	72,425	30,176	5,769,157	6,997	12,767
1936	....	....	....	....	....

Optical Instruments.—The Nihon Kogyo Industrial Co., and the Tokyo Kogaku Kikai Co. are credited for excellent optical instruments, surveying machines and other scientific equipments.

AUTOMOBILES

Spread of the Use of Automobiles.—It was in 1902 or two years before the Russo-Japanese War that automobiles were first imported into Japan. But it is since the great earthquake of 1923 in the Kwanto district, which was followed by great improvements in the roads and highways in not only the area affected but all over the country that the use of automobiles has become very popular. Especially notable is the growing popularity of the taxi cabs since the earthquake. Motor buses are also increasingly favoured by the public in preference to street cars. As a result, especially in Tokyo and Osaka and other large cities, the bus service is gradually expanding with occasional reduction in fares.

Motor trucks are being more and more utilized, especially for interurban and country-urban hauls of produce, and the tendency is in favour of heavier trucks. Truck sales, however, are being cut into a good deal by three-wheeled motorcycle rear-vans, which are very popular for small freight transportation in cities.

In contrast to their growing increase in the motor service for the public, motor-cars for personal use are still quite limited in number, occupying only a few per cent. of the number of passenger cars. More than 90 per cent. of the passenger cars in Tokyo are estimated to be in the taxi class. In Osaka the figure closely approaches 100 per cent. Thus for practical purposes, the motor-car trade in Japan is divided into truck chassis and the taxi service.

National Production of Automobiles.—It was originally for military purposes that the Government turned its attention to the encouragement of the production of automobiles. In March, 1918 a law for subsidizing the manufacture of military motor-car, was enacted. The law provided that the manufacturer with a capacity of turning out 100 or more six-wheeled trucks of 1½ metre tons or more or buses should be entitled to a subsidy, and that in time of war the Army acquire the right to requisition the vehicles thus manufactured. Until a few years ago home made automobiles in Japan were almost confined to this class of cars, and their number was quite limited. It was in 1931 that the necessity of setting up the motor industry as a civil enterprise was recognized by the Government when an Automobile Industry Committee was organized by the Department of Commerce and Industry. By this committee was established a standard type of motors to usher in what is known as "an era for the standard car," which was replaced five years later by an era for the protection of the manufacture of motor-cars for the use of the masses, when in May, 1936 the law for the control of the motor-car industry was enacted. The enforcement of this legislation has materially assisted in the marked development of the industry in various directions.

The number of vehicles produced in 1936 shows a remarkable expansion over the previous years. This is due chiefly to the encouragement by the Army and the Department of Commerce and Industry. The manufacture of ordinary motor-cars is still far from competing with imported vehicles.

Table 15. Production of Automobiles

	Passenger Cars	Buses and Trucks	Light Cars	Total
1930.....	—	458	—	458
1931.....	—	434	—	434
1932.....	2	694	144	840
1933.....	12	1,043	556	1,612
1934.....	67	1,268	1,366	2,701
1935.....	130	1,051	4,174	5,355
1936.....	2,995		6,633	9,628

The assemblage of cars with imported materials is done at the Ford plant at Yokohama and at the General Motors plant at Osaka. As will be noted from accompanying figures, the number of cars thus assembled reached the peak in 1934 at 33,458 and began to pursue a downward course from the following year. In 1936 the number stood at 30,997.

Imports of automobiles and parts in recent years are as follows:—

Table 16. Imports of Automobiles and Parts

	No. of Cars		
	Assembled in Japan	Complete cars	Imported Parts (¥1,000)
1930.....	18,663	2,591	19,766
1931.....	20,109	1,887	16,653
1932.....	14,087	997	11,927
1933.....	15,082	491	12,007
1934.....	33,458	896	28,945
1935.....	30,787	934	29,387
1936.....	30,997	1,117	33,459

Motor-car Manufacturers.—Principal motor-car manufacturers in Japan are as follows:—

Table 17. Leading Motor-car Manufacturing Companies

Name of Company	Authorized Capital (¥1,000)	Inauguration of Manufacture
Tokyo Jidosha Kogyo Co., Ltd.	27,000	1937
Kawasaki Vehicle Co.	10,000	1931
Mitsubishi Jukogyo K.K. ..	120,000	1932
Japan Vehicle Mfg. Co. ...	10,000	1932
Nissan Motor-car Co.	10,000	1933

Of the motor-car manufacturers listed above, the Tokyo Gas Electric Industry Co., the Motor-car Industry Co., the Kawasaki Vehicle Co., the Mitsubishi Jukogyo Kabushiki Kaisha and the Kyosan Manufactory chiefly make trucks and buses (the last named company chiefly makes light cars) and the Japan Vehicle Mfg. Co., the High Speed Motor Industry Co., and the Nissan Motor-car Co., are engaged chiefly in the manufacture of passenger cars.

The workshop of the Nissan Motor-car Co., at Namamugi, Yokohama is the best equipped of the kind and of the largest capacity. The vehicles turned out thereat are known as "Datsun," and "Nissan," the last named being similar in size to the Ford and Chevrolet passenger cars.

According to an investigation made by the Cabinet Resources Bureau, the number of motors in use in Japan proper and the colonies as at the end of 1936 was 149,635. It shows an increase of 14,776 over the like date of the previous year. A feature of the motor-car production in recent years in Japan is the rate of increase in trucks exceeding that of passenger cars. The number of motor-cars in use for the past few years is tabulated below:—

Table 18. Registered Motor Vehicles in Japan

	Passenger cars	Motor trucks	*Special cars	Total		
				In Japan proper	In colonies	Total
1925.....	21,002	8,162	1,051	28,089	2,126	30,215
1926.....	26,856	10,619	1,218	36,048	2,645	38,693
1927.....	34,074	14,176	1,425	46,337	3,338	49,675
1928.....	42,015	17,871	1,825	57,309	4,402	61,711
1929.....	54,115	25,218	2,138	75,161	6,310	81,471
1930.....	58,690	29,744	1,682	82,050	8,066	90,116
1931.....	63,917	32,859	2,220	90,221	8,775	98,996
1932.....	66,906	34,521	2,478	94,737	9,178	103,915
1933.....	68,219	36,115	2,454	96,900	9,888	106,788
1934.....	76,124	42,337	2,731	109,234	11,958	121,192
1935.....	82,775	48,135	3,949	120,902	13,957	134,859
1936.....	89,008	56,082	4,545	134,094	15,541	149,635

Note: 1925-29 as of June 30; 1930-35 as of August 30; and since as of October 31.
Statistics not available from 1937.
* Including Ambulances, Hearses, Water Sprinklers, Oil Tank Trucks, Tractors, etc.

Auto Industry Merger.—A working agreement in the production of automobiles among the leading Japanese motor car manufacturers was effected in April, 1938 when the Manchuria Industrial Development Corporation, which manages the Nissan Motor Car Company, obtained a controlling interest in the Tokyo Gas and Electric Industry Company, one of the leading manufacturers of trucks and busses. This merger has led the way to an understanding with the other leading motor car manufacturers, including the Tokyo Automobile Industry and the Japan High Cycle Electro-Magnetic Wave Industry Company. The Toyoda Automobile Company, of Nagoya, was also expected to reach an agreement with this newly formed combine.

Foreign Contributions.—Of the total number of motor-cars of all sorts now in use, it is estimated that 75 to 80 per cent. are General Motors and Ford products, dividing the country, taken as a whole, fairly evenly between these two great organizations. The General Motors plant being located at Osaka, there is naturally a leaning toward their products in western Japan, while the same holds true of Ford, whose plant is at Yokohama, in eastern Japan. If anything there is a slight preponderance of General Motors cars in use, for the reason that besides Chevrolets and trucks, they put out a variety of other cars, with which Ford cannot compete. The remaining 20 or 25 per cent. are largely represented by Chrysler products and other higher priced American cars.

The status and achievements of the General Motors and Ford plants in Japan, and their enormous influence are too well known to mention. However, apart from the important fact that they practically supply the motor transport of the country with good and serviceable cars at reasonable cost, the important contributions that General Motors and Ford otherwise make directly to the welfare of the country should be recorded, especially in view of the campaign for "home product."

While the engines, chassis, and certain other parts are imported from America, large quantities of tires, batteries, upholstery, glass, rubber equipment, and other materials produced in Japan are used, to say nothing of the labour employed.

General Motors and Ford have inaugurated the instalment payment system, as favourable as possible under the inconvenient laws governing such matters in Japan, and have found them to work out fairly satisfactorily. Losses through default are reported at well under 5 per cent. The instalment payment system is taken advantage of practically only by those buying cars for taxi purposes, and a large proportion of such cars are bought under this system.

BICYCLES

It was in 1898 that bicycles were first imported into Japan. At that time the price ranged between ¥250 and ¥200 per vehicle. Now the home made bicycles cost less than thirty yen or so on an average and a large export trade has sprung up. The production of bicycles in recent years is tabulated below:

Table 19. Production and Export of Bicycles, Parts & Accessories
(In ¥1,000)

	Production of Bicycles			Exports					
	No.	Value	Spare parts Value	Cycle & Frame	Saddles	Tyres & Tubes	Rim, Forks, etc.	Other Parts & accessories	Total
1932	63,988	1,316	20,667	——	——	2,249	——	6,029	8,277
1933	118,405	2,165	26,606	——	——	4,310	——	12,115	16,523
1934	152,920	2,542	34,462	3,826	1,343	5,699	2,713	11,022	24,603
1935	90,885	2,260	38,890	4,414	1,239	5,240	2,422	9,362	22,676
1936	145,791	5,210	44,044	5,247	1,645	4,426	3,029	10,654	25,001
1937	....	....	....	5,222	1,854	5,027	3,251	13,123	28,478

WATCHES AND CLOCKS

The manufacture of watches and clocks, both standing and hanging, dates from about 1882. Clock manufacture is mostly carried on in Aichi Prefecture. Watch manufacture as at present carried on is represented by the Seikosha run by Messrs. K. Hattori & Co. of Tokyo. The production (exclusive of those of factories employing under five operatives) of watches and clocks for the last few years is listed below:—

Table 20. Production of Watches and Clocks

	Clocks						Watches		Total incl. accessories (¥1,000)
	Electric		Standing		Hanging				
	Piece (1,000)	Value (¥1,000)	Piece (1,000)	Value (¥1,000)	Piece (1,000)	Value (¥1,000)	Piece (1,000)	Value (¥1,000)	
1930	11.7	580	1,156	2,056	479	1,911	181	1,013	11,406
1931	11.3	366	993	1,351	362	1,391	169	656	6,075
1932	6.2	216	858	1,552	437	1,629	160	681	6,669
1933	7.7	240	1,270	2,047	515	2,122	153	794	8,365
1934	1.4	574	1,729	2,637	877	2,449	159	937	11,581
1935	78.7	893	1,930	3,077	543	3,000	166	953	13,059
1936	92.4	978	2,156	3,379	1,058	3,279	236	1,435	14,827

Exports.—The export of clocks for 1937 were ¥4,524,312 in value. It was over one million yen larger than for the previous year. The exports, of clocks in recent years are tabulated below:—

Table 21. Export of Clocks

	Hanging clocks		Table Clocks		
	Piece	Value (Yen)	Piece	Value (Yen)	Total (Yen)
1932	132,074	455,677	282,597	464,785	920,462
1933	278,639	1,073,193	476,777	1,018,520	2,091,713
1934	376,881	1,561,387	856,017	1,659,777	3,221,164
1935	366,436	1,567,356	953,176	1,832,436	3,399,792
1936	393,221	1,584,087	1,072,118	1,916,454	3,500,541
1937	468,900	2,082,623	1,359,288	2,441,689	4,524,312

Measuring & Weighing Instruments

Production exceeding 13 million yen was done in such instruments as rules, measures, scales, gas meters, water meters and accessories in 1936. Progress has been steady since 1932.

Thermometers, clinical thermometers, electric meters were manufactured to the extent of over 29 million yen in 1936.

Table 22. Production of Measuring and Weighing Instruments
(¥1,000)

	Rules	Measures	Scales	Gas meters	Water meters	Accessories and fittings	Total
1929	1,028	850	3,239	5,202	577	477	11,373
1930	795	298	3,033	2,999	1,379	412	8,916
1931	582	249	2,443	1,999	1,345	264	6,882
1932	706	176	2,228	1,870	1,485	466	6,931
1933	869	298	3,693	2,042	1,391	468	8,762
1934	1,019	228	3,849	2,064	1,141	508	8,810
1935	1,225	580	4,201	2,236	1,661	643	10,546
1936	1,328	709	4,597	3,938	1,659	897	13,120

Table 23. Production of Various Meters
(¥1,000)

	Thermometers	Clinical thermometers	Electric meters	Others	Total
1929	426	795	2,129	2,891	6,240
1930	381	842	2,772	2,984	6,980
1931	311	777	2,657	3,066	6,812
1932	273	883	3,997	2,622	7,776
1933	431	839	7,321	4,696	13,279
1934	394	1,096	7,248	7,839	16,576
1935	389	1,089	8,902	12,852	23,230
1936	341	1,137	8,175	19,637	29,290

Table 24. Details of Companies in the Mechanical Industry
(1936)

	No. of cos.	Subscribed capital or investment (¥1,000)	Paid-up capital (¥1,000)	Reserves (¥1,000)
Joint Stock Companies	1,226	1,132,941	894,305	186,405
Limited Partnership	2,086	41,175	——	1,639
Unlimited Partnership	790	29,230	——	858
Total	4,102	1,203,346	894,305	188,903
Steam Turbine, Boiler, etc.	356	100,141	58,014	9,248
Electric Machine and Tool	698	346,043	269,912	69,269
Agricultural Machine, etc.	320	29,887	17,389	2,589
Manufacturing and Finishing Machine	1,089	151,516	93,467	14,466
Weight and Measure, Meter, etc.	360	101,835	67,650	15,448
Rolling Stock	563	137,203	104,964	20,800
Shipbuilding	148	229,828	212,469	50,156
Others	568	106,893	70,460	6,927

Machine Tool Industries Law

To promote the home production of machine tools, the Government took measures to facilitate the expansion and organization of the machine tool manufacturing companies, taking care to suppress unnecessary competition. The following is the outline of the newly promulgated regulations which passed the 73rd session of the Diet in the spring of 1938.

1. Manufacturers who engage in manufacturing lathes, drilling, milling and grinding machines, etc., with an equipment of more than 200 machine tools are subject to this regulation.

2. The expansion or modification of equipment of more than 30 machines requires governmental permission, whilst the following encouragements have been provided.

(a) Income and profit taxes as well as local taxes will not be levied upon the capital outlay for new installation and expansion of equipment of a value of more than 1,500,000 yen for a period of 5 years beginning in the year of the completion of the installation or expansion work. The necessary equipment will also be exempted from import duties.

(b) The Government will pay compensation up to 60% of the fixed capital to be depreciated when depreciation fails to reach such amount in 5 years after the installation or expansion of equipment of a value of more than 5 million yen.

(c) The company may issue debentures up to an amount twice the paid-up capital, notwithstanding the provision in the Commercial Code.

(d) Development subsidies will be granted for types of machine tools specified by the Government.

(e) The import of machine tools will be restricted or subject to additional duty up to 50% ad valorem if necessary for the protection of home manufactures.

3. Machine tool makers must adhere to the following obligations:

(a) The organization, expansion, transfer, shutting down, or suspension of the enterprises are subject to governmental permission. The amalgamation and dissolution of companies must also be authorized by the Government.

(b) The Government may order a change in selling prices and terms of machine tools, when required by the market situation.

(c) The Government may order the expansion or improvement of equipment, the manufacture of specified types of machine tools, and research on specific problems concerning the production of machine tools.

4. A committee will be established to advise the Ministry of Commerce and Industry concerning the effective execution of this Law.

The Aeroplane Manufacturing Industries Law

In view of the necessity to improve the quality and reduce the cost of production of home-made aeroplanes, the present Law stipulates the following:—

1. The manufacture of aeroplanes, engines and propellers, production and repair work of aeroplanes, parts, materials or accessories will be placed under the licence system.

2. An Aircraft Technical Committee will be established to standardize parts and materials.

3. To qualified manufacturers the following inducements have been provided.

(a) They may utilize land and water in accordance with the land expropriation law.

(b) Income and profit taxes will not be levied on the new activities of existing and newly established companies.

(c) Import duty on manufacturing equipment and materials which cannot be obtained in Japan will not be levied.

(d) Subsidies will be granted to pioneer manufacturing of new types of planes and parts.

(e) Companies may issue debentures up to twice their paid-up capital, notwithstanding the provision in the Commercial Code.

4. The Government will supervise the activities of manufacturers, and may order the expansion or improvement of equipment and the coordination between companies.

5. A committee will be established to advise the Ministry of Communications concerning the execution of this Law.

References:

Table Nos.: 1 a & b, 2 a, 3-4 b, 5-11 a, 12 c, 13-16 a, 17 d, 18 c, 19 a & b, 20 a, 21 b, 22-24 a.

Key: a—Department of Commerce & Industry.
b—Annual Return of Foreign Trade, by Department of Finance.
c—Department of Home Affairs.
d—Research of Japan Manchoukuo Year Book Co.
e—Dr. T. Hase, Engineer of Mitsubishi Heavy Industries.

CHAPTER XXXVII

MISCELLANEOUS INDUSTRIES

KNITTED GOODS

A large trade is done in the manufacture of shirts and underwear, socks and stockings and gloves. In 1936 the total value of production of the foregoing items reached ¥91,552,000, of which more than half were exported. The value of such exports in 1937 aggregated ¥60,713,000, showing an increase of over two folds since 1932.

Table 1. Production and Exports of Knitted Goods

(In 1,000 Dozens)

	Shirts & underwear		Socks & Stockings			Gloves			Value (¥1,000)	
	Cotton	Woolen & mixed	Cotton	Woolen & mixed	Silk	Cotton	Woolen & mixed	Silk	Production Total incl. others	Export value
1932.....	6,668	673	7,119	1,044	97	2,949	655	2	59,557	26,935
1933.....	6,976	719	8,790	1,320	254	3,407	616	15	73,476	42,047
1934.....	8,108	849	9,288	1,567	462	3,399	682	18	85,633	47,618
1935.....	7,831	664	9,118	1,145	461	3,702	933	133	84,931	50,266
1936.....	5,714	625	10,534	1,226	854	4,516	1,136	10	91,552	49,988
1937.....	....	....	....	....	....	....	....	....	....	60,713

HATS

The hat manufacturing industry shows a record of smooth and steady progress. Including hat and hat bodies, exports in 1936 were valued at ¥19,736,000, and ¥26,337,000 in 1937.

Table 2. Production and Exports of Hats

	No. of		Output (in 1,000 doz.)				Total Value incl. others (¥1,000)	Export* Value (¥1,000)
	Factories	Operatives	Felt	Serge	Imitation panama	Straw		
1932.....	8,477	22,122	398	798	166	812	14,312	7,713
1933.....	8,654	26,392	472	680	173	760	16,142	13,927
1934.....	8,451	26,944	419	890	248	787	18,683	17,860
1935.....	9,201	28,365	400	1,009	206	827	17,896	16,284
1936.....	9,485	30,310	503	1,058	221	785	19,347	19,736
1937.....	....	....	....	....	....	....	....	26,337

Note: * Including hat bodies.

LACQUER WARE

The production of lacquer ware is increasing by slow stages. In 1936 total output was valued at ¥42,560,000 showing an expansion of about 40 per cent. since 1932. Exports amounted to ¥2,395,000 in 1937.

Table 3. Production of Lacquer Ware

(In ¥1,000)

	No. of					
	Factories	Operatives	Table-ware	Decoratives & Furnitures	Total incl. Others	Export value
1930.....	10,081	28,622	12,119	7,374	28,244	1,428
1931.....	10,056	27,975	10,718	6,900	25,659	1,061
1932.....	10,267	28,794	10,852	6,918	26,633	1,195
1933.....	10,784	30,431	12,140	8,013	29,572	2,271
1934.....	12,223	37,641	13,367	9,437	36,312	2,570
1935.....	11,170	36,217	14,189	9,983	38,400	2,513
1936.....	12,727	39,599	16,870	10,659	42,560	2,098
1937.....	....	....	....	....	....	2,395

LEATHER

Production.—Production of various kinds of leather and leather goods in 1936 was valued at ¥41,784,000, representing an increase of about 12 per cent. over the previous year. Of manufactured goods, shoes and boots accounted for the biggest share at ¥27,457,000.

Exports, Imports.—Japan's imports of leather and leather manufactures are about three times larger than her exports of the same items. In 1937 imports of hides and leather were valued at ¥52,091,000 contrasted with ¥21,967,000 in exports.

Table 4. Production of Leather & Hide, Manufactured Goods

(In ¥1,000)

	Hides & Leather			Manufactured Goods			
	No. of skin (1,000)						
	Cow	Horse	Total value incl. others	Shoes & boots	Belts	Bags	Total incl. others
1932	1,486	281	19,976	19,328	4,344	2,109	29,185
1933	1,940	317	26,538	18,826	4,339	3,486	30,797
1934	2,847	362	33,863	21,887	4,910	4,406	34,978
1935	2,544	198	33,569	24,328	4,760	4,074	36,657
1936	3,248	354	45,945	27,475	5,233	4,682	41,784

Table 5. Imports of Hides & Leathers

	Hides & Skins of Buffalo & Cows		Leathers of Cow, Buffalo, Horse, sheep, etc.		
	Volume (100 kin)	Value (¥1,000)	Volume (100 kin)	Value (¥1,000)	Total Value (¥1,000)
1932	266,055	7,897	1,543,054	3,618	11,514
1933	347,201	13,545	1,310,729	3,933	17,478
1934	414;336	16,320	1,442,921	4,830	21,150
1935	507,022	21,356	1,482,334	4,944	26,300
1936	512,714	24,386	1,297,909	5,465	29,851
1937	687,511	44,571	1,366,602	7,520	52,091

BAMBOO MANUFACTURES, BRUSHES, STRAW BRAIDS, ETC.

The industries involved in the production of bamboo manufactures, brushes and straw, chip and hemp braids have been carrying on a smooth, though unspectacular, trade in the past few years. Of these industries, that dealing with bamboo manufactures accounts for the largest value of production. A considerable portion of these manufactures are exported.

Table 6: Production and Export of Brushes

(Value in ¥1,000; Quantity in 1,000 Dozens)

	Tooth brushes		Hair brushes		Total Value incl. others	Exports Value
	Quantity	Value	Quantity	Value		
1932	3,226	1,720	77	228	4,338	2,928
1933	3,987	2,131	195	336	5,065	4,453
1934	5,399	2,574	287	345	6,810	5,246
1935	5,686	2,698	370	409	5,663	5,117
1936	6,284	3,245	502	625	6,512	5,633
1937	....	....	...	...	....	6,917

Table 7. Production of Bamboo Manufactures

(In ¥1,000)

	Bags	Bamboo blind	Total incl. others
1932	8,638	873	9,840
1933	8,689	843	9,875
1934	8,954	1,028	10,278
1936	9,575	1,328	11,297
1935	9,213	1,186	10,703

Table 8. Production and Export of Straw, Chip and Hemp Braids

(In ¥1,000)

	Straw braids	Chip braids	Hemp braids	Total incl. others	Exports
1932	1,310	156	1,860	3,334	3,228
1933	1,838	183	2,968	4,998	7,205
1934	1,458	302	4,356	6,124	8,125
1935	1,073	304	2,580	3,969	4,615
1936	1,419	304	3,378	5,102	3,798
1937	....	...	....	....	7,876

ELECTRIC BULBS

The electric bulb manufacturing enterprise accounts for a business of roughly ¥30,000,000 annually. The export of electric bulbs have been also large, the foreign trade returns for 1937 showing it to be ¥10,645,000, or about a third of the entire domestic production.

Table 9. Production and Export of Electric Bulbs

(In ¥1,000)

	Electric bulbs		Search lights	Total incl. others	Exports
	Quantity (1,000)	Value			
1932	286,653	19,685	831	25,209	10,187
1933	340,393	21,971	680	29,594	10,167
1934	310,750	19,998	894	28,007	8,942
1935	308,683	21,210	100	30,351	7,637
1936	294,034	21,358	109	32,199	9,847
1937	....	....	...	....	10,645

PYRETHRUMS

It was over half a century ago that pyrethrums were transplanted in Japan from America and Europe (Austria). They are now known all over the world as one of the special products of Japan. They were first tried in Wakayama Prefecture and then in Okayama and Hiroshima Prefectures. In 1892 or so the cultivation of the plants was introduced into the Hokkaido.

Area and Production—At present the Hokkaido comes first in the area under pyrethrums and in yield, followed by such prefectures as Hiroshima, Ehime, Wakayama, etc. Of late years they have been cultivated in the southern part of Korea but to quite a limited extent. The area sown to the plants in the peninsula and yield are about 1 per cent. of the corresponding figures in Japan proper.

Table 10. Production and Exports of Pyrethrum

	Production		Exports	
	Quantity (Metric tons)	Value (¥1,000)	Quantity (Metric tons)	Value (¥1,000)
1932	5,108	3,731	5,680	4,752
1933	6,060	7,809	5,088	6,349
1934	7,800	10,574	5,630	7,447
1935	12,746	7,322	7,665	6,400
1936	11,051	5,710	5,608	3,207
1937	....	....	8,844	7,693

TOYS

Toy manufacture in Japan is passing from household to factory industry. Its centres are Tokyo, Kyoto, Osaka and Nagoya, each having some speciality. Tokyo produces mainly celluloid, tin and rubber toys with some quantities of wooden and cloth toys. Osaka is noted chiefly for cloth toys, paper novelties and celluloid. Kyoto for its exquisite porcelain toys and earthen ware, etc. In the manufacture of dolls Kyoto stands foremost in art, Tokyo and Osaka coming next. In wooden toys, inlaid wood and other artistic objects, Hakone, the famous summer resort near Tokyo has long been noted for excellent workmanship, but these articles are now produced in various other districts with an increasing demand both at home and abroad. The production in recent years is as follows:—

Table 11. Production & Exports of Toys

(In ¥1,000)

	Metallic	Porcelain	Paper	Celluloid	Rubber	Wood	Total	Export
1930	1,111	223	162	1,757	2,314	395	5,962	11,699
1931	802	123	310	861	3,320	325	5,742	9,824
1932	1,171	113	118	1,041	5,028	380	7,850	15,119
1933	1,701	246	127	2,629	5,563	584	10,850	26,375
1934	2,457	538	457	1,636	3,548	1,220	9,857	30,386
1935	2,989	642	350	1,976	4,619	1,360	11,936	33,852
1936	3,711	1,925	492	1,990	4,984	1,390	14,493	36,459
1937	....	....	....	....	....	....	....	42,295

Note: Production statistics as used here, prepared by the Dept. of Commerce & Industry, are of factories employing 5 or more operatives, while export figures include factories employing less than 5 operatives.

BUTTONS

The output of buttons for 1936 was ¥7,313,000, of which ¥2,692,000 represented shell buttons. Contrasted with the previous year it shows an increase of ¥482,215. The output of buttons for the last few years is tabulated below:—

The export of buttons was ¥9,648,000 in 1934, ¥10,141,523 in 1935, and ¥13,737,000 in 1937.

Table 12. Output & Export of Buttons

(In ¥1,000)

	Metal	Shell	Ivory Nut	Bone	Others	Total	Export
1932	908	2,214	310	126	209	3,767	5,863
1933	757	2,314	635	114	695	4,515	7,749
1934	1,468	2,170	869	257	145	4,910	9,648
1935	1,725	2,295	1,054	182	393	5,659	10,142
1936	2,060	2,692	2,042	15	503	7,313	11,635
1937	....	....	....	...	...	....	13,737

Note: Production statistics as used here, prepared by the Dept. of Commerce & Industry, are of factories employing 5 or more operatives, while export figures include factories employing less than 5 operatives.

MATCHES

On the strength of relative cheapness Japanese matches once gained in importance in the export trade but of late the advance of the price of raw materials and higher wages at home caused a set-back especially as regards exports.

The output of matches in recent years is shown in the following table:—

Table 13. Output of Matches

	No. of Cases Gross	Yen
1930	16,722,653	7,464,081
1931	13,535,353	6,686,245
1932	18,234,683	7,306,721
1933	20,711,239	9,202,221
1934	20,597,615	10,033,567
1935	27,369,618	12,659,929
1936	21,874,973	11,824,397

Note: * One case contains 10 pocket boxes.

References:
Table Nos.: 1 a, 2 a & b, 3-4 a, 5 b, 6 a & b, 7-9 a, 10 b, 10-11 a & b, 13 a.
Key: a—Department of Commerce & Industry.
b—Annual Return of Foreign Trade, by Department of Finance.

CHAPTER XXXVIII

TRADE

FORMATION OF COMPANIES

Prior to 1875 there was no company in the modern sense of the term in Japan. Some commercial establishments that had previously existed like the Mitsui-gumi and the Tsukumo Shokai, respectively forerunners of the present Mitsui Gomei Kaisha and Mitsubishi Goshi Kaisha, were family establishments. In the year mentioned the first national bank (now known as the Daiichi Ginko, or the First Bank) was created as a regular joint-stock concern after the Western model. This commercial concern was followed, though rather tardily, by the creation of similar banks and companies representing shipping, railways, insurance, etc.

In 1894, when the Japan-China War broke out total investments in various enterprises still stood at the modest sum of about ¥249,762,000 (paid up), of which banking represented ¥101,409,000, followed by the transport business with ¥82,650,000, industries with ¥44,580,000, trade ¥20,014,000 and agriculture ¥1,188,000. After the close of the Russo-Japanese War (1904-5), to be precise, by the end of 1907 total investments had swollen to ¥1,114,227,000 consisting of ¥444,204,000 for banking, ¥150,891,000 for transport, ¥381,815,000 for industries, ¥125,282,000 for trade and ¥12,035,000 for agriculture. (Later expansion is shown elsewhere). Another striking feature as shown lately is the tendency towards the increase of capital and the amalgamation of smaller concerns. Formerly, a company with capital in eight ciphers was an exception but of late many have enlarged their capital to the level of a hundred million yen.

Companies Classified

Commercial companies are divided into the following four kinds:—

(1) Gomei-kaisha—(Formed by two or more partners, each being unlimitedly liable for the debts of the firm). A gomei-kaisha is a literal translation for societé en nom collectif. It corresponds to offene Handelsgesellschaft under the German, and "partnership" under the Anglo-American law, but it is a body corporate under our law and in this respect is different from its German and Anglo-American equivalents, though resembling "partnership" by the law of Scotland.

(2) Goshi-kaisha—(Formed by one or more partnership with limited liability). A goshi-kaisha corresponds to societé, Kommanditgesellschaft and limited partnership. But, unlike the Anglo-American "limited partnership," it is a juridical person.

(3) Kabushiki-kaisha—(Formed by not less than seven persons). A kabushi-kaisha corresponds to societé anonyme, under the French, Aktiengesellschaft, under the German law. English and American equivalents are "company limited by shares" and "stock corporate" respectively.

(4) Kabushiki-goshi-kaisha—(Part of the capital is represented by transferable shares). A kabushiki-goshi-kaisha corresponds to societé en commandite par actions under the French, and Kommanditsgesellschaft auf Aktion under the German law. No similar kind of company exists under the Anglo-American law. If, however, the directors of a company limited by shares shall be expected to undertake an unlimited liability, the company under such an arrangement would be very much like a kabushiki-goshi-kaisha.

See "The Code of Commerce" translated by the Codes Translation Commission of the League of Nations Association.

Value of Production

The value of production of the basic industries of Japan has been increasingly steadily since 1932. In 1936 the total value of production was 15,861 million yen, as contrasted with 7,984 million yen in 1931. The manufacturing industry led in the value of production of all industries in 1936. The situation in recent years is as follows:

Table 1. Production in Japan Proper
(In Million Yen)

	Agriculture	Stock breeding	Forestry	Fishery	Mining	Manufacturing industry	Total
1927	3,238	213	337	515	369	6,788	11,460
1928	3,180	224	335	502	378	7,250	11,868
1929	3,191	226	299	508	385	7,761	12,369
1930	2,163	194	217	399	308	5,993	9,274
1931	1,803	178	199	360	242	5,203	7,984
1932	2,184	173	205	354	255	6,011	9,182
1933	2,726	194	248	417	354	7,904	11,844
1934	2,393	207	291	437	432	9,427	13,188
1935	2,828	220	298	464	504	9,434	13,748
1936	3,256	241	340	551	589	10,883	15,861

RECENT CORPORATE SITUATION

No. of Companies.—The number of companies of all varieties has been increasing steadily, according to the returns of the Department of Commerce and Industry. In the eleven years ending 1936 there was an increase of 2.43 folds in the number of companies, the figures being 36,068 companies in 1926 and 87,511 in 1936. The rate of increase since 1929, however, has been on the decline. Contrasted with an expansion of 12% in 1929 the growth in 1936 was 4%, the latter figure being the lowest for the last 11 years.

Capitalization of Companies Classified.—The returns of the Department of Commerce and Industry disclose that companies either with a paid-up or authorized capitalization of and below ¥50,000 was largest in number.

Corporate Investments Classified.—Total corporate investments in the various enterprises has been increasing in recent years by roughly one thousand million yen. In 1936 the total of such capital investments outstanding was approximately 17,799 million yen.

The manufacturing industry accounts for the largest capital investments. In 1936 investments outstanding in this industry was 44.6% of the total corporate investments in all industries. It was followed by commerce with 38.0%, transport with 9.9% and mining with 5.9%.

Companies Classified.—The "kabushiki-kaisha" (joint stock company) enjoys the greatest influence in Japan, followed by the "gomei-kaisha" (unlimited partnership) and the "goshi-kaisha" (limited partnership). In 1936 the capitalization of the joint stock companies aggregated roughly 21,423 million yen, representing 89.3% of the total capitalization of all companies. This was followed by the unlimited partnerships with 1,355.5 million yen (5.7%) and the limited partnerships with 1,189 million yen (4.9%).

Reserves.—Total corporate reserves is on the increase in recent years. In 1936 the total amounted to 3,986.6 million yen, representing an increase of 10.5% over the previous year and 49.8% over the year 1926. The amount of reserves in 1926 corresponded to 16.6% of authorized capitalization and 22.4% of paid-up capitalization.

Profit and Loss of Companies.—The amount of corporate net profits have risen from 832.6 million yen in 1926 to 1,564.5 million yen in 1936. This corresponds to ¥23,085 per company in 1926 and ¥17,878 per company in 1936, showing that the net profit per company has declined significantly between the two years. Net profit per company was lowest in 1931 at ¥8,225. Since then it has been steadily resuming an upward course.

Profit and Loss by Enterprises.—The net profit rate to paid-up capital has been highest in the companies classified under the manufacturing industries. This enterprise took in a net profit of 10.1% in 1936 as compared with 9.6% in the aquatic products industry, 9.4% in the mining industry, 8.1% in the commercial enterprise and only 3.7% in the agricultural industry. . The agricultural industry has been the only enterprise to suffer a loss ranging from 3.1% to 0.1% in the years from 1927 to 1933. The only exception was the aquatic products industry which suffered a loss of 1.1% in 1931.

Dividend Payments.—The ratio of dividend payments to net profit has fluctuated perceptibly in the eleven years previous to 1936. In 1926 the ratio was 67.1% and reached its height in 1930 at 70.8%. In 1934 it was down to 57.0% but since then it has resumed an upward course. The total amount of dividend payments in 1936 was 1,009.4 million yen, corresponding to 60.0% of the net profit and 5.7% of the paid-up capital.

Dividend payments to paid-up capital was highest in the manufacturing and aquatic products industry at 6.8% respectively and lowest in the agricultural industry at 3.1% in 1936.

Debenture Issue.—The ratio of debenture issue to paid-up capital showed a steady increase between 1926 and 1932, the figures for these years being 27.6% and 38.0%, respectively. Since the latter year it has been declining with equal steadiness and by 1936 it was down to 26.0%.

The manufacturing industry and commerce accounted for about 85% of the debentures outstanding in 1936, amounting in all to 3,964 million yen. Of this amount commerce claimed 1,792 million yen (45.2%) and the manufacturing industry 1,590 million yen (40.1%).

Company Results for First Half of 1937

Business conditions showed a conspicuous improvement in the first half of 1937, on account of the great expansion of the budget for 1937-38 and a sharp advance of commodity prices. According to an investigation of the returns of 350 companies and banks whose business terms ended during the period from March-August, 1937, total net profits showed an increase of 16.2% compared with the previous term in spite of an expansion in expenditure caused by higher prices of raw materials and increased taxation. The rate of net profit to paid-up capital which showed a marked increase due to the necessity of enlarging productive capacity advanced from 12.8% per annum to 14.0%.

Table 2. General Statistics of Companies by Business
(In ¥1,000)

	No. of firms	Investment & paid-up capital	Reserves	Dividends	Balance of Net Profit or loss	Dividends % to paid-up capital
Agriculture						
1931	1,005	120,314	9,411	931	− 3,692	—
1932	1,370	120,207	9,549	846	− 2,300	—
1933	1,548	123,043	10,185	1,385	− 107	—
1934	1,833	135,952	11,408	2,600	1,946	1.4
1935	1,957	139,052	13,054	4,238	2,976	2.1
1936	1,987	144,168	13,116	4,471	5,346	3.7
Aquatic						
1931	294	83,780	10,535	1,180	− 941	—
1932	309	110,591	10,092	3,871	4,272	3.9
1933	316	107,795	9,616	6,019	7,059	6.5
1934	328	110,188	8,345	6,796	10,596	9.6
1935	332	126,863	13,911	10,136	14,961	11.8
1936	346	152,003	16,665	10,367	14,591	9.6
Mining						
1931	383	712,460	97,794	15,652	3,170	0.4
1932	389	710,586	96,982	19,094	14,165	2.0
1933	427	731,820	96,736	31,914	45,095	6.2
1934	515	837,232	120,127	49,989	74,089	8.8
1935	611	978,661	141,984	63,863	94,839	9.7
1936	697	1,114,037	170,580	69,684	104,573	9.4
Manufacturing Industries						
1931	19,969	5,604,244	827,873	268,877	247,626	4.4
1932	22,575	5,584,059	863,547	261,874	300,894	5.4
1933	24,717	5,949,813	905,296	310,218	453,562	7.6
1934	27,067	6,781,114	1,034,280	392,603	551,015	8.1
1935	29,312	7,213,539	1,202,111	480,509	719,535	10.0
1936	30,986	7,942,512	1,371,321	542,066	798,918	10.1
Commerce						
1931	30,794	5,937,028	1,783,832	210,506	186,840	3.1
1932	35,315	5,994,097	1,789,409	220,975	279,724	4.7
1933	38,850	6,076,600	1,803,070	251,079	405,842	6.7
1934	42,716	6,333,757	1,965,679	281,054	516,133	8.1
1935	45,852	6,582,352	2,041,360	286,177	479,795	7.3
1936	47,090	6,766,305	2,205,008	319,615	549,319	8.1
Transportation						
1931	4,781	1,502,560	162,685	46,168	37,696	2.5
1932	5,083	1,527,056	165,335	28,452	31,948	2.1
1933	5,338	1,557,718	168,090	38,186	37,134	2.4
1934	5,739	1,576,918	176,952	44,656	60,863	3.9
1935	6,082	1,619,710	196,799	58,090	88,801	5.5
1936	6,405	1,679,888	209,973	63,156	91,694	5.5

Business Results of Leading Companies (At End of 2nd Half 1937)

(Amount in ¥1,000)

Cos.	Capital: Authorized	Capital: Paid-up	Reserves	Net Profit or Loss: Amount	Net Profit or Loss: % against Paid-up	Net Profit or Loss: % against Operating cap.	Dividends Rate %: Ordinary	Dividends Rate %: Special
TEXTILES MATERIALS:								
Toyo Spinning	72,725	67,526	69,122	13,522	40.0	13.4	12.0	6
Kanebo	60,000	56,186	61,688	12,340	43.9	7.2	25.0	—
Dainihon Spinning	110,000	66,500	42,368	10,448	31.4	11.9	12.0	—
Fuji Gas Spinning	50,000	37,375	11,462	3,361	24.7	12.5	12.0	—
Toyo Rayon	30,000	22,486	7,930	4,037	35.9	15.3	12.0	—
Teijin	36,000	31,636	8,991	6,516	41.2	20.7	15.0	—
Katakura Spinning	53,550	26,775	13,099	3,078	23.0	7.8	8.0	—
Nihon Wool Spg.	50,000	35,000	30,090	6,002	34.3	10.5	12.0	—
ELECTRICITY:								
Tokyo Dento	429,562	429,562	41,057	30,149	14.0	6.2	8.0	—
Toho Tenryoku	266,000	238,110	11,381	16,378	13.8	7.6	8.0	—
Daido "	186,000	161,984	13,368	9,000	11.1	5.8	6.0	—
Nihon "	210,000	157,500	11,221	10,497	13.3	6.9	7.0	—
Ujigawa	200,000	119,375	10,256	7,692	12.9	5.9	6.0	—
Dainihon	108,080	80,987	10,494	5,808	14.3	8.9	8.0	—
SHIPPING:								
N. Y. K.	106,250	64,250	68,033	13,989	43.5	14.6	6.0	—
O. S. K.	100,000	62,500	40,848	15,475	49.5	18.3	6.0	—
MINING IND.:								
Hokkaido Colliery S.S.	70,000	57,850	14,519	4,533	15.7	8.7	8.0	8.0
Kyushu Colliery S.S.	10,000	6,250	4,510	937	30.0	13.1	12.0	12.0
Iwaki Colliery	10,850	9,110	2,099	792	17.4	7.3	5.0	—
Nihon Sekiyu	80,000	62,000	23,634	11,154	36.0	16.3	8.0	—
Nihon Kogyo	160,000	138,750	11,219	14,600	21.2	12.1	14.0	—
Mitsubishi Kogyo	100,000	83,333	46,264	9,357	22.5	9.0	12.0	—
MANUFACTURING IND.:								
Mitsubishi Heavy	120,000	77,527	48,597	5,969	15.4	3.9	7.0	—
Nihon Kokan	55,300	34,725	19,668	9,841	56.7	15.8	12.0	—
Furukawa Denki Kogyo	22,650	22,650	10,947	2,574	22.7	6.4	8.0	2.0
FOODSTUFF IND.:								
Dainihon Beer	94,000	59,800	27,032	6,518	21.8	11.1	12.0	—
Kirin Beer	10,000	8,300	13,631	407	51.2	10.7	10.0	—
Nisshin Seifun	25,000	15,498	5,498	500	18.6	4.6	8.0	2.0
Nihon Seifun	12,000	10,992	1,298	400	22.2	5.7	10.0	—
Taiwan Seito	63,000	43,080	40,553	11,185	51.9	17.3	12.0	—
Meiji Seito	48,000	39,200	34,419	8,719	44.5	16.4	12.0	—
Dainihon Seito	61,970	56,333	23,778	9,296	33.0	15.6	12.0	—
Ensuiko Seito	29,250	21,375	3,458	3,880	36.3	8.3	8.0	—
CHEMICAL IND.:								
Nihon Chisso Hiryo	200,000	108,333	11,179	6,920	12.8	4.5	10.0	—
Showa Hiryo	30,000	22,500	5,740	3,114	27.7	13.3	10.0	—
Denki Kagaku Kogyo	28,000	28,000	1,923	2,365	16.9	10.1	10.0	—
Nihon Soda	80,000	37,367	2,297	4,240	22.7	9.9	12.0	—
Oji Seishi	300,000	218,874	58,342	24,829	22.7	12.8	10.0	—
CERAMIC IND.:								
Asano Cement	106,310	62,968	6,599	3,771	12.0	7.8	4.0	—
Onoda Cement	31,000	25,680	8,906	1,057	22.2	11.3	10.0	—
Iwaki "	23,000	11,543	2,765	1,089	18.9	7.8	8.0	—
Chichibu "	12,000	5,800	1,286	1,164	40.1	20.5	13.0	—
MISCELLANEOUS:								
Mitsukoshi Dept. Store	30,000	21,000	2,017	2,452	23.4	10.2	10.0	—
Matsuya "	5,000	5,000	1,630	780	31.2	7.0	10.0	—
Takashimaya "	14,000	11,900	2,175	300	19.1	8.7	8.0	—
Shirokiya "	10,500	9,371	89	550	11.7	5.6	6.0	—
Nichiro Fishery	53,800	42,300	8,921	3,676	17.4	9.7	10.0	10
EXCHANGES:								
Tokyo Stock E.	50,000	42,500	8,931	2,744	12.9	4.2	8.0	—
Osaka "	45,000	29,500	1,903	1,213	8.2	2.5	7.0	—
Yokohama E.	6,500	6,500	536	394	12.1	4.2	10.0	—
Tokyo Rice E.	7,750	5,375	1,012	234	8.7	4.3	7.0	—
Osaka Dojima Rice E.	6,000	4,750	2,006	169	7.1	3.4	4.0	—
Osaka Sampin E.	5,000	2,750	2,150	333	24.2	3.5	10.0	—

Note: * New shares; † Spot quotation; ‡ Range since ex-new.

Movement of Stock Quotations (Forward)

1935 High.	1935 Low.	1935 Ave.	1936 High.	1936 Low.	1936 Ave.	1937 High.	1937 Low.	1937 Ave.	Jan.–Aug. 1938 High.	Jan.–Aug. 1938 Low.
183.8	163.9	171.0	170.0	153.0	163.1	215.1	158.0	188.9	193.1	147.0
233.9	202.5	220.5	245.0	205.1	215.4	331.4	208.4	266.2	‡161.9	150.1
109.1	97.0	102.1	112.3	95.4	104.8	125.2	86.5	110.9	107.5	101.5
73.5	58.9	67.5	64.7	52.2	57.0	81.0	55.0	68.1	64.7	47.0
* 99.5	59.7	74.1	* 80.4	63.7	69.8	*121.8	77.6	96.8	107.8	68.1
149.9	105.6	129.0	133.9	112.1	118.7	164.4	115.0	137.5	144.7	103.5
28.2	17.8	22.4	27.9	21.4	24.0	31.5	22.0	26.1	26.0	24.0
110.5	101.0	104.9	106.5	96.5	101.1	122.0	91.0	107.2	102.0	93.0
59.3	38.8	48.5	66.3	50.3	57.6	66.8	47.9	56.9	57.5	52.0
63.3	54.1	58.6	65.1	35.6	59.2	64.9	46.1	56.5	55.7	51.1
51.7	36.5	42.7	55.5	40.5	48.2	52.1	37.0	44.9	44.3	35.4
59.5	51.3	55.5	62.3	47.8	54.8	57.4	39.9	49.7	50.8	41.3
54.9	41.5	49.0	54.7	49.5	53.0	51.0	43.0	46.6	44.3	39.7
69.2	61.1	65.5	67.5	51.0	60.1	61.1	48.0	54.3	53.8	49.0
79.9	50.0	57.9	74.2	63.8	68.1	103.9	69.5	84.4	86.5	58.5
61.3	43.3	49.1	56.9	51.8	54.4	91.3	58.1	72.4	77.4	55.7
74.3	57.2	65.4	84.9	65.3	76.2	105.9	83.0	95.0	99.5	69.6
113.5	94.1	104.2	61.0	41.0	50.3	133.9	107.0	128.5	121.9	103.0
61.8	45.4	55.1	64.5	36.5	55.5	61.0	33.6	48.1	82.8	63.8
51.6	37.0	43.2	78.9	52.2	66.7	110.1	74.5	91.4	88.0	64.5
130.0	92.0	111.3	120.7	88.7	107.4	133.0	97.3	119.4	122.4	96.1
118.1	102.2	112.9	124.6	102.5	115.5	148.4	114.4	130.0	139.5	118.4
78.4	60.1	68.3	93.9	74.4	85.2	98.1	74.8	84.3	88.3	71.3
121.7	85.6	106.2	114.8	94.8	102.4	139.9	88.7	104.8	114.4	91.6
68.8	57.1	62.5	114.5	68.9	88.9	137.2	79.7	107.2	94.9	82.9
123.9	114.6	119.6	125.8	101.2	114.2	123.0	99.1	111.8	115.0	100.1
†142.5	127.5	135.0	†162.0	115.0	138.5	†152.8	127.8	143.1	†132.3	113.5
84.7	67.2	76.8	93.0	74.8	81.7	100.6	69.2	87.7	94.3	79.7
* 42.3	30.7	36.7	* 93.0	74.8	81.7	*105.0	61.4	85.4	107.5	79.6
119.0	103.2	110.2	118.2	101.0	113.7	131.9	109.4	121.4	124.4	106.1
118.0	103.6	110.1	118.5	103.1	113.9	133.5	103.5	119.3	119.0	107.9
97.8	70.9	80.9	102.0	80.3	95.1	120.4	89.9	105.5	104.4	88.5
51.9	28.9	36.5	58.7	43.8	52.3	101.6	57.7	76.1	‡ 70.0	55.5
82.3	64.3	73.1	99.0	75.0	88.1	125.9	71.4	94.3	90.0	76.5
80.4	60.6	68.5	85.9	71.6	76.1	98.1	73.5	84.2	91.9	58.5
58.6	40.2	49.3	66.5	49.9	58.1	95.5	63.6	78.8	‡ 69.5	55.8
85.5	64.9	74.4	91.0	68.7	81.3	128.2	65.9	88.0	89.7	63.5
120.0	103.5	108.1	118.6	76.1	99.1	108.9	89.6	99.8	99.8	88.9
48.0	34.6	42.5	49.7	38.1	44.3	45.7	34.0	40.6	46.9	36.4
63.5	58.5	60.5	73.5	62.8	68.5	94.5	70.0	81.4	81.0	70.5
53.4	38.0	45.5	58.4	41.4	50.4	73.9	49.9	59.5	63.7	50.0
† 63.4	52.3	57.7	† 68.0	57.0	63.4	† 75.3	66.0	70.4	† 70.5	68.5
93.4	77.0	82.3	99.9	89.1	94.6	103.5	83.5	95.0	96.0	89.0
†*58.6	47.5	50.3	†*65.4	57.3	61.2	† 87.7	63.0	75.8	† 77.5	71.9
† 60.6	58.0	59.3	† 62.0	59.0	60.2	† 67.0	52.0	60.8	† 57.5	50.3
† 38.3	11.8	23.0	† 44.8	37.3	41.3	† 44.8	36.8	40.7	† 45.0	36.8
71.3	51.4	61.3	72.9	58.7	67.4	77.5	55.4	68.3	71.0	55.5
163.7	125.1	138.4	155.1	114.3	130.8	169.1	125.1	147.8	164.7	113.0
104.5	88.6	94.6	97.6	76.0	82.9	112.5	79.4	94.1	96.0	85.4
42.8	30.1	35.4	39.4	33.2	36.3	45.3	33.5	39.9	38.0	34.4
53.8	42.0	47.2	51.4	29.8	43.2	62.1	39.5	50.6	51.0	36.2
44.5	37.5	40.5	50.0	38.0	43.0	50.5	35.5	44.4	39.8	35.8
90.0	84.8	87.4	90.0	76.0	82.3	109.5	66.8	93.8	72.0	67.3

	Grand Total					
	No. of firms	Investments paid up capital	Reserves	Dividends	Balance of Net Profits or loss	Dividends % of paid-up capital
1931	57,226	13,960,385	2,892,130	549,314	470,697	4.4
1932	65,041	14,046,604	2,934,913	545,113	628,705	4.5
1933	71,196	14,546,789	2,992,992	638,799	953,427	6.6
1934	78,198	15,775,161	3,317,793	777,698	1,180,343	7.7
1935	84,146	16,660,177	3,609,218	903,013	1,400,905	8.4
1936	87,511	17,798,915	3,986,662	1,009,359	1,564,538	8.8

Capitalization of Companies Classified

The largest number of companies in Japan are capitalized at under ¥50,000, in 1936 the ratio of such companies to the total number of companies being 71%. Companies capitalized at over ¥10,000,000, on the other hand, represented 0.4% of the total number of companies.

Table 3. Capitalization of Companies Classified
(1936)

Capital (¥1,000)	No. of firms	% to total
Under 50	62,146	71.0
50—100	11,171	12.8
100—500	8,548	9.8
500—1,000	2,512	2.9
1,000—5,000	2,292	2.6
5,000—10,000 ...	457	0.5
Above 10,000....	385	0.4
Total	87,511	100.0

CHAMBERS OF COMMERCE AND INDUSTRY

In accordance with the Chamber of Commerce and Industry Law that came into force in January, 1928 replacing the Chamber of Commerce Law enacted in 1890, the Japan Chamber of Commerce and Industry was established in April of the same year. Meanwhile 77 Chambers of Commerce in Tokyo and forty other prefectures and the Hokkaido established under the former regulations were reorganized as Chambers of Commerce and Industry under the new regulation and became members of the Japan Chamber of Commerce and Industry. At the end of December, 1935 there were throughout the whole country 103 Chambers of Commerce and Industry with a total membership of 3,624.

Table 4. Number of Chambers of Commerce and Industry

	No. of Chambers	No. of Members	No. of Electorate	Annual expenses (Yen)
1928.....	77	2,305	115,485	2,683,618
1929.....	89	3,040	131,555	2,760,957
1930.....	90	3,141	165,559	2,909,288
1931.....	92	3,258	162,320	2,552,759
1932.....	94	3,328	133,545	2,312,390
1933.....	97	3,435	100,414	2,300,798
1934.....	101	3,558	100,695	2,498,769
1935.....	103	3,627	114,096	3,025,880
1936.....	108	3,816	156,414	3,341,627

EXCHANGES

The exchanges in Japan are of two kinds in organization, namely, an association and a kabushiki-kaisha. In the case of an exchange of the form of an association transactions can be done only by its Members. In the case of an exchange of the form of a kabushiki-kaisha transactions can be done only by its Brokers.

The exchanges in Japan as in other countries can be divided into two, according to the kinds of things dealt in, namely, a stock exchange and a produce exchange.

In the West the stock exchange is much older than the produce exchange. In the western countries the exchange system has developed gradually from securities to produce.

Contrary to this, in Japan the exchange system originated in transactions in the stock of rice owned by feudal lords in the Middle Ages. Transactions in securities on an exchange were started as late as 1878 when the Tokyo Stock Exchange was brought into being.

In Japan the produce exchanges are practically divided into two kinds, namely, commodity exchanges and rice exchanges. This may sound strange for rice is a commodity just as much as cotton yarn, or silk, or rayon, etc. But, as transactions in rice have made a special development quite distinct from other commodities in the country, rice is dealt in exclusively in most cases. Hence this division. The things dealt in by commodity exchanges are rice, barley, wheat, fertilizer, raw cotton, cotton yarn, raw silk, rayon, etc. Principal commodity exchanges are the Tokyo Rice and Commodity Exchange, the Dojima Rice Exchange, Osaka, the Osaka Sanpin Exchange (dealing in raw cotton, cotton yarn, cotton fabrics, rayon yarn) the Yokohama Exchange (dealing in silk yarns, tea, fabrics, sea products, sugar, rice, wheat, barley soya-beans, securities), and the Nagoya Rice Exchange.

The things listed on the stock exchange comprise national loan bonds, local loan bonds, share certificates and debentures. Principal stock exchanges are the Tokyo Stock Exchange and the Osaka Stock Exchange.

Table 5. Stock, Rice and Commodity Exchanges

(a) Joint Stock Company:

Year ending Mar. 31:	*No. of Exchanges	*No. of Brokers	Capital Authorized (¥1,000)	Capital Paid-up (¥1,000)	Receipts (¥1,000)	Expenses (¥1,000)	Profits (¥1,000)	Dividend (¥1,000)
1931.....	32	863	138,902	98,103	15,032	6,948	8,085	6,428
1932.....	32	840	138,902	98,103	17,418	8,206	9,211	6,642
1933.....	31	861	138,802	105,628	19,994	9,064	10,901	7,997
1934.....	31	918	138,802	105,745	25,820	11,651	14,169	9,639
1935.....	29	914	141,402	108,237	24,199	12,176	12,023	8,196
1936.....	26	898	141,402	108,087	22,298	10,458	11,839	8,214
1937.....	26	859	141,002	108,087	21,720	10,214	11,506	8,140
1938.....	26	838	141,002	108,962	29,641	14,638	15,010	9,749

(b) Association (Commodity Exchange):

	*No. of Exchanges	*No. of Members	Contribution (Yen)	Reserves (Yen)	Receipts (Yen)	Expenses (Yen)
1931.....	5	120	530,740	478,157	201,407	127,878
1932.....	5	111	530,740	514,926	192,135	134,469
1933.....	6	183	559,270	593,564	312,599	162,681
1934.....	6	187	562,950	732,537	393,916	161,044
1935.....	6	188	568,550	905,428	306,460	157,353
1936.....	6	188	571,450	1,036,420	392,535	187,615
1937.....	6	196	577,950	1,260,196	437,990	193,686
1938.....	7	236	656,850	1,546,903	693,770	322,628

Note: * End of December, preceding year.

Table 6. Results of Principal Exchanges at the End of 2nd Half, 1937
(Amount in ¥1,000)

	Paid-up capital	Reserves	Assets	Revenue	Expenses	Profits	Dividend
Tokyo Stock Exchange ..	42,500	8,931	130,126	4,358	1,614	2,744	1,869
Osaka Stock Exchange ..	29,500	1,903	99,300	2,410	1,197	1,213	1,111
Yokohama Stock Exchange	6,500	536	18,590	704	310	394	351
Tokyo Produce Exchange	5,375	1,012	10,899	499	265	234	188
Osaka Dojima Rice Exchange	4,750	2,006	9,896	321	152	169	108
Osaka Sampin Exchange.	2,750	2,150	18,822	671	338	333	161
Kobe Exchange	3,125	537	8,525	513	339	174	125

Tokyo Stock Exchange

As stated above, the Tokyo Stock Exchange is the first exchange of the kind established in this country. It was founded in May, 1878 with a capital of ¥200,000. As the economic condition of the country at that time was still in an inchoate stage of development, the amount of transactions on the Exchange was very small and listed securities limited to a few kinds of government bonds. In sympathy with the expansion of the resources of the country and the development of its economic activities, however, transactions in both shares and bonds increased. After the World War the stock market made marked strides. Owing to this expansion of business, the Exchange, which is bound to indemnify the losses arising through transactions, has found it necessary to increase its capital as often as nine times. At present the authorised capital is ¥50,000,000, of which ¥42,500,000 is paid up. According to the monthly returns of the Tokyo Stock Exchange, the number of descriptions of listed shares for long-term transactions as on June 30, 1937 was 240, the total number of share certificates 124,666,000, approximately and their market value ¥8,635,125,000.

Table 7. Value of Securities in the Whole Country
(Compiled by the Tokyo Stock Exchange)
(In Million Yen)

Beginning of month	Shares	Bonds				Total
		Government	Local	Debentures	External	
1928 July	19,476	4,505	1,224	4,455	2,100	31,760
1930 October	9,845	4,123	1,272	4,564	2,085	21,889
1931 November	9,739	4,053	1,429	4,612	1,726	21,559
1934 April	19,746	6,960	1,994	4,826	3,294	36,820
1935 September	19,638	8,094	2,117	4,924	3,400	38,173
1936 December	22,640	8,820	2,260	5,033	3,211	41,964
1937 August	26,004	9,310	2,343	5,102	3,162	45,921
1938 September	28,255	13,280	2,394	5,744	3,016	52,689

Recent Situation of the Stock Market

The Sino-Japanese imbroglio starting in July, 1937 was a distinct landmark in the stock markets of Japan. Up till then the volume of stock transactions had been vigorous while stock prices had continued on an upward course. In July, 1937 the average price of 50 industrial shares as listed by the the Mitsubishi Economic Research Bureau reached its highest level for the year, the percentage, taking the years 1921 to 1925 as 100%, having risen in that month to 129%. This was also the highest point reached in more than a decade.

In August 1937 the level of the shares dropped to 114%, further falling to 111% in September, and closed at 120% in December.

There was no spectacular movements in the early months of 1938, the price level for the first three months having remained stabilized. As in 1937 shares connected with the munitions industry were most active.

Value Indices of Shares

Taking the year 1929 as 100, the market value indices of industrial shares was highest in Japan in comparison with the United Kingdom and the United States as in July, 1938. The following table shows the international trend in the market value indices of industrial shares:

Table 8. Japan's Position in Market Value Indices of Industrial Shares

(Based on 1929—100)

	Japan (Mitsubishi 50 shares)	U. K. (London & Cambridge 92 shares)	U. S. A. (Standard Statistics 351 shares)	Germany (Government 213 shares)
1929....	100.0	100.0	100.0	100.0
1930....	65.9	80.6	74.2	80.1
1931....	62.2	62.6	45.9	60.5
1932....	79.3	60.4	24.4	40.3
1933....	115.9	74.1	35.0	51.7
1934....	132.9	89.9	42.9	61.8
1935....	122.0	100.7	48.0	69.6
1936....	131.7	115.7	67.3	77.8
1937....	147.6	108.3	69.0	87.3
1937 July	157.3	107.9	74.6	89.5
1938 "	126.8	89.9	56.0	...

The trend of the value indices of shares in the various enterprises of Japan, as compiled by the Tokyo Stock Exchange, based on January, 1921 as 100 is given in the following table:

Table 9. Value Indices of Shares

(Compiled by the Tokyo Stock Exchange)

	General Index			Finance &				Shipping &			
	Value index	Volume index	Public utilities	insurance	Mining	Textile	Manufacturing	Commerce	transportation	Miscellaneous	Exchange
1921 Jan.	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1933 Dec.	116.6	86.6	91.4	155.6	154.3	79.2	71.1	37.1	47.7	103.1	146.8
1934 "	119.3	64.3	118.4	168.5	139.2	75.3	74.2	37.3	54.5	154.9	115.7
1935 "	127.2	55.4	156.9	173.9	122.5	72.6	74.3	38.9	59.1	148.9	130.6
1936 "	134.9	54.3	153.5	171.8	138.1	82.6	85.1	29.6	76.0	179.2	108.1
1937 Dec.	159.0	79.6	152.9	176.3	167.1	94.5	105.3	29.2	91.0	204.7	133.5
1938 June	147.2	41.3	154.4	178.9	161.5	83.0	98.7	27.6	79.2	178.4	112.1

Quotation of National Bonds

Domestic Quotations. — The quotations of Japanese national bonds on the domestic market is as follows:

Table 10. Average Quotation of National Bonds

(In Yen)

	5% Bonds ("Kogo")	4% Bonds (1st series)	4% Franc Bonds	5½% Dollar Bonds
1929	93.19	79.25	144.41	———
1930	91.56	77.66	138.72	190.50
1931	92.81	78.02	138.73	192.78
1932	92.50	79.73	136.33	221.91
1933	100.72	93.50	165.09	226.20
1934	104.08	99.03	186.15	257.16
1935	103.95	98.80	186.35	362.21
1936	101.75	101.31	194.88	380.42
1937	101.27	101.52	196.31	359.39
1937 June ..	101.57	101.43	196.24	362.79
1938 " ..	103.47	102.47	198.22	360.12

Foreign Quotations. — The foreign quotation of representative Japanese national bonds on the New York and London markets is as follows:

Table 11. Foreign Quotations of Japanese National Bonds

		New York Market		London Market	
		5½% Dollar Bonds ($)	6½% Dollar Bonds ($)	4% Stg. Bonds (1st series) (£)	5½% Stg. Bonds (£)
1933	High ..	80.00	90.75	74.25	92.00
	Low ...	35.75	45.75	43.00	62.00
1934	High ..	87.75	96.75	70.00	88.50
	Low ...	74.13	86.00	58.75	77.00
1935	High ..	89.88	100.38	70.50	91.75
	Low ...	77.75	90.25	62.00	79.50
1936	High ..	89.25	101.00	66.00	87.75
	Low ...	78.75	91.50	58.75	80.00
1937	High ..	89.13	100.25	66.00	88.50
	Low ...	53.00	67.88	39.50	54.50
1938	High ..	62.75	76.50	37.50	53.50
June	Low ...	55.38	69.50	33.00	50.50

WAREHOUSING

With the great advance witnessed in the various industries and in the foreign trade of Japan, the warehousing business has grown into a large enterprise. Especially noteworthy is the development of harbour warehousing, the first modern system having been established in 1905 by the Mitsubishi Warehousing Company at Kobe.

Chief Commodities Stocked.—The chief commodities stocked in warehouses in Japan are rice, sugar, raw silk, raw cotton, wool, cotton yarn and paper. Of these raw silk is practically all stocked at the ports of Yokohama and Kobe, while raw cotton takes up space in the warehouses of the Kansai district where the spinning industry is most active.

Japan Warehousing Association.—The warehousing companies belonging to the Japan Warehousing Association play a predominant role in this line of business, and particularly in the six big cities of Japan its share of the entire business is overwhelmingly large.

Table 12. Goods in Godowns in Japan Proper

	Average			End of June			End of December		
	No. of Warehouse	1,000 Parcels	Value (¥1,000)	No. of Warehouse	1,000 Parcels	Value (¥1,000)	No. of Warehouse	1,000 Parcels	Value (¥1,000)
1915.....	76	14,737	150,119	75	13,698	161,525	77	15,220	157,672
1924.....	101	21,123	517,782	102	22,863	558,058	100	19,994	500,514
1929.....	98	22,295	497,271	99	23,272	533,403	97	22,299	473,253
1930.....	98	23,691	483,436	99	24,866	603,941	97	21,270	356,844
1931.....	96	22,322	432,715	96	22,113	458,917	96	24,134	410,988
1932.....	97	26,732	510,957	98	29,712	546,683	98	23,134	486,144
1933.....	101	27,041	577,555	99	28,901	629,965	105	28,892	585,085
1934.....	107	37,467	719,276	108	40,208	775,846	107	33,016	661,809
1935.....	108	31,750	645,913	107	33,449	686,155	111	27,284	537,809
1936.....	127	29,461	614,381	114	30,935	683,639	155	26,026	539,635
1937.....	173	33,020	807,692	175	34,045	936,759	183	33,550	722,408

Table 13. Goods Classified in Godowns (In thousands of yen)

Item	1923 June	1923 Dec.	1924 June	1924 Dec.	1925 June	1925 Dec.	1926 June	1926 Dec.	1927 June	1927 Dec.
Rice	56,931	80,805	174,458	163,858	137,036	67,088	73,510	51,234	59,040	38,410
Rice, imported ...	45,230	41,496	54,262	44,418	34,119	41,702	45,912	24,021	32,807	51,179
Wheat...	1,063	1,528	366	3,212	801	4,822	615	5,934	1,372	5,484
Sugar, refined	18,733	6,473	13,386	3,848	14,508	5,306	18,118	3,937	23,269	2,752
Silk fabrics	1,802	1,672	1,234	1,810	1,937	2,910	1,818	2,260	2,257	3,675
Cotton fabrics	17,681	20,908	17,173	22,442	25,846	24,149	17,920	13,868	30,881	27,222
Woolen fabrics ...	13,685	15,414	16,488	13,178	16,851	13,233	16,574	18,253	22,293	24,354
American cotton...	62,751	54,363	66,298	56,343	44,753	8,428	36,497	43,244	93,099	8,334
Indian cotton	21,845	10,816	28,456	18,963	28,786	6,818	27,423	12,631	41,302	7,241
Silk yarn	90,920	109,596	97,885	102,745	74,836	91,320	64,154	64,218	49,239	61,356
Cotton yarn	1,526	2,344	4,805	3,724	3,224	3,002	2,581	2,539	3,869	6,870
Woolen yarn.....	7,555	10,871	17,294	8,236	7,874	4,796	9,162	8,687	25,649	19,458
Wool	42,947	43,776	82,170	34,002	37,941	36,932	31,220	20,849	118,365	41,244
Hemp	1,040	1,481	825	2,206	1,223	2,252	1,081	2,595	2,421	724
Leather & Hides...	777	649	910	895	930	818	763	1,123	1,286	1,732
Paper	22,798	18,473	16,487	14,875	16,908	18,313	18,997	18,410	20,286	32,152
Artificial fertilizer	7,013	4,439	4,108	2,978	3,917	5,117	9,626	8,722	4,046	10,577
Iron materials.....	9,338	8,468	5,797	10,692	13,832	11,568	10,714	8,560	21,486	...
Hard ware.....	8,952	8,214	8,314	10,819	11,512	10,790	9,722	11,916	22,194	...
Drugs	6,012	4,817	5,871	5,601	8,973	10,371	12,509	9,462	11,482	12,411
Total incl. others.	629,966	585,086	775,847	661,809	686,155	537,811	683,639	539,635	936,759	722,408

Table 14. Leading Warehouse Companies as in 1938 (Amount in ¥1,000)

Companies	Established	Authorised Capital	Paid-up Capital	Reserves	Head Office
Toshin Warehouse Co., Ltd.	1909	15,000	12,500	2,954	Tokyo
Mitsubishi Warehouse Co., Ltd.	1887	20,000	15,000	6,080	Tokyo
Sumitomo Warehouse Co., Ltd.	1899	15,000	15,000	2,100	Osaka
Rinko Warehouse Co., Ltd.	1919	10,000	5,000	219	Tokyo
Shibusawa Warehouse Co., Ltd.	1909	5,000	3,125	778	Tokyo
Sugimura Warehouse Co., Ltd.	1919	10,400	9,100	826	Osaka
Toyo Warehouse Co., Ltd.	1926	6,000	3,300	254	Nagoya
Yokohama Warehouse Co., Ltd.....	1906	3,800	2,660	374	Yokohama
Teikoku Sanshi Soko	1926	3,000	750	918	Yokohama
Teikoku Soko Unyu Co., Ltd.	1926	2,000	2,000	204	Tokyo

COMMODITY PRICES

Wholesale Prices.—Two sharp advances in wholesale prices were noted between 1936 and the early months of 1938, the first taking place in December, 1936 being due in no small measure to the continued activity in the munitions industry, deficiency of certain import commodities and to the price advances in foreign countries. The second which became evident from about February, 1938 is due solely to the effects of the Sino-Japanese hostilities calling for heavy demands on materials for the munitions industry and to the large wartime state expenditures.

A noteworthy contrast with wholesale prices in the United States and the United Kingdom was the steady advance in prices noted in Japan from about the middle of 1937 in contradistinction to the decline witnessed in the two foregoing foreign countries from the early part of 1937.

Retail Prices.—While there were certain fluctuations in wholesale prices in 1937, retail prices displayed a steady rise during every month of that year. The retail price index of the Bank of Japan which was at 169.8 in January, 1937 was up to 182.4 in December of the same year. In April, 1938 it had advanced to 197.6.

Table 15. Index Number of Wholesale Prices by Countries
(1929—100)

	Japan								
	General Goods	Export Goods	Import Goods	U. K.	U. S. A.	Germany	France	Italy	Canada
1930	82.4	84.1	87.3	84.0	90.7	90.8	88.4	69.3	90.6
1931	69.6	69.9	73.2	70.2	76.6	80.8	80.0	78.1	75.4
1932	73.3	77.1	85.8	67.7	68.0	70.3	68.2	73.0	69.8
1933	81.6	92.4	106.5	68.2	69.3	68.0	63.6	66.5	70.2
1934	80.8	92.8	107.5	71.0	78.7	71.7	60.0	65.0	74.9
1935	84.4	93.7	107.8	74.1	83.9	74.2	54.0	71.5	75.4
1936	89.9	97.3	114.5	78.6	84.8	75.9	65.5	80.1	78.0
1937	108.4	111.8	151.8	89.3	90.6	77.2	92.7	93.6	88.4
1937 June	108.4	113.9	149.1	91.2	91.5	77.3	88.8	93.9	88.5
1938 "	115.7	127.7	172.7	77.9	82.1	77.0	105.3	100.8	83.8

Table 16. Index Number of Wholesale Prices in 13 Principal Cities of Japan Proper by Principal Goods

(Prepared by the Department of Commerce and Industry)
(Based on December, 1929—100)

	General Index No.	Food-stuffs	Fabric & Raw Materials thereof	Metals	Building Materials	Industrial Chemicals	Fertilizer	Fuel	Miscellaneous
1930 (Aver.)	87.7	90.5	82.4	87.3	89.7	93.3	82.5	92.0	90.4
1931 (")	74.0	74.2	67.1	72.9	83.6	80.0	69.5	81.4	77.4
1932 (")	81.0	80.2	74.2	88.3	86.2	83.0	81.5	79.9	89.2
1933 (")	95.4	87.8	90.4	113.8	97.3	109.7	89.3	91.1	108.8
1934 (")	96.3	88.7	92.2	112.1	101.7	93.3	87.5	93.4	111.8
1935 (")	97.4	97.8	91.6	107.3	99.4	82.7	96.5	94.0	108.7
1936 (")	101.2	105.1	97.8	112.8	100.2	72.7	99.3	97.6	112.1
1937 (")	123.8	110.2	109.4	189.3	122.4	97.0	119.5	113.2	147.4
1937 June	121.9	108.0	112.2	173.8	123.2	94.7	116.3	111.1	146.8
1938 "	147.7	115.7	130.4	276.2	147.0	121.0	128.0	136.7	160.6

Wholesale Prices of Staple Commodities

Staple commodities as a whole showed marked advances in price between 1935 and 1937, which continued into 1938. Many articles doubled in price in the corresponding years as the following table indicates:

Table 17. Average Wholesale Prices of Staple Commodities in Tokyo
(In Yen)
(Average in December each year)

Commodity	Remarks	Unit	1935	1938	1937
FOODSTUFFS					
Rice		Koku	29.40	29.90	33.10
Barley		Koku	10.50	11.20	8.10
Wheat		100 kin	8.45	10.25	10.00

Commodity	Remarks	Unit	1935	1936	1937
Wheat Flour	"Tsuru"	59 kin	3.97	5.02	4.78
Soya Bean	"Manchu" White	Koku	16.34	19.57	7.70
Sugar	Refined H. B.	100 kin	21.70	17.70	20.00
Green Tea	"Yamashiro"	1 kan	7.30	7.20	7.40
TEXTILES & MATERIALS					
Raw Cotton	Indian "Brooch"	100 kin	54.50	55.00	44.50
" "	American "Good Midling"	100 kin	63.00	73.25	50.75
Cotton Yarn	"Ootori No. 80"	bale	525.00	735.00	750.00
Raw Silk	"White 14" D	100 kin	875.00	910.00	680.00
Rayon Yarn	"Teijin" 12 O.D. No. 1	100 lbs.	66.00	90.00	73.00
Silk Yarn	"Kobai" 135	10 kan	330.00	325.00	322.50
Woolen Yarn	Knitting Use	1 lb.	1.96	3.15	2.62
Ramie Yarn	1st No. 30	100 pcs.	51.00	50.00	65.00
Fuji Silk	"Flat 5000"	yard	0.525	0.500	0.47
Melton	"Yamato 1,000"	meter	1.60	1.95	2.45
Serge	"Bishu 2/36"	meter	2.75	3.50	3.45
METALS					
Electrolytic Copper		100 kg.	85.00	110.50	176.00
Copper Wire	12 mm.	1,000 km.	999.50	1,235.80	1,397.60
Tin	Singapore	100 kg.	403.00	430.00	680.00
Lead	Fine Australian	100 kg.	86.00	111.00	172.00
Aluminium	Fine Imported	100 kg.	171.91	200.56	280.00
Zinc	No. 98	100 kg.	36.00	41.00	66.00
Steel	"Marugobu"	100 kg.	8.00	18.50	24.00
Pig Iron	"Kamaishi No. 3"	ton	54.50	63.20	88.50
FUELS					
Petroleum	"White Bat"	case	4.00	5.05	5.90
Machine Oil	No.—C.	case	3.90	4.65	6.00
Gasoline	"Red Shell"	case	5.20	5.80	7.30
Coal	"Iwaki" Fine	ton	15.00	15.00	24.00
Charcoal	"Tohoku Nara"	bale	1.25	1.35	1.35
CERAMICS					
Brick	"1st"	10,000 pcs.	280.00	300.00	350.00
Glass plate		case	8.30	7.50	8.80
Cement	"Asano"	bag	1.20	1.20	1.25
CHEMICALS					
Caustic Soda	Japanese made	100 kg.	16.09	13.00	20.00
Soda Ash	"Moon" brand	100 kg.	9.25	7.00	10.00
Rosin	"I" brand	100 kin	9.00	17.00	30.00
Nitric Acid	Domestic 40°	150 lbs.	9.10	7.50	15.00
Bleaching Powder	Domestic	45 kg.	3.80	2.60	4.50
Potassium Chlorate		112 lbs.	23.50	19.00	25.00
FERTILIZERS					
Sulphate of Ammonia	Domestic	10 kan	4.68	3.35	4.00
"	Imported Fine	ton	124.00	85.00	100.00
Superphosphate of lime		1 straw bag	1.25	1.17	1.90
Soya Bean Cake		piece	1.95	2.39	2.45

Forward Quotation of Principal Staple Commodities

The movements of principal staple commodities on the exchanges of Tokyo and Osaka are as follows:

Table 18. Yearly Movement of Forward Quotations of Principal Staple Commodities

(In Yen)

Tokyo Exchange

(a)

		Rice (Koku)	Raw Cotton (100 kin)	Cotton Yarn (bale)	Rayon (100 kin)	Sugar (100 kin)
1935	High	31.79	....	222.9	81.90	12.99
	Low	28.88	....	183.2	54.90	10.03
	Average	30.41	....	203.1	66.76	11.66
1936	High	34.64	....	257.5	88.00	13.38
	Low	28.44	....	187.1	52.00	10.39
	Average	31.64	....	203.3	59.17	12.03
1937	High	35.61	....	281.9	96.90	14.96
	Low	30.07	....	209.9	62.70	11.86
	Average	33.11	....	247.7	77.81	13.30

Osaka Exchange

1935	High	31.66	69.65	222.3	80.90	12.99
	Low	28.99	54.05	181.7	50.00	10.05
	Average	30.45	62.23	204.8	64.39	11.60
1936	High	34.59	74.30	255.7	89.90	13.39
	Low	28.37	57.70	185.7	51.70	10.41
	Average	31.69	62.38	200.2	59.11	12.05
1937	High	36.00	84.70	283.0	94.70	14.97
	Low	29.81	50.00	207.0	61.10	11.92
	Average	33.07	70.83	227.0	76.85	13.30

GUILDS OF STAPLE COMMODITIES

The first legislative measure for encouraging the combination and harmonious working of those engaged in industry and trade was enacted in 1884. This was expanded in scope by the issue in 1897 of the Law relating to the Staple Export Guilds, and in 1900 of the Law relating to the Staple Produce Guilds. At the end of December, 1935 there existed 787 principal produce guilds in Japan.

Table 19. Principal Production Guilds

	1931	1932	1933	1934	1935	1936
Rice & cereal.....	58	61	64	64	65	65
Fertilizer	21	20	20	20	20	20
Paper & paper ware	27	27	25	24	24	24
Porcelain	22	21	21	20	20	19
Medicine	24	24	24	24	24	24
Weaving	128	126	117	110	102	95
Dyeing	16	14	13	13	12	12
Timber	46	47	48	49	49	49
Coal, coke, charcoal & firewood	38	40	40	40	40	40
Soy & "Miso".....	39	38	36	36	36	36
Metal manufactures	30	30	30	29	29	29
Matting	23	24	24	23	23	21
Total incl. others	831	830	818	805	787	774

COMMERCIAL MUSEUM

There are over fifty commercial museums throughout the whole country. The most noteworthy of them are the Tokyo Commercial and Industrial Museum, the Osaka Commercial Museums, the Nagoya Commercial Museums, etc. These museums are mostly official establishments maintained by prefectural or municipal governments and under control of the Department of Commerce and Industry.

YIELD OF BONDS AND STOCKS

The yield of government bonds and debentures has declined markedly in the last nine years. The average yield of government bonds for the month of January, 1929 which stood at 5.136% fell by the corresponding month of 1934 to 4.559% and in January, 1937 it was down to 3.913%. The yield of Japanese bonds was hitherto considerably higher than that obtaining either in the United States or Great Britain and this decline shows, therefore, that the yield of Japanese bonds has come to follow rather than to be the exception of the trend abroad.

The yield of industrial stocks has remained comparatively stable during the last few years, in spite of the decline in bonds. This is to be ascribed mainly to the activity displayed in the various industries for some time past.

Table 20. Yields of Bonds and Stocks

(%)

Beginning of month	Bonds: Government	Bonds: Local	Bonds: Debentures	Stocks: Banks	Stocks: Industries	Stocks: Average	New Bonds: High.	New Bonds: Low.
1929 Jan.	5.136	5.840	6.590	5.71	6.53	6.33	6.200	5.700
1930 "	5.043	6.073	6.475	6.40	8.15	7.75	6.000	5.280
1931 "	5.527	6.128	6.780	7.54	7.50	7.51	6.438	6.000
1932 "	5.995	6.075	6.785	7.20	5.78	6.08	7.070	6.200
1933 "	4.921	5.604	6.344	5.88	4.26	4.60	5.700	3.788
1934 "	4.559	5.055	5.592	5.75	5.01	5.17	6.500	4.500
1935 "	4.607	4.876	5.236	5.37	5.36	5.36	4.500	3.016
1936 "	4.323	4.500	4.720	5.34	5.72	5.64	4.500	4.300
1937 "	3.913	4.208	4.382	5.25	5.44	5.40	4.300	4.200
1937 June	3.948	4.209	4.393	4.99	5.18	5.14	4.304	4.000
1938 "	3.864	4.251	4.369	5.17	5.78	5.66	4.300	3.657

Table 21. Company Debentures Classified by Rate of Interest

(At the end of each year)

	Total amount (¥1,000) 1924	1935	1936	1937	Percentage to total 1924	1935	1936	1937
Under 5%	5,000	2,128,115	2,731,501	2,915,034	100.0	100.0	100.0	100.0
5% and above	101,742	871,469	508,465	364,242	35.7	0.1	0.1	0.1
6% " "	206,577	348,232	244,503	234,689	4.0	0.1	—	—
7% " "	449,383	47,674	39,712	32,358	1.1	0.2	0.2	—
8% " "	460,403	3,852	2,609	2,490	0.4	62.4	77.3	82.1
9% " "	50,981	1,721	1,096	1,421	7.9	25.6	14.4	10.3
10% " "	13,786	5,580	5,080	60	16.0	10.2	6.9	6.6
Total	1,287,871	3,406,643	3,533,566	3,550,294	34.9	1.4	1.1	0.9

References:

Table Nos.: 1 a & b, 2-6 a, 7 c, 8 d, 9-11 c, 12-14 c, 15 a & d, 16 a, 17-18 f, 19 a, 20 c, 21 g.

Key: a—Department of Commerce & Industry.
b—Department of Agriculture & Forestry.
c—Monthly Statistical Report of Tokyo Stock Exchange.
d—League of Nations.
e—Japan Warehouse Association.
f—The Oriental Economist.
g—Industrial Bank of Japan.

CHAPTER XXXIX

FOREIGN TRADE

INTRODUCTORY REMARKS

Being a country, small in area, scantily provided with the more important natural resources but with a large and industrious population, it was logical that Japan should turn to foreign trade to improve her well-being once the country was opened to foreign intercourse. Confirming this view, the returns of the foreign trade of Japan manifest above all the remarkable expansion that has taken place. In the last five decades the total foreign trade turnover has increased by roughly fifty folds. In 1937 the combined value of exports and imports of Japan aggregated 6,907 million yen while the average corresponding figures for the years 1889-1893 was only 144 million yen.

One of the basic changes of Japan's foreign trade in the last fifty years is the gradual transformation of the country from an exporter of raw materials to finished products and the opposite as regards her position as an importer. In 1937 Japan's exports of finished products commanded 60 per cent of her total exports whereas in 1913 it was but 29 per cent. In imports, raw materials and semi-processed commodities claimed 82 per cent in 1937 whereas it was 66 per cent in 1913.

The foreign trade of Japan has also been characterized by the predominance of the years in which the trade balance has been unfavourable to this country. Since the beginning of the 20th century the balance has been in Japan's favour for only seven years, of which four years were accounted for by the Great War boom. In recent years, however, the ratio of the adverse balance to the entire turnover has been shrinking as was to be anticipated for a country entering into a highly industrialized stage. In 1935 the balance was in Japan's favour.

RECENT TRENDS

As a result of the world economic depression which became evident from about 1930 the international tendency towards the erection of higher tariff barriers became increasingly apparent. Japan was able to increase her foreign trade in spite of such barriers due to her ability in cutting down production costs and due to the re-imposition of the gold embargo in December 1931 which lowered her exchange rate very appreciably. Moreover, trade recovery throughout the world which continued into 1937 was a potent factor in helping Japan to expand her markets abroad.

In spite of this activity there were traces already noticeable that the world was moving towards a state of economic nationalism. Japan felt this trend in the larger volume of goods which she had to export in order to import a given volume of foreign products. The unit price index of Japanese exports fell from 98.0 in 1929 to 76.4 in 1937 as contrasted with an increase in the unit price index of imports from 96.2 in 1929 to 126.2 in 1937.

Another characteristic of Japan's foreign trade is that her main imports have been dire necessaries while her principal exports until only a few years ago consisted of a semi-luxury product, namely, raw silk. Fortunately for Japan the variety of her exports is rapidly developing and, incidentally, raw silk has been superseded by cotton tissues as the largest export item since 1934.

Trade by Political Units

Classified by political units the British Empire is Japan's best customer, followed by the United States. The position of Manchoukuo and the Kwantung Leased Territory as an outlet of Japanese goods has become highly important in recent years, and it is expected that this trend will continue.

The British Empire in 1937 took 28.7% of Japan's total exports as contrasted with 20.4% in 1920. Japan's imports from the British Empire in 1937 represented 30.6% of our country's total imports for that year. The United States and possessions accounted for 22.5% of Japan's total exports and 34.8% of Japan's total imports in 1937. Manchoukuo and Kwantung Leased Territory took 19.3% of our country's total exports in that year, as contrasted with only 5.8% in 1929.

Table 1. Japan's Trade Distribution by Political Units

(In million yen)

	British Empire	%	U.S.A. and Possessions	%	Netherlands and Colonies	%	France and Colonies	%	Manchoukuo & Kwantung L. T.	%	China	%	Other countries	%
Exports:														
1929..	438.7	20.4	950.9	44.3	90.0	4.4	47.2	2.2	124.5	5.8	346.7	16.1	146.6	6.8
1932..	369.8	26.2	483.0	34.3	112.7	8.0	23.9	1.7	146.5	10.4	129.5	9.2	144.6	10.3
1933..	461.1	24.8	529.7	28.5	169.8	9.1	42.4	2.3	303.1	16.3	108.3	5.8	246.6	13.3
1934..	627.0	28.9	449.5	20.7	176.3	8.1	75.8	3.5	403.0	18.6	117.1	5.4	323.2	14.9
1935..	735.6	29.4	592.1	23.7	175.0	7.0	84.8	3.4	426.3	17.1	148.8	6.0	336.5	13.5
1936..	787.2	29.2	657.7	24.4	162.1	6.0	88.9	3.3	498.0	18.5	159.7	5.9	339.4	12.6
1937..	912.8	28.7	713.5	22.5	243.0	7.7	101.3	3.2	612.0	19.3	179.3	5.6	413.6	13.0
Imports:														
1929..	686.9	31.0	672.2	30.3	82.8	3.7	35.8	1.6	166.3	7.5	210.0	9.5	362.2	16.3
1932..	403.5	28.2	520.2	36.3	44.3	3.1	26.8	1.9	128.3	9.0	77.2	5.4	231.2	16.2
1933..	592.1	30.9	635.1	33.1	59.4	3.1	31.7	1.7	168.1	8.8	113.4	5.9	318.4	16.6
1934..	723.5	31.7	788.4	34.5	67.1	2.9	30.2	1.3	191.4	8.4	119.6	5.2	363.3	15.9
1935..	780.9	31.6	833.9	33.7	84.2	3.4	40.3	1.6	216.5	8.8	133.8	5.4	382.6	15.5
1936..	884.9	32.0	884.1	32.0	118.7	4.3	45.9	1.7	239.4	8.7	154.8	5.6	435.8	15.8
1937..	1,159.0	30.6	1,315.7	34.8	161.0	4.3	66.3	1.8	294.3	7.8	143.6	3.8	643.2	17.0

Table 2. Exports and Imports by Groups

(In million yen; Percentage against Total)

	Food and drinks		Raw materials		Semi-processed goods		Finished goods		Total (incl. others)	
	Value	%	Value	%	Value	%	Value	%	Value	%
Exports										
1929.....	160.1	7.6	88.7	4.3	883.8	42.1	937.3	44.5	2,103.7	100
1930.....	128.8	8.9	64.5	4.5	524.1	36.5	691.2	48.8	1,434.6	100
1931.....	102.3	9.1	44.8	4.0	422.8	37.7	532.9	47.5	1,121.6	100
1932.....	104.3	7.6	51.0	3.8	486.2	35.5	700.5	51.2	1,365.8	100
1933.....	158.0	8.6	73.8	4.0	538.8	29.4	1,031.6	56.3	1,832.3	100
1934.....	171.9	8.5	95.7	4.5	498.5	23.5	1,345.5	62.9	2,139.2	100
1935.....	197.1	8.0	110.5	4.4	672.4	27.3	1,451.3	58.9	2,460.3	100
1936.....	203.7	8.3	126.6	5.1	716.4	29.1	1,563.4	63.5	2,641.5	100
1937.....	248.1	7.9	133.1	4.2	814.6	26.0	1,899.7	60.6	3,131.5	100
Imports										
1929.....	271.2	12.2	1,223.9	55.2	355.4	16.5	345.9	15.6	2,213.4	100
1930.....	208.3	13.5	828.6	53.7	236.4	15.3	255.0	16.5	1,542.1	100
1931.....	158.6	12.8	684.3	55.5	181.1	14.6	197.5	16.1	1,231.7	100
1932.....	160.7	11.2	838.8	58.7	201.2	14.1	219.6	15.3	1,427.5	100
1933.....	173.2	9.0	1,181.1	61.7	328.8	17.1	220.3	11.5	1,912.1	100
1934.....	174.4	7.6	1,413.9	62.0	415.8	18.2	262.6	11.5	2,277.1	100
1935.....	192.6	7.8	1,507.6	61.1	468.6	19.0	286.3	11.6	2,465.6	100
1936.....	231.2	8.3	1,737.7	63.1	476.6	17.3	294.3	10.6	2,753.3	100
1937.....	251.5	6.6	1,994.6	52.8	1,095.3	29.0	420.8	11.1	3,776.3	100

Note: Exclusive of re-imports and re-exports.

Table 3. Foreign Trade of Japanese Empire Since 1889

(In million yen)

(Averages)	Japan proper incl. Karafuto		Chosen		Taiwan		Mandated Islands		Total	
	Exp.	Imp.	Exp.	Imp.	Exp.	Imp.	Exp.	Imp.	Exp.	Imp.
1889–1893.....	70	74	—	—	—	—	—	—	70	74
1899–1903.....	244	270	—	—	11	12	—	—	255	283
1911–1914.....	531	584	5	21	13	18	—	—	549	623
1916–1920.....	1,748	1,594	21	60	35	39	0.059	0.061	1,804	1,693
1925–1929.....	2,093	2,308	29	114	42	61	0.064	0.279	2,164	2,484
1925.....	2,306	2,573	24	105	48	56	0.022	0.165	2,378	2,735
1929.....	2,149	2,216	36	108	33	65	0.078	0.629	2,218	2,389

(Continued)	Japan proper incl. Karafuto		Chosen		Taiwan		Mandated Islands		Total	
	Exp.	Imp.	Exp.	Imp.	Exp.	Imp.	Exp.	Imp.	Exp.	Imp.
1930	1,470	1,546	26	89	33	45	0.061	0.257	1,519	1,680
1931	1,147	1,236	13	53	19	31	0.010	0.178	1,179	1,319
1932	1,410	1,431	29	62	18	31	0.049	0.341	1,457	1,525
1933	1,861	1,917	53	64	18	35	0.584	0.439	1,932	2,018
1934	2,172	2,283	58	80	27	38	1.964	0.335	2,258	2,400
1935	2,499	2,472	65	100	37	45	2.632	0.601	2,603	2,618
1936	2,693	2,764	75	114	29	49	0.303	2.631	2,798	2,928
1937	3,175	3,783	113	126	30	44	0.388	1.268	3,319	3,955
1936 (1st half)	1,198	1,333	32	55	12	26	0.242	0.484	1,264	1,579
1937 (" ")	1,505	1,939	55	55	15	24	0.156	0.551	1,602	2,243
1938 (" ")	1,193	1,215	71	58	16	21	0.621	0.740	1,288	1,484

Note: Inclusive of re-exports and re-imports.

Table 4. Foreign Trade Indices

(1928=100)

	Value Index			Volume Index			Unit price Index		
	Exports	Imports	Total	Exports	Imports	Total	Exports	Imports	Total
1929	109.0	100.9	104.7	111.2	104.8	107.8	98.0	96.2	97.1
1930	74.5	70.4	72.4	102.6	92.1	97.0	72.7	76.5	74.6
1931	58.2	56.3	57.2	105.8	102.2	103.9	55.0	55.1	55.0
1932	71.5	65.2	68.2	125.0	100.9	112.3	57.2	64.6	60.7
1933	94.4	87.3	90.6	138.1	104.6	120.5	68.3	83.4	75.2
1934	110.1	103.9	106.9	163.4	111.6	136.1	67.4	93.1	78.5
1935	126.7	112.6	119.3	185.3	116.9	149.2	68.4	96.3	79.9
1936	136.6	125.8	130.9	202.5	128.4	163.5	67.5	98.0	80.1
1937	161.0	172.3	166.9	210.7	136.5	171.6	76.4	126.2	97.3

Table 5. Imports and Exports of Specie and Bullion

(¥1,000)

	Exports					Imports				
	1934	1935	1936	1936 (1st half)	1937 (1st half)	1934	1935	1936	1936 (1st half)	1937 (1st half)
Gold	—	—	—	—	205,425	—	72	—	—	12
Silver	13,924	225,405	36,021	14,752	9,341	331	70	915	114	1,317
Total	13,924	225,405	36,021	14,752	214,766	331	142	915	114	1,329

Note: Statistics suspended from 2nd half, 1937.

Table 6. Imports and Exports of Bullion and Specie By Countries

(In ¥1,000)

	Exports to:					Imports from:				
	1934	1935	1936	1936 (1st half)	1937 (1st half)	1934	1935	1936	1936 (1st half)	1937 (1st half)
British India	—	—	—	—	84	—	—	—	—	—
Manchoukuo	—	—	—	—	—	—	—	11	—	—
Kwantung Province	—	—	—	—	—	—	—	800	11	—
China	—	5	9	9	—	310	121	103	—	—
Hongkong	—	—	—	—	5	—	18	—	103	—
Great Britain	13,469	218,615	32,744	12,843	9,052	21	—	—	—	—
Italy	132	37	—	—	—	—	—	—	—	—
U. S. A.	323	6,677	2,892	1,524	205,624	—	—	—	—	—
Canada	—	71	376	376	—	—	2	—	—	—
Total incl. other countries	13,924	225,405	36,021	14,752	214,766	331	142	915	114	1

	1934	1935	1936	1936 (1st half)	1937 (1st half)
Grand total of exports and imports	14,255	225,263	36,935	14,866	216,095
Excess of exports over imports	13,593	225,263	35,106	14,638	213,437

Note: Statistics not available from 2nd half, 1937.

Table 7. Import Ratio of Industrial Raw Materials Against Total Consumption

(In million yen)

	Industrial production	Raw Materials Consumed	Ratio of raw materials to production (per cent)	Import of Raw and semi-finished goods	Ratio of Import to consumption (per cent)
1929	8,149	5,620	63.7	1,579	28.1
1930	6,417	4,412	62.8	1,065	24.1
1931	5,553	3,728	61.3	865	23.2
1932	6,368	4,198	60.2	1,040	24.8
1933	8,282	5,584	62.3	1,510	27.0
1934	9,390	5,746	61.2	1,830	31.8
1935	10,837	6,726	62.1	1,976	29.4
1936	12,258	7,718	62.8	2,214	28.7
1937 (Estimate)	16,173	10,326	63.9	3,090	29.9

FOREIGN TRADE BY CONTINENTS

The position of the Asiatic countries as Japan's largest customers of her export trade, replacing North America since 1932, has been a significant trend in recent years. The phenomenal rise in Japanese exports to comparatively new markets, such as the countries of Central and South America and Africa is another important phase which has been witnessed of late.

In imports, North America and Asia supply about an equal share, while the position of Europe has shown a distinct tendency to decline.

Table 8. Japan's Foreign Trade By Continents and Countries

(In ¥1,000)

		1933	1934	1935	1936	1937	First Half 1937	First Half 1938
ASIA:	**Exp.**	**930,637**	**1,169,503**	**1,304,433**	**1,370,970**	**1,645,915**	**824,654**	**740,467**
	Imp.	**658,557**	**812,091**	**869,871**	**1,060,189**	**1,295,114**	**798,755**	**544,286**
Manchoukuo	Exp.	82,071	107,151	126,046	150,859	216,092	91,827	140,779
	Imp.	147,898	164,211	191,005	205,567	249,071	140,516	199,852
Kwantung Province	Exp.	221,068	295,868	300,269	347,165	395,916	179,559	235,809
	Imp.	20,161	27,280	25,517	33,848	45,198	23,585	32,148
China	Exp.	108,253	117,063	148,788	159,691	179,251	124,997	132,003
	Imp.	113,357	119,574	133,818	154,838	143,636	103,358	80,877
Asiatic Russia	Exp.	12,090	11,367	26,181	22,993	23,881	9,454	2,494
	Imp.	31,042	32,753	3,401	6,808	3,902	1,842	369
Hongkong	Exp.	23,419	33,497	49,732	58,445	49,150	34,932	9,332
	Imp.	2,093	1,481	2,836	3,285	5,332	2,838	634
French Indo-China	Exp.	3,680	2,654	4,021	4,697	4,624	2,572	1,769
	Imp.	9,910	10,621	15,011	20,155	27,012	15,410	9,357
Siam	Exp.	18,124	28,048	40,258	43,028	49,382	28,147	21,527
	Imp.	12,256	1,540	5,458	8,753	13,571	5,249	2,556
British Malay	Exp.	....	....	2,413	2,441	3,866	2,061	748
	Imp.	....	....	28,495	39,125	47,795	22,712	13,579
Straits Settlements	Exp.	46,133	63,320	48,536	58,770	67,433	40,008	10,135
	Imp.	38,771	63,320	40,648	41,174	67,796	47,431	29,583
British India	Exp.	205,155	238,220	275,637	259,108	299,367	122,437	81,830
	Imp.	204,738	289,672	305,646	372,009	449,486	308,831	89,498
Ceylon	Exp.	....	19,792	11,887	13,840	18,656	7,065	6,499
	Imp.	....	2,288	2,779	2,623	4,077	2,443	987
Iran	Exp.	....	....	9,592	4,665	2,630	2,461	4,316
	Imp.	....	....	729	1,580	1,589	999	168
Iraq	Exp.	....	17,165	22,073	19,019	23,644	12,509	8,327
	Imp.	....	26	1,258	2,882	9,028	4,115	3,851
Syria	Exp.	....	11,699	12,559	13,078	19,250	9,321	4,936
	Imp.	....	68	31	32	2,387	1,026	595
Palestine	Exp.	....	6,412	8,400	5,377	5,745	2,793	1,819
	Imp.	....	2	3	121	578	271	12

(In ¥1,000)

		1933	1934	1935	1936	1937	1st Half 1937	1st Half 1938
Arabia	Exp.	....	....	4,571	2,702	4,827	1,490	2,201
	Imp.	....	....	434	586	546	342	149
Aden	Exp.	7,193	9,353	13,208	13,851	14,177	4,213	3,243
	Imp.	10	27	364	362	1,357	264	374
Cyprus	Exp.	....	....	808	756	668	247	236
	Imp.	....	....	139	204	57	18	0
Philippine Islands	Exp.	24,051	36,461	48,058	51,840	60,348	29,617	19,468
	Imp.	14,185	18,891	23,949	36,266	45,194	24,629	16,096
British Borneo	Exp.	138	300	545	536	1,041	470	457
	Imp.	5,772	7,304	9,832	15,753	18,776	9,107	7,582
Dutch East India	Exp.	157,488	158,451	143,041	129,495	200,051	115,268	43,345
	Imp.	55,710	63,464	78,187	113,546	153,450	80,057	52,959
Others	Exp.	21,773	12,682	7,808	8,613	4,053	1,654	1,181
	Imp.	2,653	9,568	332	674	129	50	6
EUROPE:	**Exp.**	**182,078**	**227,772**	**262,705**	**307,718**	**356,299**	**152,721**	**118,686**
	Imp.	**282,802**	**295,623**	**352,276**	**330,123**	**504,001**	**250,705**	**218,330**
Great Britain	Exp.	87,849	109,270	119,458	147,309	168,297	68,606	62,112
	Imp.	82,549	70,037	82,160	72,942	105,772	57,541	42,398
Irish Free State	Exp.	....	....	1,903	2,568	3,344	1,541	1,410
	Imp.	....	....	100	91	53	36	93
France	Exp.	38,736	38,319	42,468	43,475	47,208	20,587	15,669
	Imp.	21,746	18,300	19,798	19,898	27,885	13,027	7,392
Germany	Exp.	12,411	19,677	26,766	35,065	43,261	20,658	12,636
	Imp.	95,798	109,584	120,828	115,500	176,362	89,559	101,679
Italy	Exp.	6,168	9,579	6,989	4,468	7,111	3,269	2,008
	Imp.	6,036	3,462	5,832	3,766	4,416	2,167	2,933
Switzerland	Exp.	323	307	471	839	2,149	550	899
	Imp.	9,185	10,925	13,456	14,000	19,239	9,747	8,774
Austria	Exp.	93	198	308	264	741	203	265
	Imp.	2,474	3,542	4,409	4,263	9,104	3,814	5,739
Czechoslovakia	Exp.	26	41	78	235	2,370	546	339
	Imp.	1,703	1,756	2,331	2,929	5,508	2,176	2,345
Poland and Danzig	Exp.	44	212	955	715	1,160	470	490
	Imp.	947	268	1,287	3,824	4,640	3,334	1,855
Belgo-Luxemburg	Exp.	7,739	9,675	15,393	16,230	20,650	9,885	4,653
	Imp.	14,693	17,226	24,562	16,019	41,059	16,506	8,129
Holland	Exp.	12,325	17,883	18,316	15,385	18,440	8,383	5,291
	Imp.	3,718	3,652	5,873	4,556	7,030	3,666	3,153
Denmark	Exp.	1,413	1,262	1,359	1,430	1,899	849	604
	Imp.	504	1,657	522	787	1,449	754	944
U.S.S.R.	Exp.	1,575	1,639	2,138	8,357	4,137	987	404
	Imp.	5,717	8,056	14,503	14,526	9,642	5,238	196
Finland	Exp.	....	....	1,798	3,227	6,001	2,578	2,225
	Imp.	....	....	5,053	6,576	9,643	4,008	3,170
Sweden	Exp.	3,259	6,113	6,785	8,821	11,545	5,344	4,112
	Imp.	16,086	21,140	23,074	23,109	49,277	23,740	14,415
Norway	Exp.	1,609	2,828	4,482	6,172	8,901	4,653	2,184
	Imp.	11,624	14,280	19,941	17,853	24,033	11,059	8,901
Portugal	Exp.	530	572	1,062	1,412	1,519	784	681
	Imp.	1,515	1,449	1,474	1,680	2,429	1,734	1,061
Spain	Exp.	1,844	1,749	3,546	1,371	20	7	10
	Imp.	3,629	2,852	4,548	2,149	2,432	1,437	395
Gibraltar	Exp.	....	....	1,924	2,223	2,257	825	998
	Imp.	....	....	4	2	6	——	5
Greek	Exp.	1,095	1,059	1,128	1,352	329	242	215
	Imp.	215	325	670	862	603	212	1,583
Turkey	Exp.	2,432	2,194	3,241	4,293	2,753	732	548
	Imp.	976	1,973	1,036	4,475	2,818	716	2,963
Malta	Exp.	....	....	1,576	1,529	1,490	704	764
	Imp.	....	....	13	4	7	6	6
Others	Exp.	2,604	5,194	688	978	704	293	159
	Imp.	3,686	5,140	802	315	593	256	195

(In ¥1,000)

		1933	1934	1935	1936	1937	1st Half 1937	1st Half 1938
NORTH AMERICA:	**Exp.**	**499,157**	**407,614**	**543,527**	**508,857**	**659,601**	**345,976**	**181,739**
	Imp.	**667,712**	**823,476**	**862,183**	**920,747**	**1,374,252**	**679,776**	**512,306**
U. S. A.	Exp.	492,238	398,928	535,515	594,254	639,428	336,532	174,886
	Imp.	620,789	769,359	809,645	847,453	1,269,542	635,267	460,414
Canada	Exp.	6,580	8,666	7,979	14,551	20,036	9,403	6,829
	Imp.	46,891	54,094	52,531	73,179	104,692	44,501	51,888
Others	Exp.	339	20	33	51	137	41	24
	Imp.	32	23	7	114	19	9	4
CENTRAL AMERICA	**Exp.**	**16,176**	**43,295**	**36,027**	**41,241**	**54,885**	**26,102**	**13,096**
	Imp.	**438**	**857**	**8,033**	**21,791**	**18,765**	**13,598**	**4,413**
Mexico	Exp.	1,492	4,010	5,465	7,190	13,622	6,494	2,755
	Imp.	189	190	6,444	18,680	14,262	10,665	2,998
Guatemala	Exp.	....	2,276	995	349	290	108	127
	Imp.	....	47	118	195	181	138	21
Honduras	Exp.	....	1,167	2,269	3,782	3,203	1,572	702
	Imp.	....	4	0	2	4	——	55
Salvador	Exp.	685	2,289	71	34	58	28	15
	Imp.	0	2	27	13	8	2	——
Nicaragua	Exp.	....	....	868	560	638	424	88
	Imp.	....	....	20	569	1,256	564	199
Costa Rica	Exp.	....	....	1,309	1,934	2,911	1,297	816
	Imp.	....	....	7	6	85	36	578
Panama	Exp.	....	4,250	6,150	9,546	10,248	5,209	2,724
	Imp.	....	20	89	17	66	2	1
Panama Canal Zone	Exp.	1,110	1,827	824	697	829	524	60
	Imp.	9	48	45	43	6	2	347
Cuba	Exp.	3,329	9,986	5,048	1,494	2,016	859	691
	Imp.	194	33	405	401	601	380	4
Jamaica	Exp.	....	2,768	1,057	1,267	1,675	782	345
	Imp.	....	2	27	4	154	151	9
Haiti	Exp.	....	8,493	3,054	1,350	2,106	919	207
	Imp.	....	28	707	517	724	621	4
Dominican Republic	Exp.	....	....	3,750	3,049	5,602	3,042	1,054
	Imp.	....	....	3	1,051	894	806	170
Bahamas	Exp.	....	....	93	94	89	29	21
	Imp.	....	....	59	55	78	38	25
Porto Rico	Exp.	....	....	1,248	2,260	2,554	1,761	200
	Imp.	....	....	9	122	149	149	——
St. Vincent	Exp.	....	....	48	33	58	33	11
	Imp.	....	....	——	——	——	——	——
Trinidad & Tobago	Exp.	....	....	883	1,329	1,684	599	586
	Imp.	....	....	66	73	85	40	——
Curacao	Exp.	....	....	2,172	5,086	5,527	1,990	2,263
	Imp.	....	....	1	1	1	1	2
Others	Exp.	9,560	6,230	723	1,188	1,176	735	431
	Imp.	46	484	9	44	212	3	——
SOUTH AMERICA:	**Exp.**	**30,379**	**61,457**	**73,362**	**68,761**	**109,519**	**37,898**	**35,769**
	Imp.	**12,872**	**23,962**	**42,908**	**112,190**	**162,611**	**73,880**	**28,462**
Peru	Exp.	3,900	6,879	6,961	6,156	6,344	2,348	2,893
	Imp.	1,554	1,823	11,415	12,000	6,277	2,832	1,738
Chile	Exp.	1,476	7,440	6,647	7,426	10,742	3,383	3,283
	Imp.	2,963	3,438	4,473	9,953	14,719	7,701	5,251
Argentine	Exp.	12,262	20,013	28,602	22,712	42,481	14,995	13,187
	Imp.	6,739	12,128	10,371	29,988	42,018	27,462	13,133
Uruguay	Exp.	2,451	6,965	5,678	7,891	10,106	2,740	2,473
	Imp.	318	2,631	4,495	9,528	33,926	30,328	1,767
Brazil	Exp.	....	3,064	5,926	8,840	17,305	5,991	5,710
	Imp.	1,008	3,292	4,006	47,352	62,810	4,367	4,894
Grench Guiana	Exp.	....	....	5	9	34	10	12
	Imp.	....	....	——	——	——	——	——
Dutch Guiana	Exp.	....	....	746	1,265	904	389	495
	Imp.	....	....	——	——	2	2	——
British Guiana	Exp.	....	587	498	667	747	406	198
	Imp.	....	9	4	1	0	——	15

(In ¥1,000)

		1933	1934	1935	1936	1937	1st Half 1937	1st Half 1938
Venezuela	Exp.	....	1,970	3,565	7,814	9,139	4,558	2,869
	Imp.	....	36	56	257	231	62	641
Colombia	Exp.	....	9,005	7,833	146	617	248	182
	Imp.	....	42	64	488	705	364	676
Ecuador	Exp.	....	....	4,590	2,522	2,550	330	776
	Imp.	....	....	1,808	1,531	1,725	674	235
Others	Exp.	7,525	5,535	2,311	3,312	3,886	1,251	43
	Imp.	291	564	217	91	35	28	2
AFRICA:	**Exp.**	**137,239**	**182,397**	**183,528**	**197,703**	**242,736**	**100,103**	**62,160**
	Imp.	**48,407**	**79,574**	**69,186**	**108,143**	**206,305**	**156,021**	**33,245**
Egypt	Exp.	55,608	72,988	53,800	40,907	32,772	15,721	6,901
	Imp.	26,456	46,259	51,305	45,737	74,118	56,520	18,605
Anglo-Egyptian Sudan	Exp.	....	9,429	13,034	11,915	15,811	5,412	5,444
	Imp.	....	1,316	1,719	1,423	5,858	3,524	164
Eritrea	Exp.	....	....	65	19	6	2	210
	Imp.	....	....	1,688	1,057	1,879	398	1,405
French Somali Coast	Exp.	....	4,091	2,971	2,619	572	219	84
	Imp.	....	86	813	304	1,055	318	728
	Exp.	....	....	178	32	—	—	0
Italian Somaliland	Imp.	....	....	2,357	2,879	2,608	1,293	3,216
Kenya, Uganda, Tanganyika	Exp.	....	22,329	25,083	30,602	40,122	14,752	8,220
	Imp.	....	15,188	2,955	29,865	24,155	19,183	845
Mozambique	Exp.	....	8,822	10,752	10,860	16,055	7,475	4,870
	Imp.	....	1,116	118	551	489	312	124
Federation of South Africa	Exp.	26,741	29,540	32,769	41,534	53,749	22,212	16,875
	Imp.	4,313	8,234	4,762	22,561	88,852	72,090	5,586
Belgian Congo	Exp.	....	....	1,720	7,649	16,474	6,609	4,028
	Imp.	....	....	894	557	653	278	111
Cameroons	Exp.	....	....	1,915	3,094	5,662	3,017	589
	Imp.	....	....	11	—	0	—	0
Nigeria	Exp.	....	2,430	4,737	7,011	14,683	4,149	1,258
	Imp.	....	40	0	143	29	—	3
Gold Coast	Exp.	....	796	2,675	3,565	6,766	2,549	562
	Imp.	....	92	218	436	951	733	5
Liberia	Exp.	....	....	287	548	870	392	199
	Imp.	....	....	—	—	—	—	0
Sierra Leone	Exp.	....	....	98	252	379	155	51
	Imp.	....	....	....	....	—	—	—
Senegal	Exp.	....	....	1,486	2,136	3,159	1,122	143
	Imp.	....	....	—	4	24	23	0
French Morocco	Exp.	....	19,076	18,813	20,512	18,283	7,180	8,950
	Imp.	....	506	640	889	1,518	127	461
Spanish Morocco	Exp.	....	2,553	2,235	1,558	145	42	117
	Imp.	....	2	2	3	4	4	—
Algeria	Exp.	....	....	1,427	1,073	1,372	592	356
	Imp.	....	....	522	598	1,256	559	339
Tunis	Exp.	....	....	481	439	450	113	76
	Imp.	....	....	0	0	1,562	—	908
Libya	Exp.	....	....	664	976	1,751	203	10
	Imp.	....	....	—	0	0	—	—
Canary Islands	Exp.	....	....	2,302	1,354	118	60	101
	Imp.	....	....	0	—	2	2	—
Madagascar and Reunion	Exp.	....	....	221	265	306	154	42
	Imp.	....	....	56	248	389	214	239
Mauritius	Exp.	54,890	....	890	1,039	1,158	673	622
	Imp.	....	....	56	192	99	97	0
Others	Exp.	65,380	10,343	4,924	7,745	3,925	1,570	364
	Imp.	17,638	6,735	1,072	697	31	20	1
	Exp.	**51,416**	**79,885**	**95,493**	**97,727**	**106,463**	**40,321**	**48,716**
OCEANIA:	**Imp.**	**211,391**	**214,296**	**248,917**	**210,498**	**222,129**	**173,185**	**53,431**
	Exp.	....	64,462	74,793	68,763	72,080	24,439	35,743
Australia	Imp.	204,586	197,758	235,128	181,914	165,252	127,339	44,175
	Exp.	....	....	732	937	1,321	615	437
New Guinea	Imp.	....	....	39	207	79	39	38

(In ¥1,000)

		1933	1934	1935	1936	1937	1st Half 1937	1st Half 1938
New Caledonia	Exp.	6,453	....	296	504	440	253	740
	Imp.	....	....	112	340	947	262	509
New Zealand	Exp.	....	8,588	11,305	16,740	19,358	8,470	6,381
	Imp.	2,400	11,594	6,364	21,973	48,633	42,214	6,025
Gilbert & Ellis Isls.	Exp.	....	....	335	358	756	326	89
	Imp.	....	....	3,695	2,269	3,053	1,650	1,821
Fiji	Exp.	....	....	495	790	931	349	220
	Imp.	....	....	5	70	82	49	21
Society Islands	Exp.	6,485	....	21	61	109	65	12
	Imp.	....	....	3,279	3,444	3,239	1,348	122
Hawaii	Exp.	1,027	5,526	7,242	9,299	11,155	5,631	4,916
	Imp.	136	154	287	270	824	271	720
Others	Exp.	....	1,309	269	273	314	173	180
	Imp.	4,269	4,790	8	11	20	20	1
Bonded Mfg. warehouse	Exp.	—	—	—	—	—	—	—
	Imp.	35,040	32,723	18,861	—	—	—	—
GRAND TOTAL (In Million yen)	**Exp.**	**1,861**	**2,172**	**2,499**	**2,693**	**3,175**	**1,528**	**1,201**
	Imp.	**1,917**	**2,283**	**2,472**	**2,764**	**3,783**	**2,146**	**1,394**

Note: Statistics for missing years included under other heads.

FOREIGN TRADE BY COUNTRIES

Trade With United States

Among all countries the United States continues to hold the premier position in Japan's foreign trade. Her share in Japan's imports and exports, however, has been receding in recent years, that for 1932 being 33.6% as compared with 27.4% in 1937.

A characteristic of Japan's trade with the United States is the fact that the balance of trade is invariably adverse to Japan. This is due largely to Japan's reliance on America for obtaining a large part of her vital requirements.

The principal imports from the United States are raw cotton, crude and heavy oil, iron, and automobile and parts. In 1937 imports of raw cotton from the United States were valued at ¥372,415,000, of a total import of this item of ¥851,163,000. While imports of crude and heavy oil for 1937 are not yet available, those for 1936 show that the United States supplied 2,879,000 kilolitres valued at ¥99,348,000 of a total import of 3,012,000 kilolitres valued at ¥129,688,000.

Principal exports to the United States are raw silk, tea, tinned comestibles, silk tissues, pottery. Raw silk exports to the United States in 1937 were valued at ¥325,225,000 of a total export of ¥407,118,000. Exports of tea were ¥7,750,000, cotton tissues ¥22,138,000, tinned comestibles ¥21,940,000, silk tissues ¥11,531,000, pottery ¥19,460,000.

Trade with Manchoukuo and Kwantung Leased Territory

Second only to the United States as a destination for Japanese exports in 1937 was Manchoukuo and the Kwantung Leased Territory. Sales to these two locations aggregated ¥612,000,000 as compared with ¥498,000,000 in 1936 and ¥426,000,000 in 1935. In view of the new situation which has arisen since 1932, exports to Manchoukuo have a similar effect as a sale within Japan's territorial unit as regards their bearing upon Japan's international trade balance. Imports from Manchoukuo and the Kwantung Leased Territory in 1937 amounted to ¥295,000,000.

Trade with British India

Exports to British India command the third largest position if we regard Manchoukuo and Kwantung Leased Territory as a single unit. In 1937 Japan's exports to British India amounted to ¥299,367,000 as compared with ¥259,108,000 in 1936. Imports from British India were ¥449,486,000 in 1937 and ¥372,009,000 in 1936, indicating a growing adverse balance to Japan.

Principal exports to British India in 1937 continued to be cotton tissues, amounting to ¥63,041,000, while imports consisted of raw cotton valued at ¥363,635,000, and pig iron and various iron ores.

Trade with Netherlands East Indies

The Netherlands East Indies has soared to a coveted position as an outlet of Japanese products and as a supplier of Japanese requirements. In 1937 exports to the Netherlands East Indies amounted to ¥200,000,000 as compared with ¥129,495,000 in 1936. Imports in 1937 were ¥153,450,000 and ¥113,546,000 in 1936. This territory was in 1937 Japan's fourth largest purchaser of her products being preceded

by the United States, Manchoukuo and Kwantung Leased Territory (taken as a single unit), and British India.

Trade with China

China has always been a potential market for Japanese exports, but the trade has fluctuated considerably due to international disturbances within China or due to disputes with Japan. In spite of the Sino-Japanese hostilities which broke out in July 1937 exports from Japan for the whole year amounted to ¥179,251,000 as compared with ¥159,691,000 in 1936. Imports from China in 1937 amounted to ¥143,636,000 as compared with ¥154,838,000 in 1936.

Table 9. Summary of Principal Exports and Imports

(a) Exports

(In million yen)

	1927	1933	1934	1935	1936	1937
Food, drinks & Tobacco:						
(a) In a Natural State						
Rice and paddy	1.4	2.1	8.4	5.2	2.4	2.3
Beans and peas	10.5	7.2	9.1	6.7	7.1	9.3
Aquatic products	20.1	10.3	16.5	20.7	22.2	21.9
Others	22.2	10.7	14.3	19.1	18.4	17.5
Total	54.2	30.3	48.3	51.8	50.0	51.1
(b) Partly or Wholly Prepared						
Wheat flour	14.3	34.9	28.5	33.7	17.6	30.7
Tea	10.9	8.5	9.6	11.4	13.1	23.2
Sugar, refined	28.9	14.9	13.5	17.6	20.9	18.6
Beer	4.2	7.7	5.5	5.9	5.9	5.7
Isinglass, vegetable	7.2	3.2	3.2	4.3	5.6	6.8
Comestible, in tin and bottle	19.5	46.9	50.3	57.1	71.1	86.9
Others	6.4	11.5	13.0	15.4	19.4	25.2
Total	91.4	127.7	123.6	145.3	153.7	197.0
Class total	145.6	157.9	171.9	197.1	203.7	248.1
Raw materials:						
Dried plants for insectifuge	3.1	6.3	7.4	6.4	3.2	7.7
Waste silk and floss silk	11.8	1.3	1.8	2.6	3.2	6.2
Coal	25.5	14.2	10.4	9.4	10.4	9.9
Wood	15.9	18.6	23.9	23.2	24.7	35.4
Others	81.0	33.3	52.2	68.6	85.1	73.9
Class total	137.3	73.8	95.7	110.5	126.6	133.1
Manufactures for further use in manufacturing:						
Vegetable fatty oil	10.1	8.2	12.3	33.1	37.3	23.7
Peppermint oil	2.3	2.0	1.8	2.3	3.0	3.0
Fish oil and whale oil	7.5	2.5	3.3	6.9	10.2	15.4
Camphor	5.6	4.4	4.6	5.0	4.8	4.8
Menthol crystal	4.9	5.3	4.6	5.4	5.0	6.1
Raw silk	742.3	390.9	286.8	287.0	392.8	407.1
Cotton yarns	38.8	15.7	23.5	35.9	38.3	54.9
Artificial silk	....	....	....	22.8	29.1	44.8
Iron	3.5	34.7	53.0	65.8	76.4	....
Copper	2.2	6.5	8.4	12.3	9.9	15.1
Brass	5.0	5.5	7.8	8.5	6.7	5.9
Plaits for hat-making	8.5	7.2	8.1	4.6	5.8	7.9
Others	21.5	62.3	92.7	82.8	175.2	225.9
Class total	852.2	538.8	498.5	672.4	716.4	814.6
Articles wholly manufactured:						
Soaps	1.6	3.2	3.5	4.0	4.2	5.5
Matches	8.2	3.2	2.9	3.2	2.2	2.1
Silk tissues	139.6	63.5	77.5	77.4	68.2	72.3
Artificial silk tissues	....	77.4	113.5	128.2	149.2	154.9
Cotton tissues	383.8	383.2	492.4	496.1	483.2	573.1
Woollen tissues	2.7	12.4	29.8	32.4	46.0	50.1
Cotton blankets	3.2	3.7	5.4	7.5	6.9	8.1
Silk handkerchiefs	5.9	2.5	4.3	4.0	4.2	5.6
Cottons towels	0.3	6.0	7.2	6.5	6.8	8.9
Knitted goods	29.1	40.3	44.2	50.3	50.0	60.1
Hats, caps and bonnets	9.4	13.9	17.9	16.3	19.7	26.3
Buttons	9.9	7.7	9.6	10.1	11.6	13.7
Jewelry for personal adornment	4.0	8.4	10.1	11.9	11.9	15.5
Papers	19.3	17.7	20.7	23.1	27.5	38.7
Cement, portland	7.1	7.4	8.0	8.1	8.0	6.8
Glass and glass manufactures	16.6	15.3	19.5	23.3	25.6	33.6
Iron manufactures	12.1	26.9	35.3	37.5	40.3	54.1
Rubber tyres	4.9	8.8	9.9	9.9	9.9	13.0
Potteries	30.5	35.6	41.9	42.7	43.2	54.0
Machineries and parts thereof	11.3	25.9	57.8	63.9	82.1	109.9
Brushes	5.6	4.5	5.2	5.1	5.6	6.9
Lamps and parts thereof	6.9	15.9	15.7	16.7	18.6	22.0
Toys	10.5	26.4	30.4	33.9	36.5	42.3
Others	108.7	221.8	282.8	339.2	401.8	521.6
Class total	831.2	1,031.6	1,345.5	1,451.3	1,563.4	1,899.7
Miscellaneous	26.0	30.2	27.5	29.0	31.4	36.0
Total exports	**1,914.1**	**1,832.3**	**2,139.2**	**2,460.3**	**2,641.5**	**3,131.5**
Re-exports	78.2	28.7	32.7	38.8	51.5	43.9
GRAND TOTAL	**1,992.3**	**1,861.0**	**2,171.9**	**2,499.1**	**2,693.0**	**3,175.4**

(b) Imports

(In Million yen)

	1927	1933	1934	1935	1936	1937
Food, drinks and tobacco:						
(a) In a Natural State						
Rice and paddy	78.9	11.5	0.7	3.3	5.1	4.0
Wheat	53.9	44.4	40.7	43.2	33.7	29.6
Beans and peas	52.9	50.3	52.0	71.6	82.6	92.5
Others	37.0	24.9	32.6	29.3	47.6	57.0
Total	222.7	131.2	125.9	147.5	168.9	183.1
(b) Partly or Wholly Prepared						
Sugar	75.8	12.8	9.7	12.7	20.9	18.8
Beef, fresh	8.0	5.3	6.9	6.1	8.4	6.9
Others	17.0	24.0	31.9	26.3	32.9	42.6
Total	100.8	42.0	48.5	45.1	62.2	68.3
Class total	323.5	173.2	174.4	192.6	231.2	251.5
Raw materials:						
Oil yielding materials	18.9	23.3	25.3	43.1	44.9	43.6
Crude oil and heavy oil	24.0	....	82.5	106.8	129.7	....
Crude india-rubber, etc.	18.9	29.7	57.3	51.6	73.0	99.2
Nitrate of soda, etc.	34.4	3.9	3.5	5.4	7.2	3.6
Sulphate of ammonium, crude	32.8	9.4	13.8	21.1	33.9	20.2
Phosphorite	10.8	15.4	16.7	20.1	22.4	30.8
Oil-cake	99.0	41.2	42.1	38.7	35.8	45.3
Raw cotton	624.6	604.8	731.4	714.3	850.5	851.2
Hemp and other vegetable fibres	25.6	23.1	27.5	27.8	37.3	41.0
Wool	101.7	164.2	186.5	191.8	200.9	298.4
Coal	35.5	36.7	47.2	49.0	50.9	59.2
Ores	12.9	22.2	27.8	44.5	51.2	....
Wood	103.8	40.6	40.2	49.7	55.5	64.8
Wheat bran	11.9	6.1	8.9	7.5	8.7	10.7
Others	47.2	160.7	172.2	136.2	136.0	426.5
Class total	1,202.0	1,181.1	1,400.2	1,507.6	1,737.7	1,994.6
Manufactures for further use in manufacturing:						
Hides and skins	9.6	13.5	16.3	21.4	24.4	44.6
Leathers	7.7	3.9	4.8	4.9	5.5	7.5
Beef tallow	5.0	3.4	3.4	2.3	1.6	1.9
Caustic soda (crude), soda-ash and natural soda	12.2	5.3	4.4	5.5	4.3	6.5
Synthetic colours	....	8.1	9.1	9.3	11.4	16.9
Woollen or worsted yarns	43.6	3.0	1.7	1.9	1.9	1.6
Pulp for paper making	11.9	27.1	44.3	55.1	67.1	116.7
Pig-iron	21.0	25.3	26.5	41.1	42.1	....
Rail and fish-plate	....	0.3	0.4	1.2	2.9	....
Other iron	95.5	111.0	144.6	164.8	147.1	....
Aluminium	6.2	10.2	12.6	18.4	13.2	....

	1927	1933	1934	1935	1936	1937
Lead, ingot, slab, etc.	15.2	11.9	17.9	20.3	26.9	....
Tin, ingot and slab	11.2	10.7	15.3	15.6	15.1	....
Zinc, ingot, slab, grain	9.3	7.5	7.2	8.5	11.0	....
Others	99.8	87.6	107.3	98.2	102.2	899.4
Class total	348.2	328.8	415.8	468.6	476.6	1,095.3
Articles wholly manufactured:						
Mineral oil (excepting crude and heavy oil)	42.3	34.8	33.7	37.2	42.7	....
Cotton tissues	7.2	3.0	1.0	1.2	1.0	0.8
Woollen tissues	34.7	7.2	5.2	6.8	9.7	9.3
Printing papers	5.7	3.7	5.7	8.2	10.2	9.2
Automobiles and parts thereof	18.3	13.9	32.3	32.6	37.0	....
Internal combustion engines	....	16.1	20.8	15.6	14.4	....
Metal and wood working machinery	....	16.2	21.4	18.3	18.8	....
Others	182.3	157.8	198.4	166.5	160.4	401.5
Class total	290.5	220.3	276.2	286.3	294.3	420.8
Miscellaneous	15.0	8.7	10.3	10.5	13.6	14.2
Total	**2,176.8**	**1,912.1**	**2,277.0**	**2,465.6**	**2,753.3**	**3,776.3**
Re-imports	2.4	5.1	5.5	6.6	10.3	6.9
GRAND TOTAL	**2,179.2**	**1,917.2**	**2,282.5**	**2,472.2**	**2,763.7**	**3,783.1**

Table 10. Principal Staple Imports and Exports By Countries

(In ¥1,000)

(a) Exports

ASIA

	1936	1937	1937 (1st half)	1938 (1st half)
Manchoukuo:				
Wheat flour	6,013	2,560	1,548	4,284
Soap	1,300	2,141	1,046	1,905
Cotton yarns	6,391	8,334	2,991	3,187
Cotton tissues	47,222	55,748	23,932	32,388
Woollen tissues	1,052	3,800	1,423	3,745
Rayon Tissues	842	2,574	1,226	5,124
Paper	3,008	6,931	2,335	3,174
Iron manufactures	2,699	5,258	2,158	4,442
Machinery and parts thereof	6,370	14,835	5,352	11,335
Total incl. others	150,859	216,092	91,827	140,779
China:				
Wheat flour	620	15,249	71	17,366
Beer	13	24	3,244	5,653
Aquatic products	7,219	3,418	2,549	1,792
Sugar, refined	5,826	8,298	6,589	4,778
Cotton yarns	279	1,025	871	586
Cotton tissues	7,861	11,296	9,380	23,829
Paper	7,413	6,940	4,882	5,387
Total incl. others	159,691	179,251	124,997	132,033
Kwantung:				
Iron	26,023	...	17,404	...
Sugar	4,781	5,199	2,694	7,374
Wheat flour	8,832	11,669	3,855	6,717
Cotton tissues	28,332	29,426	16,202	14,890
Paper	9,699	13,814	6,709	8,242
Machinery and parts thereof	41,166	46,584	21,082	27,860
Total incl. others	347,165	395,916	179,559	235,809
Hongkong:				
Aquatic products	2,436	2,016	1,650	72
Coal	4,023	3,564	1,805	1,794
Cotton yarns	1,840	3,625	2,258	260
Cotton tissues	15,102	9,346	6,671	2,636
Total incl. others	58,445	49,150	34,932	9,332
British India:				
Rayon Yarns	8,747	22,154	15,597	1,593
Cotton yarns	18,051	19,846	8,027	7,327
Cotton tissues	72,517	63,041	18,241	27,705
Silk tissues	13,203	13,838	6,194	4,094
Rayon Tissues	26,220	32,466	15,587	6,316
Knitted goods	4,256	4,560	1,333	1,099
Potteries	3,696	4,240	1,915	988
Total incl. others	259,108	299,367	122,437	81,830
Straits Settlements:				
Coal	2,806	3,388	1,725	1,117
Silk tissues	3,613	4,597	2,303	765
Cotton tissues	9,188	12,231	6,784	1,956
Rayon Tissue	2,828	3,632	1,714	1,322
Potteries	514	1,174	584	96
Total incl. others	58,770	67,483	40,008	10,135
Dutch East Indies:				
Cotton yarns	5,489	13,790	5,995	3,654
Silk tissues	1,089	1,148	430	234
Cotton tissues	55,391	85,703	57,408	18,247
Rayon Tissue	11,633	11,490	5,820	2,444
Knitted goods	4,426	7,602	3,778	1,197
Potteries	2,308	3,109	1,932	1,281
Total incl. others	129,495	200,051	115,268	43,345
Asiatic Russia:				
Machinery and parts	8,042	4,460	2,834	1,762
Paper	100	42	42	—
Iron	1,457	...	971	...
Total incl. others	22,993	23,851	9,454	2,494
French Indo-China:				
Silk tissues	567	921	395	148
Coal	119	80	47	69
Glass and glass manufactures	258	234	161	53
Total incl. others	4,697	4,624	2,572	1,769
Philippine Islands:				
Coal	2,448	2,373	947	1,169
Cotton Tissues	7,680	12,057	6,311	3,820
Silk tissues	214	239	158	71
Knitted goods	5,475	5,015	2,245	1,860

(Exports. Unit: ¥1,000)

	1936	1937	1937 (1st half)	1938 (1st half)
Rayon Tissues	8,674	5,500	2,424	1,607
Glass and glass manufactures	1,330	1,991	1,005	579
Total incl. others	51,840	60,348	29,617	19,468
Siam:				
Cotton tissues	13,621	16,089	7,362	7,100
Cotton blankets	1,087	951	247	84
Rayon Tissue	4,440	3,522	2,570	842
Total incl. others	43,028	49,382	28,147	21,526
Grand total incl. other countries	1,370,970	1,645,915	824,654	1,200,633

EUROPE

Great Britain:				
Beans and peas	4,463	4,739	2,792	1,575
Raw Silk	3,872	8,460	11,442	14,127
Comestibles in tin and bottle	32,384	29,122	7,127	12,684
Silk tissues	8,306	9,518	4,422	4,329
Rayon tissues	912	1,537	680	558
Knitted goods	5,206	5,967	3,223	1,894
Buttons	2,566	3,047	1,542	913
Toys	5,916	7,036	3,323	3,298
Total incl. others	147,309	167,954	68,606	62,112
France:				
Silk, raw	21,772	26,111	9,080	9,529
Menthol crystal	700	544	138	182
Silk tissues	1,443	1,673	994	760
Camphor	350	269	149	112
Total incl. others	43,475	47,208	20,587	15,669
Germany:				
Silk tissues	851	1,464	596	817
Cotton tissues	4,086	4,048	1,985	964
Vegetable oils	419	966	473	215
Camphor	85	156	42	28
Menthol crystal	273	479	68	178
Total incl. others	35,065	43,261	20,658	12,636
Italy:				
Waste silk and floss silk, etc.	471	1,657	683	735
Cotton tissues	832	395	304	25
Silk tissues	369	646	334	132
Total incl. others	4,468	7,111	3,269	2,008
Netherlands:				
Comestibles	1,040	1,635	587	191
Silk tissues	480	390	182	170
Potteries	608	542	196	275
Total incl. others	15,385	18,440	8,383	5,291
Grand total incl. other countries	307,718	355,955	152,721	118,686

NORTH AMERICA

United States:				
Beans and peas	1,046	1,070	1,010	20
Aquatic Products	2,811	3,972	1,769	1,455
Knitted goods	6,784	6,849	3,863	6,550
Cotton tissues	19,235	22,138	16,178	388
Tea	5,549	7,750	2,543	1,306
Comestibles in tin and bottle	15,458	21,940	14,013	5,105
Menthol crystal	2,406	3,276	1,997	1,540
Silk, raw	333,949	325,225	159,182	119,099
Silk tissues	7,544	11,531	5,881	2,356
Potteries	15,530	19,460	9,038	4,020
Toys	13,689	16,521	7,707	2,682
Total incl. others	594,251	639,428	336,532	174,886
Canada:				
Rice and paddy	842	694	401	341
Tea	1,097	1,226	282	76
Silk, raw	823	727	420	180
Silk tissues	222	217	133	113
Potteries	2,025	2,088	1,085	598
Toys	1,081	1,669	725	661
Total incl. others	14,554	20,036	9,403	6,829
Grand total incl. other countries	608,857	659,601	345,976	181,739

SOUTH & CENTRAL AMERICA

Argentine:				
Silk tissues	1,142	1,882	832	480
Cotton tissues	14,780	29,196	9,678	9,634
Potteries	595	1,259	396	258
Buttons	306	620	194	243
Toys	425	562	117	157
Total incl. others	22,712	42,481	14,995	13,187
Grand total incl. other countries	110,002	164,406	64,001	48,865

AFRICAN COUNTRIES

Federation of South Africa:				
Silk tissues	4,005	3,531	2,006	886
Rayon tissue	5,833	7,168	3,102	1,974
Cotton tissues	7,358	10,214	3,709	2,784
Knitted goods	2,711	3,180	1,580	1,343
Wood	1,016	1,169	605	270
Glassware	830	1,070	432	359
Potteries	1,144	1,259	365	409
Total incl. others	41,534	53,749	22,212	16,875
Egypt:				
Silk tissues	2,333	3,158	1,796	850
Rayon tissues	2,931	1,174	430	119
Cotton tissues	20,525	10,510	5,447	1,870
Woollen tissues.	4,051	4,071	1,588	668
Knitted goods	965	1,030	601	182
Total incl. others	40,907	32,772	15,721	6,901
Grand total incl. other countries	197,703	242,736	100,103	62,160

OCEANIA

Australia:				
Comestibles	946	2,489	762	1,406
Silk, raw	5,231	8,132	2,465	3,345
Silk tissues	4,076	2,664	997	1,020
Rayon tissue	18,415	16,667	5,012	9,456
Cotton tissues	13,983	13,527	4,160	8,109
Potteries	2,291	2,599	979	1,307
Toys	2,137	2,276	803	945
Total incl. others	68,763	72,080	24,439	48,718
New Zealand:				
Silk tissues	410	651	2,240	1,503
Rayon tissues	4,151	4,621	2,240	1,503
Cotton tissues	2,838	3,044	1,2-1	1,061
Total incl. others	16,740	19,356	8,470	6,388
Hawaii:				
Rice and paddy	959	797	472	115
Aquatic Products	689	802	438	350
Comestibles in tin or bottle	1,092	1,755	916	350

(Exports. Unit: ¥1,000)	1936	1937	1937 (1st half)	1938 (1st half)
Cotton tissues ...	408	612	333	344
Total incl. others	9,299	11,155	5,630	4,916
Grand total incl. Other countries	97,727	106,463	40,321	48,716

(b) Imports

ASIA

(Imports: Unit: ¥1,000)				
Manchoukuo:				
Beans and peas...	73,043	84,708	57,539	63,169
Oil yielding materials	23,508	19,206	11,626	11,125
Hides and skins	926	1,039	478	935
Coal	26,660	29,958	15,441	12,005
Pig iron	14,659	...	6,525	...
Oil cake	20,137	29,662	20,384	37,490
Wheat bran	1,733	6,004	2,729	4,911
Total incl. others	205,567	249,071	140,516	199,852
China:				
Beans and peas...	4,593	3,635	2,617	366
Oil yielding materials	14,332	14,093	11,796	4,148
Cotton, raw	22,778	23,610	19,707	46,120
Oil cake	7,651	6,143	4,816	654
Coal	12,595	16,279	7,930	10,835
Wheat bran	6,3 6	4,038	3,479	128
Total incl. others	154,838	143,636	103,358	80,877
Kwantung:				
Beans and peas...	304	435	210	734
Wheat bran	616	610	292	165
Pig iron	—	—	—	...
Oil cake	6,975	6,870	5,516	5,988
Coal	58	60	47	207
Sulphate of Ammonium, crude.	5,718	7,3'6	3,564	6,386
Total incl. others	33,848	45,198	23,585	32,148
Hongkong:				
Tin (ingots & slabs)	2,291	...	1,788	...
Total incl. others	3,282	5,332	2,838	634
British India				
Rice and paddy...	66	68	40	1
India-rubber and gutta-percha, crude	1,598	343	147	48
Oil cake	451	1,943	1,056	47
Cotton, raw	315,061	363,635	268,934	55,128
Vegetable fibres	7,342	8,344	4,541	1,485
Pig iron	14,570	...	6,956	...
Lead (ingots and slabs).....	3,765	...	5,211	...
Total incl. others	372,009	449,486	308,831	89,498
Straits Settlements:				
Oil yielding materials	501	662	253	103
India-rubber and gutta-percha, crude	23,662	41,566	32,619	14,632
Ores	47	...	9	...
Cotton, raw	—	9	9	—
Total incl. others	41,174	67,796	47,431	29,583
Dutch East Indies:				
Sugar	19,767	17,724	7,053	5,070
Cotton, raw	701	1,173	930	179
Wood	2,002	2,477	1,154	924

(Imports: Unit: ¥1,000)	1936	1937	1937 (1st half)	1938 (1st half)
Gasoline oil	94	...	75	...
Oil yielding materials	3,765	5,062	3,023	1,420
Mineral oil	43,492	...	29,526	...
India-rubber and gutta-percha, crude	22,878	25,775	16,598	6,625
Total incl. others	113,546	153,450	80,057	52,959
French Indo-China:				
Rice and paddy...	212	208	92	6
Cotton, raw	68	154	124	2
Coal	11,656	12,832	5,999	5,226
Total incl. others	20,152	27,010	15,410	9,357
Philippine Islands:				
Wood	7,230	11,260	5,678	2,507
Vegetable fibres	20,680	23,224	13,350	4,396
Total incl. others	36,266	45,194	14,629	16,096
Siam:				
Rice and paddy...	4,820	3,757	73	1,371
Wood	1,773	3,102	1,636	661
Total incl. others	8,757	13,571	5,241	2,556
Grand total incl. other countries	1,060,189	1,295,114	798,755	544,286

EUROPE

Great Britain:				
Sulphate of ammonium, crude.....	23	171	171	—
Wool.....	1,190	1,073	789	351
Caustic soda and soda-ash	2,046	3,679	1,637	0
Woollen or worsted yarns...	1,864	1,605	815	270
Pig iron	220	...	368	...
Automobiles and parts thereof ...	674	...	548	...
Dynamos, transformers, etc. ...	532	22	15	2
Iron, other	7,100	...	7,899	...
Cotton tissues ...	809	624	748	150
Woollen tissues	9,389	8,971	4,848	2,465
Machinery and parts thereof ...	15,929	...	12,310	...
Total incl. others	72,942	105,758	57,541	42,396
France:				
Synthetic colors	371	418	267	12
Woollen and worsted yarns...	3	1	—	—
Automobiles and parts thereof ...	3	...	62	...
Machinery and parts thereof ...	1,910	..	610	...
Total incl. others	19,898	27,885	13,027	7,392
Germany:				
Sulphate of ammonium, crude.....	15,607	6,349	3,578	12,906
Woollen and worsted yarns...	5	—	—	1
Dynamos, transformers, etc. ...	468	694	506	379
Synthetic colors	6,983	12,313	6,419	326
Pig iron	—	...	61	...
Rail and fishplates.	—	...	16	...

(Imports: Unit: ¥1,000)	1936	1937	1937 (1st half)	1938 (1st half)
Iron, other.....	12,120	...	10,303	...
Woollen tissues	195	200	77	80
Machinery and parts thereof ...	24.047	...	19,957	...
Total incl. others	115,500	176,377	89,559	101,679
Belgium:				
Iron, other	7,447	...	8,491	...
Machinery and parts thereof ...	255	...	2	...
Total incl. others	16,019	41,059	16,506	8,129
Italy:				
Woollen tissues	3	12	5	26
Automobiles and parts thereof ...	2	...	7	...
Total incl. others	3,766	4,416	2,169	2,933
Switzerland:				
Synthetic colors	1,664	2,227	1,651	79
Watches and parts.	2,761	4,319	2,412	1,937
Dynamos, transformers, etc. ...	83	125	61	1
Machinery and parts thereof ...	3,701	...	2,320	...
Total incl. others	14,000	19,239	9,747	8,774
Netherlands:				
Printing paper...	21	209	133	16
Total incl. others	4,556	7,030	3,666	3,153
Sweden:				
Cellulose pulp ...	9,735	26,993	12,390	5,363
Pig iron	5	...	—	...
Iron, others	3,479	...	4,542	...
Printing paper...	326	358	69	25
Machinery and parts thereof ...	4,611	...	4,314	...
Total incl. others	23,109	49,277	23,740	14,415
Norway:				
Cellulose pulp ...	14,621	17,071	8,305	5,380
Printing paper...	249	657	195	173
Total incl. others	17,853	24,033	11,059	8,901
Grand total incl. other countries	330,123	504,001	250,705	218,330

NORTH AMERICA

United States:				
Wheat	495	177	—	—
Phosphorite	5,499	7,760	2,753	3,368
Sulphate of ammonium, crude.	6,757	—	—	—
Cotton, raw	372,415	306,388	258,037	93,600
Wood	32,184	30,077	9,363	4,430
Hides and Skins	3,972	9.396	3,169	6,366
Leather	1,223	1,061	675	113
Pig iron	69	...	8,938	...
Rail and fishplates.	2,826	...	5,644	...

(Imports: Unit: ¥1,000)	1936	1937	1937 (1st half)	1938 (1st half)
Iron, other.....	75,200	...	81,505	...
Caustic soda and soda-ash etc. ...	803	1,825	780	18
Mineral oil	109,340	...	66,735	...
Automobiles and Parts thereof ...	34,292	...	23,442	...
Cellulose pulp ...	31,758	49,180	19,305	14,579
Watches and parts thereof ...	413	466	309	124
Dynamos, transformers, etc. ...	557	980	505	556
Machinery and parts thereof ...	37,872	...	37,885	...
Total incl. others	847,458	1,269,542	635,267	460,414
Canada:				
Wheat	10,973	7,355	3,592	—
Wood	6,217	11,517	4,923	691
Cellulose pulp ...	4,150	12,619	3,541	5,008
Lead (ingots, and slabs,)	11,779	...	9,310	...
Zinc(ingots,slabs grains)	3,836	...	1,820	...
Total incl. others	73,179	104,692	44,501	51,888
Grand total incl. other countries	920,747	1,374,252	679,776	512,306

SOUTH & CENTRAL AMERICA

Chile:				
Nitrate of soda, crude	4,398	3,032	1,234	578
Wool.....	1,744	2,376	1,818	22
Total incl. others	9,953	14,719	7,701	5,251
Argentina:				
Wool.....	6,562	17,713	15,255	3,687
Total incl. others	29,988	42,018	27,462	13,133
Grand total incl. other countries	133,981	181,376	87,478	32,875

AFRICAN COUNTRIES

Egypt:				
Cotton, raw	36,415	58.759	51,869	12,579
Phosphorite	7,044	10,022	3,523	3,923
Total incl. others	45,737	74,118	56,520	18,605
Federation of South Africa:				
Wool.....	17,389	82,763	69,584	3,369
Total incl. others	22,561	88,852	72,090	5,586
Grand total incl. other countries	108,143	206,305	156,021	33,245

OCEANIA

Australia:				
Wheat	17,392	15,623	9,247	3,438
Wool...	147,493	118,196	101,234	33,888
Beef tallow.....	747	1,147	550	239
Zinc (ingots, slabs, and grains)	3,439	...	3,487	...
Total incl. others	181,914	165,252	127,332	44,175
Grand total incl. other countries	210,498	222,129	173,185	53,431

Table 11. Staple Exports & Imports By Commodities

(In ¥1,000)

(a) Exports By Destinations

	1936	1937	1937 (1st half)	1938 (1st half)
Rice & Paddy....	2,367	2,306	1,035	740
Kwantung Prov. ...	215	282	64	113
Asiatic Russia	—	1	—	—
U.S.A.	49	89	7	4
Canada	842	694	401	341
Hawaii	959	797	472	115
Other.....	302	442	90	166

(Exports. Unit: ¥1,000)	1936	1937	1937 (1st half)	1938 (1st half)
Beans & Peas	7,060	9,329	4,734	2,631
Great Britain	4,463	4,739	2,792	1,575
Germany	589	1,700	527	281
Italy	112	—	—	—
U.S.A.	1,046	1,070	1,011	20
Canada	30	56	32	19
Hawaii	39	39	23	20
Other	780	1,726	349	716
Wheat flour	17,622	30,746	6,333	28,266
Manchoukuo	6,031	2,560	1,548	4,284
Kwantung Prov.	8,832	11,669	3,855	6,717
China	620	15,249	71	17,366
The Straits Settlements	194	10	10	—
Philippine Islands	934	881	524	—
D.E.I.	154	108	88	0
Other	875	269	236	—
Sugar, refined	20,977	18,577	10,860	13,409
Manchoukuo	1,361	1,715	632	1,252
Kwantung Prov.	13,226	7,770	2,694	7,374
China	5,826	8,293	6,589	4,778
British India	23	66	33	—
Other	541	728	413	5
Tea	13,130	23,181	5,063	2,921
Kwantung Prov.	242	313	121	208
British India	588	862	197	66
Russia	—	1,868	—	—
U.S.A.	5,549	7,750	2,543	1,306
Canada	1,097	1,226	282	77
Hawaii	48	62	29	37
Other	5,606	11,099	1,891	1,227
Aquatic products	22,216	21,916	10,823	6,799
Manchoukuo	334	578	130	224
Kwantung Prov.	4,402	7,402	1,796	2,430
China	7,219	3,418	2,549	1,792
Hong Kong	2,436	2,016	1,650	72
Siam	261	204	116	21
The Straits Settlements	2,459	1,965	1,518	26
Philippine Islands	634	697	330	208
U.S.A.	2,811	3,972	1,769	1,455
Hawaii	689	802	438	350
Other	970	862	526	221
Colle or isinglass, vegetable	5,574	6,761	4,110	3,796
China	136	145	124	121
Hong Kong	82	45	44	3
The Straits Settlement	289	286	169	15
D.E.I.	441	533	317	99
Great Britain	768	898	473	445
France	739	875	512	323
Germany	542	1,060	656	604
U.S.A.	998	1,236	759	794
Australia	161	188	137	186
Other	1,419	1,496	898	1,206
Comestibles in tin & bottle	71,077	86,905	37,881	32
Manchoukuo	670	1,202	422	1
Kwantung Prov.	1,916	3,902	840	2,989
China	328	854	153	1,624
Hong Kong	267	173	131	90
Asia ic Russia	4	5	5	—
Great Britain	32,384	29 122	7,127	12,684
France	2,472	2,722	1,881	797
Germany	551	673	264	260
Italy	34	70	29	14
Belgium	2,465	3,903	1,997	730
Holland	1,040	1,635	587	191

(Exports. Unit: ¥1,000)	1936	1937	1937 (1st half)	1938 (1st half)
Denmark	19	19	5	9
U.S.A.	15,458	21,940	14,013	5,105
Australia	946	2,489	762	1,406
Hawaii	1,092	1,755	916	909
Other	11,419	16,442	8,748	4,347
Beer	5,912	5,686	3,244	5,653
Manchoukuo	1,158	308	203	293
Kwantung Prov.	1,750	1,980	1,325	895
China	555	944	269	3,592
Hong Kong	149	106	71	31
British India	650	753	427	298
Siam	290	187	165	11
The Straits Settlements	140	141	73	22
D.I.E.	164	126	79	20
U.S.A.	41	54	28	26
Hawaii	265	397	230	173
Other	750	690	375	292
Vegetable fatty oils	35,496	23,662	14,117	4,294
Kwantung Prov.	273	310	133	127
British India	5	8	2	1
Great Britain	825	639	503	158
France	131	160	58	64
Germany	419	966	473	215
U.S.A.	31,663	18,956	11,534	2,766
Australia	113	239	82	50
Other	2,067	2,389	1,332	915
Peppermint oil	2,968	2,975	1,387	1,122
China	1	24	24	0
British India	76	80	43	26
The Straits Settlements	253	157	68	1
French Indo-China	26	17	11	5
Great Britain	532	297	199	77
France	977	876	437	443
Germany	919	1,133	420	448
Australia	18	25	14	8
Other	162	366	172	61
Fish oil & whale oil	10,180	15,414	8,737	3,668
Kwantung Prov.	450	562	345	143
China	209	248	240	14
British India	103	69	35	6
Philippine Islands	9	41	17	12
Great Britain	922	1,531	740	705
Germany	3,931	6,314	3,874	788
Holland	1,211	583	379	145
U.S.A.	864	1,486	624	1,262
Australia	168	254	93	90
Other	2,313	4,324	2,390	504
Soap	4,246	5,531	3,082	3,685
Manchoukuo	1,300	2,141	1,047	1,906
Kwantung Prov.	1,138	1,154	636	936
China	535	432	329	472
Hong Kong	126	203	197	10
British India	237	314	174	51
D.E.I.	97	110	80	15
Siam	77	104	81	3
The Straits Settlements	184	317	199	50
Other	553	755	340	194
Dried Plants for insectifuge	3,207	7,693	1,601	1,521
Hong Kong	47	157	48	33
Great Britain	26	57	39	25
U.S.A.	2,885	6,879	1,354	1,275
Australia	41	94	7	10
Other	197	507	158	179

(Exports. Unit: ¥1,000)	1936	1937	1937 (1st half)	1938 (1st half)
Camphor	4,843	4,774	2,393	1,366
British India	1,415	1,447	606	299
The Straits Settlements	84	54	28	35
Great Britain	131	116	65	15
France	350	269	149	112
Germany	85	156	42	28
Holland	74	76	47	27
U.S.A.	1,786	1,490	892	537
Australia	113	154	72	64
Other	856	1,013	490	251
Menthol crystal	4,986	6,116	2,947	2,293
British India	416	656	252	110
The Straits Settlements	462	317	125	7
Great Britain	146	162	123	94
France	700	544	138	182
Germany	273	479	68	178
U.S.A.	2,406	3,276	1,997	1,540
Canada	36	95	44	25
Other	547	588	200	156
Matches	2,174	2,103	1,312	1,593
Manchoukuo	8	—	—	0
Kwantung Prov.	189	423	178	244
China	3	9	1	1,018
Hong Kong	701	574	457	58
British India	86	93	34	13
The Straits Settlements	450	308	239	6
D.E.I.	83	47	35	10
Philippine Islands	76	86	30	90
U.S.A.	46	41	10	15
Other	532	521	328	140
Cotton yarns	38,345	54,906	23,833	17,230
Manchoukuo	6,391	8,334	2,991	3,187
Kwantung Prov.	447	1,423	638	364
China	279	1,025	871	586
Hong Kong	1,840	3,625	2,258	260
British India	18,051	19,846	8,027	7,327
D.E.I.	5,489	13,790	5,995	3,554
Philippine Islands	1,259	1,761	698	541
Siam	994	543	240	25
Egypt	7	75	20	—
Australia	391	235	38	159
Other	3,196	4,249	2,056	1,228
Waste silk, floss silk & dupion, etc.	3,164	6,239	2,581	1,948
Great Britain	84	301	146	202
France	284	824	434	172
Belgium	171	515	10	216
Italy	471	1,657	683	735
U.S.A.	699	320	116	117
Other	1,454	2,620	1,193	505
Silk raw	392,809	407,118	186,396	150,887
British India	3,872	8,460	2,065	855
Great Britain	28,628	31,430	11,442	14,127
France	21,772	26,111	9,080	9,529
Italy	11	269	85	238
Switzerland	142	433	152	109
U.S.A.	333,949	325,225	159,182	119,099
Canada	823	727	420	180
Australia	5,231	8 132	2,465	3,345
Other	3,380	6,331	1 506	3,411
Artificial silk	29,173	44,803	20,745	7,503
Kwantung Prov.	8,840	1,328	1,164	215
China	2,002	4,629	3,813	2,775

(Exports. Unit: ¥1,000)	1936	1937	1937 (1st half)	1938 (1st half)
British India	8,747	23,154	10,597	1,593
Germany	163	278	93	43
Mexico	2,332	6,018	3,358	871
Australia	1,228	518	64	359
Other	5,866	8,878	2,656	1,647
Cotton tissues (gray)	143,580	148 404	67,001	69,409
Manchoukuo	20,760	20,840	6,801	13,208
Kwantung Prov.	5,725	8,022	3,562	3,441
China	3,250	6,729	5,764	9,051
Hong Kong	3,760	3,129	2,219	767
Siam	1,216	1,425	774	1,209
The Straits Settlements	1,045	1,281	699	347
British India	33,107	16,916	6,065	15,161
Ceylon	46	77	9	128
Iraq	2,723	2,157	1,158	266
Syria	1,920	2,134	812	946
Palestine	244	312	52	171
Arabia	776	974	390	513
Aden	6,558	6,452	2,460	1,579
Philippine Islands	268	629	428	49
D.E.I.	12,457	18,634	11,732	4,644
Great Britain	2,422	4,285	1,796	1,272
France	788	790	432	265
Germany	3,391	2,900	1,390	724
Italy	593	318	228	1
Belgo-Luxemburg Economic Union	436	615	270	118
Finland	...	...	77	70
Sweden	982	1,685	587	745
Norway	846	914	448	287
Gibraltar	9	100	28	19
Greek	21	8	4	—
Turkey	1,259	840	51	83
U.S.A.	147	125	97	4
Mexico	34	173	129	1
Guatemala	11	5	—	7
Honduras	549	591	193	101
Nicaragua	157	143	97	11
Costa Rica	326	431	179	122
Panama	146	245	94	64
Panama Canal Zone	43	21	20	12
Haiti	420	528	248	1
Dominican Republic	513	606	405	128
Porto Rico	—	—	—	16
Trinidad & Tobago	5	1	—	7
Peru	63	41	15	17
Chile	4,331	5,164	1,669	1,066
Argentine	1,767	4,383	1,471	630
Uruguay	486	982	369	291
Venezuela	159	117	51	9
Colombia	4	24	—	—
Ecuador	129	89	—	18
Egypt	3,613	2,114	742	615
Anglo-Egyptian Sudan	5,644	6,739	2,212	2,712
Eritrea	—	—	—	210
French Somali	2,251	401	143	55
Kenya, Uganda & Tanganyika	6,099	5,832	2,438	1,947
Mozambique	386	603	301	126
Federation of South Africa	998	1,029	392	244
Nigeria	205	353	128	17
Gold Coast	25	52	24	2
French Morocco	147	331	105	86
Spanish Morocco	73	4	—	1
Algeria	19	26	11	—
Australia	5,047	6,467	2,481	3,528
New Guinea	19	35	10	23

(Exports. Unit: ¥1,000)	1936	1937	1937 (1st half)	1938 (1st half)
New Zealand	757	906	339	283
Other	4,383	7,563	2,631	1,985
Cotton tissues (bleached)	85,286	124,653	61,789	51,531
Manchoukuo	3,435	4,935	3,199	5,136
Kwantung Prov.	5,967	6,983	4,620	3,063
China	2,022	2,201	1,886	9,101
Hong Kong	1,925	2,011	1,558	797
Siam	3,422	5,173	2 401	2,380
The Straits Settlements	1,475	2,250	1,309	625
British India	9,210	13,011	3,267	5,070
Ceylon	381	568	208	297
Iran	199	158	154	783
Iraq	1,846	2,097	1,107	1,434
Syria	1,118	1,779	813	649
Palestine	501	659	246	219
Arabia	344	803	220	362
Aden	1,244	1,666	339	171
Philippine Islands	1,702	2,709	1,285	514
British Borneo	19	17	10	7
D.E.I.	10,633	24,703	13,769	7,481
Great Britain	102	77	32	20
France	2,062	31	17	10
Germany	293	149	72	82
Italy	186	42	1	24
Belgo-Luxemburg Economic Union	147	293	49	77
Finland	...	...	47	40
Sweden	290	350	99	102
Norway	275	226	126	82
Gibraltar	73	343	122	33
Greek	210	5	4	—
Turkey	393	403	94	27
U.S.A.	8,702	17,510	12,961	110
Mexico	25	53	41	10
Guatemala	34	4	1	2
Honduras	142	111	43	43
Nicaragua	68	41	34	2
Costa Rica	104	152	51	22
Panama	87	166	71	38
Panama Canal Zone	11	11	6	1
Cuba	9	2	—	—
Jamaica	3	1	—	—
Haiti	153	124	22	5
Dominican Republic	172	308	188	41
Porto Rico	1,158	1,318	998	29
Trinidad & Tobago	3	2	—	4
Peru	112	113	42	78
Chile	409	691	159	262
Argentine	2,713	4,089	1,007	1,336
Uruguay	272	771	203	200
Venezuela	1,143	1,105	493	446
Colombia	1	12	9	1
Ecuador	331	612	38	64
Egypt	2,569	2,533	1,272	470
Anglo-Egyptian Sudan	1,631	3,289	860	978
French Somali Coast	115	66	16	17
Italian Somaliland	14	—	—	—
Kenya, Ugand & Tanganyika	1,882	1,991	795	241
Mozambique	87	152	78	72
Federation of South Africa	585	712	213	276
Nigeria	138	171	80	91
Gold Coast	64	146	24	31
French Morocco	6,989	8,377	2,974	4,816
Spanish Morocco	598	30	—	18
Algeria	381	452	225	110

(Exports. Unit: ¥1,000)	1936	1937	1937 (1st half)	1938 (1st half)
Australia	1,976	1,969	470	1,488
New Guinea	21	50	16	6
New Zealand	462	423	128	218
Hawaii	44	30	17	18
Other	2,594	3,364	1,161	1,494
Cotton tissues (other)	254,725	300,008	140,664	99,615
Manchoukuo	23,026	29,974	12,132	14,044
Kwantung Prov.	16,640	14,421	8,020	8,386
China	2,589	2,366	1,730	5,677
Hong Kong	9,417	4,296	2,894	1,072
Siam	8,983	9,491	4,187	3,509
British Malaya	199	286	98	23
The Straits Settlements	6 668	8,700	4,776	984
British India	30,200	33,114	8,909	7,474
Ceylon	1,254	1,996	531	822
I an	1,739	2,073	2,045	3,363
Iraq	5,881	6,621	3,753	2,087
Syria	5,306	6,701	3,756	1,921
Palestine	1,668	1,719	826	711
Arabia	925	1,491	411	783
Aden	1,718	1,773	551	469
Philippine Islands	5,710	8,719	4,597	3,257
British Borneo	51	42	27	4
D.E.I.	32,301	42,367	31,907	6,123
Great Britain	462	414	153	163
France	452	114	45	25
Germany	401	999	523	157
Italy	53	35	26	—
Belgo Luxemburg Economic Union	2,079	1,361	671	328
Finland	—	—	1,110	965
Sweden	561	1,251	507	367
Norway	296	427	215	142
Gibraltar	112	325	33	245
Greece	445	79	55	—
Turkey	2,422	1,253	479	351
U.S.A.	4,931	4,504	3,120	276
Mexico	156	164	90	23
Guatemala	24	23	8	23
Honduras	1,792	1,520	802	373
Salvador	3	4	1	9
Nicaragua	160	240	167	27
Costa Rica	890	1,313	588	371
Panama	713	832	379	336
Panama Canal Zone	104	43	28	2
Cuba	141	67	45	2
Jamaica	20	2	1	3
Haiti	672	1,297	562	156
Dominican Republic	1,716	3,136	1,835	624
Porto Rico	543	611	441	31
Trinidad & Tobago	5	11	1	7
Peru	1,247	1,192	402	546
Chile	1,287	2,096	652	1,083
Argentine	10,300	20,724	7,130	7,769
Uruguay	1,171	3,080	803	814
Venezuela	4,074	4,179	2,207	1,037
Colombia	8	35	23	10
Ecuador	685	1,200	157	382
Egypt	14,343	5,862	3,433	785
Anglo-Egyptian Sudan	1,729	2.082	570	663
French Somali Coast	58	5	4	—
Kenya, Uganda & Tanganyika	10,743	15,180	5,319	2,896
Mozambique	1,817	3,164	1,567	1,019
Federation of South Africa	5,765	8,473	3,104	2,353
Nigeria	668	1,542	391	42

(Exports. Unit: ¥1,000)	1936	1937	1937 (1st half)	1938 (1st half)
Gold Coast	115	302	38	35
French Morocco	4,650	2,113	776	1,575
Spainsh Morocco	265	17	5	27
Algeria	258	276	92	79
Madagascar & Reunion	4	13	5	11
Australia	6,960	5,092	1,209	3,094
New Guinea	361	455	165	186
New Zealand	1,619	1,710	774	567
Hawaii	357	581	314	324
Other	12,802	24,442	9,198	8,685
Woollen tissues	45,956	50,082	19,930	17,853
Manchoukuo	1,052	3,800	1,423	3,745
Kwantung Prov.	13,187	11,903	5,966	5,461
China	3,616	3,823	3,198	2,791
British India	5,254	9,884	1,213	878
D.E.I.	333	5	1	—
Egypt	4,051	4,671	1,588	668
Hawaii	24	27	14	15
Other	18,439	15,970	6,526	4,294
Silk tissues	68,027	72,286	34,934	23,888
Manchoukuo	681	393	237	479
Kwantung Prov.	3,474	2,839	1,196	1,398
China	33	68	51	292
Hong Kong	851	701	357	204
British India	13,203	13,838	6,191	4,094
The Straits Settlements	3,613	4,597	2,304	765
D.E.I.	1,089	1,148	430	234
French Indo-china	567	921	395	148
Philippine Islands	214	239	158	71
Great Britain	8,306	9,618	4,422	4,329
France	1,443	1,673	944	760
Germany	851	1,464	596	817
Italy	369	646	334	132
Belgium	232	349	187	130
Holland	480	390	182	170
U.S.A.	7,544	11,531	5,881	2,356
Canada	217	222	133	113
Argentine	1,142	1,382	832	430
Uruguay	305	86	20	24
Egypt	2,333	3,158	1,796	850
Federation of South Africa	4,005	3,531	2,006	886
Australia	4,076	2,664	997	1,020
New Zealand	651	410	178	189
Other	12,345	10,019	4,612	3,997
Artificial silk tissues	149,170	154,860	75,108	54,478
Manchoukuo	842	2,574	1,226	5,134
Kwantung Prov.	21,494	15,612	9,627	7,851
China	492	1,334	1,203	2,044
Hong Kong	7,509	7,673	5,675	1,120
British India	26,221	32,466	15,587	6,316
The Straits Settlements	2,848	3,632	1,714	1,322
D.E.I.	11,633	11,490	5,819	2,444
French Indo-China	—	7	1	5
Philippine Islands	8,674	5,570	2,424	1,607
Siam	4,440	3,522	2,570	842
Holland	107	248	109	108
Great Britain	912	1,537	679	558
France	495	205	92	41
Germany	187	393	183	88
Italy	23	73	45	1
U.S.A.	612	1,512	679	251
Canada	725	997	532	544
Argentine	73	100	24	28
Uruguay	5,107	3,663	956	790
Egypt	2,941	1,174	429	119

(Exports. Unit: ¥1,000)	1936	1937	1937 (1st half)	1938 (1st half)
Federation of South Africa	5,838	7,168	3,101	1,974
Kenya, Uganda & Tanganyika	851	1,295	512	249
Mozambique	795	1,360	569	320
Australia	18,415	16,667	5,012	9,456
New Zealand	4,151	4,621	2,239	1,503
Other	23,786	30,032	14,091	9,760
Cotton blankets	6,908	8,092	3,046	2,129
Manchoukuo	693	821	116	553
China	40	219	16	16
Hong Kong	227	116	94	12
British India	1,894	1,610	140	6
The Straits Settlements	217	237	189	11
D.E.I.	186	356	189	145
Philippine Islands	121	251	112	54
Siam	1,086	951	247	84
Kenya, Uganda & Tanganyika	552	391	258	76
Mozambique	77	186	97	35
Other	1,812	2,955	1,587	1,137
Cotton towels	6,830	8,935	3,964	2,767
Kwantung Prov.	238	321	143	189
Hong Kong	231	221	182	25
British India	563	586	258	2
The Straits Settlements	418	387	295	21
D.E.I.	536	593	246	146
Siam	444	311	40	57
Egypt	158	32	11	2
Federation of South Africa	634	872	344	374
Australia	496	904	311	334
Other	3,111	4,709	1,433	1,617
Silk handkerchiefs	4,192	5,638	2,600	1,461
British India	835	834	315	172
Great Britain	705	899	307	337
U.S.A.	1,194	1,704	829	405
Canada	62	148	59	50
Argentine	38	62	34	9
Uruguay	15	10	—	3
Egypt	5	8	6	2
Federation of South Africa	36	41	19	23
Australia	93	110	40	48
Other	1,209	1,824	992	414
Knitted goods	49,988	60,713	26,758	17,511
Manchoukuo	1,813	3,363	697	1,050
Kwantung Prov.	1,6 0	2,018	621	990
China	120	207	79	285
Hong Kong	564	426	290	46
British India	4,256	4,560	1,333	1,039
The Straits Settlements	1,496	1,401	826	248
D.E.I.	4,426	7,602	3,778	1,197
Philippine Islands	5,476	5,015	2,245	1,860
Great Britain	5,206	5,967	3,223	1,894
France	31	17	13	4
U.S.A.	6,784	6,849	3,863	655
Egypt	965	1,030	607	182
Federation of South Africa	2,711	3,180	1,580	1,343
Kenya, Uganda & Tanganyika	906	1,026	334	220
Mozambique	892	1,083	483	445
Australia	70	140	62	85
Other	12,673	16,829	6,773	5,909

(Exports. Unit: ¥1,000)	1936	1937	1937 (1st half)	1938 (1st half)
Hats, caps & bonnets	19,736	26,337	13,165	4,490
Manchoukuo	786	1,192	686	265
Kwantung Prov.	560	655	389	316
China	1,642	1,884	1,468	131
Hong Kong	386	203	153	1
British India	1,247	1,736	443	104
The Straits Settlements	292	235	176	8
D.E.I.	462	693	310	112
Siam	301	351	219	12
Great Britain	1,272	1,603	1,034	279
U.S.A.	5,233	8,479	4,007	1,503
Argentine	122	140	61	75
Federation of South Africa	913	768	395	211
Kenya, Uganda & Tanganyika	280	351	155	38
Mozambique	229	263	164	71
Australia	281	311	116	119
Other	5,730	7,472	3,388	1,246
Buttons	11,635	13,737	6,639	4,453
Manchoukuo	246	393	223	247
Kwantung Prov.	150	153	98	102
China	364	318	268	49
British India	1,116	432	707	307
D.E.I.	352	653	309	152
Great Britain	2,566	3,047	1,542	913
France	99	123	115	4
Germany	415	353	165	241
Belgium	414	680	288	255
Holland	677	710	326	193
Spain	277	1	—	—
U.S.A.	818	575	320	123
Canada	89	116	58	68
Argentine	306	620	194	243
Brazil	174	271	80	49
Egypt	128	101	60	43
Australia	596	669	242	249
Other	2,849	3,522	1,646	1,193
Jewelry for personal adornment	11,853	15,535	7,765	4,987
Manchoukuo	126	212	140	127
China	231	108	100	31
British India	3,202	4,048	1,874	1,828
Philippine Islands	236	342	188	119
Great Britain	695	827	488	427
U.S.A.	2,249	3,132	1,860	498
Australia	493	558	209	219
Other	4,622	6,307	2,906	1,737
Papers	27,545	38,708	19,584	20,693
Manchoukuo	3,008	5,931	2,336	3,174
Kwantung Prov.	9,699	13,814	6,709	8,242
China	7,413	6,940	4,882	5,379
Hong Kong	1,218	1,777	1,331	380
British India	1,025	1,613	619	485
The Straits Settlements	360	564	366	47
D.E.I.	916	1,830	837	315
Asiatic Russia	100	42	42	—
Philippine Islands	317	404	201	176
Siam	565	921	417	285
Great Britain	515	802	338	365
Germany	281	372	93	277
U.S.A.	1,116	1,773	747	795
Australia	477	1,176	321	424
Other	540	750	346	350
Coal	10,356	9,927	4,875	4,325
China	828	290	261	44
Hong Kong	4,023	3,564	1,805	1,794
The Straits Settlements	2,806	3,388	1,725	1,117
French Indo-China	119	80	47	69
Philippine Islands	2,448	2,373	947	1,169
Other	123	231	90	132
Cement	8,002	6,836	3,932	1,978
Manchoukuo	59	13	2	4
Kwantung Prov.	1,874	286	180	87
China	251	138	95	443
Hong Kong	581	151	109	1
British India	170	184	98	23
The Straits Settlements	995	877	586	154
D.E.I.	607	1,046	377	311
Philippine Islands	36	102	31	245
Kenya, Uganda & Tanganyika	182	277	113	46
Mozambique	4	10	3	4
Other	3,243	3,752	2,337	660
Potteries	43,548	53,971	24,296	18,368
Manchoukuo	1,391	2,222	636	1,556
Kwantung Prov.	1,859	2,353	941	2,071
China	1,127	1,146	885	767
Hong Kong	481	363	258	101
British India	3,696	4,240	1,915	988
The Straits Settlements	514	1,174	584	95
D.E.I.	2,388	3,109	1,932	1,381
French Indo-China	270	232	127	61
Philippine Islands	1,148	1,431	651	393
Siam	307	270	137	46
Great Britain	1,275	1,171	639	603
France	317	426	211	67
Germany	245	303	136	135
Italy	57	34	8	18
Holland	608	542	196	275
U.S.A.	16,530	19,460	9,033	4,020
Canada	2,025	2,038	1,035	698
Argentine	595	1,259	396	511
Brazil	461	1,036	272	258
Egypt	495	364	157	120
Federation of South Africa	1,144	1,259	365	409
Kenya, Uganda & Tanganyika	142	315	99	74
Mozambique	309	445	107	161
Australia	2,291	2,599	979	1,307
New Zealand	443	438	152	132
Other	4,428	5,742	2,495	2,224
Glass & glass manufactures	25,627	33,572	16,912	12,541
Manchoukuo	822	1,570	778	1,029
Kwantung Prov.	799	1,180	543	719
China	1,319	1,161	970	765
Hong Kong	407	373	253	109
British India	5,817	7,215	3,749	2,866
The Straits Settlements	1,087	1,337	877	106
D.E.I.	2,206	3,436	1,388	1,277
French Indo-china	258	234	161	53
Philippine Islands	1,330	1,991	1,005	579
Siam	728	163	473	163
Great Britain	488	890	451	569
U.S.A.	3,059	4,543	2,421	881
Federation of South Africa	831	1,070	432	359
Kenya, Uganda & Tanganyika	158	258	68	58

(Exports. Unit: ¥1,000)	1936	1937	1937 (1st half)	1938 (1st half)
Mozambique	238	287	94	105
Australia	1,114	1,412	470	602
New Zealand	366	446	161	169
Other	4,599	5,607	2,617	2,143
Iron	76,420	...	509	...
Manchoukuo	3,319	...	2,169	...
Kwantung Prov.	25,028	...	17,404	...
China	13,870	...	8,337	...
Hong Kong	1,163	...	765	...
British India	4,445	...	3,581	...
The Straits Settlements	3,823	...	2,520	...
D.E.I.	5,625	...	5,290	...
Asiatic Russia	1,457	...	971	...
Siam	4,941	...	1,237	...
Other	11,754	...	8,235	...
Brass	6,679	5,899	4,708	644
Manchoukuo	107	164	42	134
Kwantung Prov.	349	666	290	392
China	1,510	1,513	1,247	86
Hong Kong	1,468	1,901	1,770	—
British India	2,926	1,365	1,182	75
Other	318	289	177	7
Iron manufactures	40,302	54,116	26,922	22,314
Manchoukuo	2,699	5,288	2,158	4,442
Kwantung Prov.	8,718	12,590	5,333	8,947
China	2,967	2,668	1,963	2,081
Hong Kong	696	657	479	63
British India	4,308	6,221	2,862	1,442
The Straits Settlements	2,154	2,027	1,362	101
D.E.I.	4,181	7,774	4,928	1,324
Asiatic Russia	141	209	62	3
Philippine Islands	2,098	2,262	1,183	476
Siam	2,045	1,534	1,025	176
Egypt	348	187	63	60
Federation of South Africa	697	845	284	218
Kenya, Uganda & Tanganyika	544	877	271	96
Mozambique	468	516	176	204
Australia	460	493	165	170
Other	7,782	9,971	4,610	2,511
Gum tyres	9,939	12,988	6,247	4,257
Manchoukuo	478	1,052	426	611
Kwantung Prov.	1,601	3,449	1,110	1,801
China	2,010	2,132	1,525	801
Hong Kong	373	452	260	3
British India	1,206	1,099	594	338
The Straits Settlements	1,038	1,151	684	11
D.E.I.	1,449	1,503	793	181
Federation of South Africa	2	1	—	4
Kenya, Uganda & Tanganyika	106	147	66	47
Mozambique	6	4	2	2
Other	1,669	1,993	785	5,008
Machinery & parts thereof	82,054	109,881	57,118	60,300
Manchoukuo	6,370	14,885	5,352	11,335
Kwantung Prov.	41,166	46,584	21,082	27,860
China	16,936	24,152	18,034	11,170
Hong Kong	136	229	149	25
British India	2,969	6,443	2,349	3,568
D.E.I.	938	2,113	679	588
Asiatic Russia	8,042	4,460	2,834	1,762
Philippine Islands	505	1,073	354	419
Brazil	277	436	194	116
Australia	118	392	134	86
Other	4,568	9,165	5,957	3,372
Wood	24,703	35,412	14,678	18,320
Manchoukuo	1,313	1,686	623	1,395
Kwantung Prov.	3,856	6,122	2,571	6,831
China	2,460	2,951	1,960	3,963
Hong Kong	259	472	301	29
British India	1,123	1,533	697	721
The Straits Settlements	469	626	306	138
D.E.I.	1,082	1,687	628	1,310
Great Britain	8,301	12,141	3,988	1,527
Germany	39	52	2	37
Belgium	596	781	312	116
Holland	462	660	209	86
U.S.A.	521	622	315	55
Federation of South Africa	1,016	1,169	605	270
Australia	309	383	174	167
Other	2,898	4,677	1,986	1,674
Plaits for hat making	5,793	7,876	2,838	1,841
Great Britain	624	526	243	194
France	474	642	242	102
Germany	220	118	27	49
Belgium	73	95	30	9
Italy	29	18	3	4
U.S.A.	3,593	4,780	1,815	1,018
Australia	220	249	70	90
Other	566	1,447	407	381
Umbrellas & parasols	2,633	3,714	1,814	843
Manchoukuo	31	51	47	88
China	14	22	21	15
British India	106	134	67	29
The Straits Settlements	101	124	79	7
D.E.I.	107	200	88	35
Siam	117	98	84	1
Federation of South Africa	167	233	107	57
Other	1,989	2,852	1,337	610
Brushes	5,633	6,917	3,141	1,908
Manchoukuo	138	232	120	164
China	159	119	71	49
British India	243	327	170	75
D.E.I.	167	244	136	94
Siam	75	72	57	7
Great Britain	743	731	351	242
France	25	43	27	10
Italy	61	30	21	3
Holland	238	243	115	119
U.S.A.	2,063	2,715	1,101	431
Canada	129	205	82	62
Argentine	6	8	2	3
Australia	96	73	25	41
Other	1,489	1,872	862	602
Lamp and parts thereof	18,587	21,950	10,821	6,666
Manchoukuo	389	592	251	539
Kwantung Prov.	1,116	1,916	782	1,318
China	502	520	381	550
Hong Kong	428	321	265	101
British India	1,148	1,584	924	358
The Straits Settlements	589	597	576	30
D.E.I.	1,122	1,801	989	295
Philippine Islands	435	457	259	84
Siam	136	137	89	29

(Exports: Unit: ¥1,000)	1936	1937	1937 (1st hal)	1938 (1st hal')
Great Britain	2,459	2,895	1,206	806
U.S.A.	4,931	4,238	2,241	618
Canada	219	666	335	145
Australia	571	565	288	171
Other	4,543	5,661	2,335	1,622
Toys	36,459	42,2'5	18,834	11,883
Manchoukuo	310	536	249	342
China	507	339	312	82
Hong Kong	264	175	153	8
British India	2,784	2,787	1,365	770
The Straits Settlements	643	631	422	41
D.E.I.	959	1,132	511	131
Philippine Islands..	435	567	171	94
Great Britain	5,916	7,036	3,323	3,298
France	158	282	120	90
Germany	252	190	59	74
Belgium	284	440	216	182
Italy	20	29	17	25
Holland	982	344	441	573
U.S.A.	13,689	16,521	7,707	2,682
Canada	1,081	1,669	725	662
Argentine	425	562	117	157
Brazil	338	378	134	175
Egypt	644	366	73	79
Federation of South Africa	891	1,067	323	251
Australia	2,157	2,276	806	947
New Zealand	419	551	164	127
Other	3,319	4,019	1,397	1,094

(b) Imports By Countries of Origin

(Imports, Unit: ¥1,000)

Rice and paddy	5,098	4,033	205	1,378
British India	66	68	40	1
French Indo-China.	212	208	92	6
Siam	4,820	3,757	73	1,371
Other	—	—	—	4
Wheat	33,651	29,604	16,986	7,382
China	2,104	178	161	6
U.S.A.	495	177	—	—
Canada	10,973	7,355	3,592	—
Argentine	—	2,068	1,806	245
Australia	17,392	15,623	9,247	3,438
Other	2,687	4,203	2,180	3,693
Beans and peas	82,601	92,547	62,256	64,585
Manchou uo	73,043	84,708	57,539	63,169
Kwantung Prov.	304	435	210	734
China	4,593	3,635	2,617	366
British India	4,249	3,234	1,770	1
Dutch India	354	220	80	35
Other	59	316	41	280
Oil yielding materials	44,873	43,612	28,025	18,122
Manchoukuo	23,508	19,206	11,626	11,125
Kwantung Prov.	35	7	7	20
China	14,332	14,093	11,769	4,148
British India	1,129	2,459	220	161
The Straits Settlements	501	662	253	103
D.E.I.	3,765	5,062	3,023	1,420
French Indo-China.	49	53	24	8
Argentine	552	77	37	—
Other	1,001	1,993	1,039	1,135
Sugar	20,928	18,806	8,059	5,101
Hong Kong	31	5	5	23
D.E.I.	19,767	17,724	7,053	5,070
Germany	—	526	—	—

(Imports: Unit: ¥1,000)	1936	1937	1937 (1st half)	1938 (1st half)
Cuba	46	174	174	—
Other	1,083	902	826	9
Beef, fresh	8,401	6,878	3,767	2,292
Manchoukuo	385	379	150	180
Kwantung Prov.	435	400	46	235
China	6,204	3,958	2,761	640
Canada	182	188	112	6
Australia	406	744	254	603
Other	788	1,207	444	628
Hides & skins	24,386	44,571	20,502	16,313
Manchoukuo	926	1,039	478	935
Kwan.ung Prov.	35	198	29	17
China	9,177	10,070	7,388	1,439
British India	659	2,323	667	127
The Straits Settlements	197	482	315	50
Great Britain	458	385	266	73
France	324	835	613	878
U.S.A.	3,972	9,396	3,196	6,366
Argentine	1,391	5,871	1,549	4,616
Australia	1,124	5,023	1,849	1,304
Other	6,123	8,949	4,179	1,062
Leather	5,465	7,520	4,200	1,422
British India	2,346	3,436	1,918	859
Great Britain	277	413	216	27
Germany	1,023	934	485	170
U.S.A.	1,223	1,061	675	113
Other	596	1,675	905	253
Mineral oil (Crude oil & heavy oil)	129,688	...	86,171	...
Manchoukuo	1,692	...	632	...
British Borneo	9,491	...	5,567	...
D.E.I.	15,501	...	11,903	...
Asiatic Russia	—	...	—	...
Russia	—	...	—	...
U.S.A.	99,348	...	61,166	...
Other	3,656	...	6,904	...
" (Other) under 0.730 S.G.	99	...	90	...
D.E.I.	94	...	75	...
U.S.A.	4	...	16	...
Other	—	...	—	...
" (Other) under 0.8762 S.G.	42,705	...	24,879	...
British Borneo	33	...	—	...
D.E.I.	27,897	...	17,548	...
Asiatic Russia	1,366	...	—	...
Germany	140	...	119	...
U.S.A.	9,987	...	5,553	...
Other	3,281	...	1,659	...
Beef tallow	1,644	1,949	1,127	358
Manchoukuo	4	1	—	—
China	140	1	—	—
U.S.A.	86	52	—	—
Australia	747	1,147	550	239
Other	667	748	575	119
India-rubber and gutta percha, crude	72,957	99,218	72,007	27,027
British India	1,598	343	147	48
The traits Settlements	23,662	41,566	32,619	14,632
D E.I.	22,879	25,775	16,598	6,625
French Indo-China.	4,075	8,371	6,524	783
Great Britain	56	65	28	—
Holland	22	—	—	—

(Imports: Unit: ¥1,000)	1936	1937	1937 (1st half)	1938 (1st half)
U.S.A.	143	203	92	—
Other	20,522	22,895	15,999	4,933
Caustic soda (Crude) soda ash and natural	4,267	6,534	3,036	1,052
Manchoukuo	—	9	9	208
China	135	177	153	—
Great Britain	2,046	3,679	1,637	6
U.S.A.	803	1,825	780	66
Kenya, Uganda & Tanganyika	1,281	844	457	—
Other	4	—	—	771
Nitrate of soda, (Crude)	7,158	3,630	1,833	865
Norway	174	—	—	—
U.S.A.	2,546	438	438	18
Chile	4,398	3,032	1,234	578
Other	40	161	161	269
Sulphate of ammonium (Crude)	33,930	20,191	11,066	22,965
Manchoukuo	4,110	1,957	1,007	441
Kwantung Prov.	5,718	7,315	3,564	6,386
Great Britain	23	171	171	—
Germany	15,607	6,349	3,578	12,906
U.S.A.	5,757	—	—	—
Other	1,714	4,399	2,746	3,232
Synthetic colours	11,404	16,928	9,348	564
Great Britain	17	14	2	16
France	371	418	267	12
Germany	6,983	12,313	6,419	326
Italy	20	20	15	—
Switzerland	1,664	2,227	1,651	79
U.S.A.	2,347	1,932	993	131
Cotton, raw	850,452	851,163	630,715	217 505
China	22,778	23,610	19,707	46,120
British India	315,060	363,635	268,934	55,128
The Straits Settlements	—	9	9	—
D.E.I.	701	1,173	930	179
French Indo-China.	68	154	133	2
Turkey	2,439	290	193	1,417
U.S.A.	372,415	306,388	258,037	93,560
Egypt	26,415	58,759	51,869	12,579
Kenya, Uganda & Tanganyika	27,500	21,529	17,322	483
Other	73,074	75,615	13,590	7,939
Other vegetable fibres	37,301	40,995	22,848	11,034
Manchoukuo	298	1,273	224	2,103
China	7,556	5.127	3,095	1,468
British India	7,342	8,344	4,541	1,485
D.E.I	546	1,279	756	167
Philippine Islands.	20,680	23,224	13,350	4,396
Great Britain	—	46	—	619
Other	878	1,701	881	796
Sheep's Wool	200,898	298,404	258,003	48,599
Manchoukuo	269	527	52	722
Kwantung Prov.	5	—	—	4
China	611	382	194	111
Great Britain	1,190	1,073	789	351
Chile	1.744	2,376	1,818	22
Argentine	6,562	17,713	15,255	3,687
Federation of South Africa	17,389	82,763	69,584	3,369
Australia	147,493	118,196	101,234	33,888
New Zealand	18,316	42,822	39,211	4,847
Other	7,818	32,553	29,866	1,599

(Imports: Unit: ¥1,000)	1936	1937	1937 (1st half)	1938 (1st half)
Woollen or Worsted-yarns	1,873	1,605	815	271
Great Britain	1,864	1,604	815	270
France	3	1	—	—
Germany	5		—	1
Other	2	—	—	—
Cotton tissues	984	793	459	208
China	—	2	—	—
Great Britain	809	624	340	150
France	7	5	3	3
Germany	35	34	19	8
Switzerland	40	46	43	15
U.S.A.	27	54	40	27
Other	66	28	15	4
Woollen tissues	9,675	9,292	4,933	2,564
Great Britain	9,389	8,971	4,848	2,455
France	42	31	15	—
Germany	195	200	77	80
Italy	3	12	5	25
U.S.A.	6	42	41	—
Other	40	45	6	4
Pulp for paper	67,107	116,720	48,078	35,104
Great Britain	2	50	2	
Germany	40	30	—	42
Czechoslovakia	391	1,157	407	69
Sweden	9,735	26,993	12,390	5,363
Norway	14,621	17,071	8,305	5,380
U.S.A.	31,768	49,181	19,486	14,579
Canada	4,150	12,619	3,541	5,008
Finland	—	—	3,912	3,161
Other	6,410	9,618	3,945	1,502
Printing paper	10,164	9,171	2,903	715
Great Britain	477	704	410	52
Germany	25	281	46	87
Holland	21	209	132	16
Sweden	326	352	69	25
Norway	249	657	195	173
U.S.A.	226	54	18	2
Canada	8,443	6,658	1,912	360
Other	396	248	120	—
Phosphorite	22,393	30,810	10,972	13,838
The Straits Settlements	3,292	4,186	1,578	3,148
U.S.A.	5,493	7,760	2,753	3,368
Egypt	7,044	10,022	3,523	3,923
Other	6,558	8,842	3,118	3,400
Coal	50,887	59,224	29,452	28,273
Manchoukuo	26,660	29,958	15,441	12,005
Kwantung Prov.	58	60	47	207
China	12,426	16,279	7,930	10,835
French Indo-China.	11,658	12,832	5,999	5,226
Asiatic Russia	87	60	—	—
Other	—	35	35	—
Ores	51,151	...	27,878	...
Manchoukuo	68	...	18	...
China	12,015	...	4,853	...
British India	4,184	...	2,786	...
The Straits Settlement	47	...	9	...
D.E.I.	23	...	142	...
French Indo China.	94	...	90	...
Asiatic Russia	—	...	225	...
Great Britain	641	...	343	...
U.S.A.	778	...	1,504	...
Australia	3,288	...	2,171	...
Other	30,013	...	15,737	...

(Imports: Unit: ¥1,000)	1936	1937	1937 (1st half)	1938 (1st half)
Pig iron	42,064	...	25,372	...
Manchoukuo	14,659	...	6,525	...
Kwantung Prov.	—	...	—	...
China	—	...	—	...
British India	14,570	...	6,956	...
Great Britain	220	...	368	...
Germany	—	...	61	...
Belgium	13	...	286	...
Sweden	5	...	—	...
U.S.A.	64	...	8,938	...
Other	12,528	...	3,238	...
Rail and fish-plate	2,882	...	6,407	...
Great Britain	—	...	9	...
France	—	...	—	...
Germany	—	...	16	...
Belgium	—	...	71	...
Holland	—	...	—	...
U.S.A.	2,826	...	5,644	...
Other	57	...	667	...
Iron, other	147,093	...	154.107	...
British India	7,568	...	8,530	...
D.E.I.	3,205	...	4,146	...
Great Britain	7,100	...	7,899	...
France	1,203	...	1,900	...
Germany	12.120	...	10,3 3	...
Belgium	7,447	...	8,491	...
Italy	20	...	41	...
Austria	3,031	...	3,000	...
Sweden	3,479	...	4,542	...
U.S.A.	75,200	...	81,505	...
Canada	1,889	...	519	...
Australia	3,017	...	1,106	...
Other	21,715	...	20,125	...
Aluminium (Ingots & grains)	11,831	...	5,118	...
Great Britain	—	...	333	...
France	6	...	28	...
Germany	—	...	—	...
Switzerland	1,952	...	78	...
Norway	759	...	991	...
U.S.A.	489	...	8	...
Canada	8,620	...	3,651	...
Other	4	...	29	...
Lead (Ingots and slabs)	26,873	...	24,541	...
China	3	...	50	...
British India	3,765	...	5,210	...
Great Britain	28	...	59	...
U.S.A.	2,642	...	919	...
Canada	11,779	...	9,310	...
Australia	219	...	1,688	...
Other	8,436	...	7,304	...
Copper (ingots and slabs)	32,873	...	45,344	...
U.S.A.	31,930	...	41,801	...
Canada	—	...	186	...
Other	944	...	3,357	...
Tin (ingots and slabs)	15,082	...	15,476	...
China	3,362	...	2,1 5	...
Hong kong	2,291	...	1,788	...
British India	32	...	131	...
The Straits Settlements	8,676	...	8,129	...
D.E.I.	235	...	257	...
U.S.A.	—	...	—	...
Other	485	...	3,045	...

(Imports: Unit: ¥1,000)	1936	1937	1937 (1st half)	1938 (1st half)
Zinc (ingots, slabs and grains)	10,997	...	7,912	...
French Indo-China	—	...	—	...
U.S.A.	1,999	...	1,581	...
Canada	3,836	...	1,820	...
Australia	3,439	...	3,487	...
Other	1,723	...	1,025	...
Watches and parts thereof	3,742	5,645	3,100	2,303
Switzerland	2,761	4,319	2,412	1,987
U.S.A.	413	466	309	124
Other	568	860	379	241
Automobiles and parts thereof	37,036	...	25,249	...
Great Britain	674	...	584	...
France	3	...	62	...
Germany	810	...	386	...
Italy	2	...	7	...
U.S.A.	34,929	...	23,442	...
Canada	—	...	5	...
Other	617	...	764	...
Dynamos, transformers, etc.	1,805	1,841	1,092	966
Great Britain	532	22	15	2
France	8	2	1	9
Germany	468	694	505	379
Switzerland	83	125	61	1
Sweden	152	11	...	18
U.S.A.	557	980	505	556
Other	6	8	5	1
Machinery & parts thereof	89,379	...	78,870	...
Great Britain	15,929	...	12,310	...
France	1,910	...	610	...
Germany	24,047	...	19,957	...
Belgium	255	...	2	...
Italy	254	...	115	...
Holland	90	...	24	...
Switzerland	3,701	...	2,320	...
Sweden	4,611	...	4,314	...
U.S.A.	37,872	...	37,885	...
Canada	106	...	94	...
Other	603	...	1,241	...
Wood	55,548	64,817	25,233	11,193
Manchoukuo	298	660	276	516
Kwantung Prov.	14	1	1	2
China	677	826	551	1
British Borneo	4,306	3,198	1,420	908
D.E.I.	2,012	2,477	1,154	924
Asiatic Russia	107	1,005	1	187
Philippine Islands	7,330	11,260	5,695	2,507
Siam	1,773	3,102	1,636	661
U.S.A.	32,184	30,07	9,363	4,430
Canada	6,217	11,517	4,923	691
Other	630	695	214	367
Wheat bran	8,724	10,653	6,500	5,205
Manchoukuo	1,733	6,004	2,729	4,911
Kwantung Prov.	616	610	292	165
China	6,3 6	4,038	3,479	128
Oil cake	35,790	45,310	32,060	6
Manchoukuo	20,137	29,662	20,284	44,25
Kwantung Prov.	6,975	6,870	5,516	37,49
China	7,651	6,143	4,816	5,96
British India	451	1,943	1,056	65
D.E.I.	485	678	273	4
Asiatic Russia	76	—	—	107
Other	16	14	14	—

INVISIBLE TRADE IN 1936

According to the report made public by the Finance Ministry on invisible trade in 1936, the recurrent credit items aggregated ¥888,060,000, an increase of ¥67,507,000 over 1935, and recurrent debit items ¥655,205,000 again a rise of ¥12,865,000. The far greater increase in income than outgo in recurrent items was responsible for 1936's credit balance running up to ¥232,855,000, a gain of ¥54,642,000 over 1935's similar balance of ¥178,213,000. Non-recurrent items (capital movements) of 1936 stood at ¥677,948,000 for income, an increase of ¥292,823,000 over 1935, and ¥947,200,000 for outgo, an increase of ¥190,536,000 over the year before.

As here again the increase was greater in revenue than in expenditure, 1936's excess capital outflow was smaller than that of 1935 by ¥102,287,000 to stand at ¥269,252,000. The sum total of invisible trade movements of both recurrent and non-recurrent items was a debit balance of ¥36,397,000 for 1936. As a similar balance for 1935 was ¥193,325,000, that for 1936 is a sizable cut in the debit figure by ¥156,929,000. The reason why in recent years the export capital movement has been substantial has been due, as is generally known, to a rising flow mainly to Manchoukuo. If this movement to Manchoukuo is left out of the calculation, the invisible trade for 1936 would have given a favorable balance of sizable proportions.

The invisible trade figure for 1937 was still unavailable at the time of this writing, but it is generally felt that the size of the balance is very close to that of 1936.

Table 12. Invisible Trade

(In ¥1,000)

	1932	1933	1934	1935	1936
I. **Assets (Invisible Exports):**					
(a) Ordinary receipts:					
Interests and dividends on foreign securities	21,455	23,806	22,517	26,509	34,425
Profits from undertakings abroad and remunerations for services rendered abroad	157,244	167,378	186,913	213,512	212,353
Receipts in connection with shipping	181,843	231,810	251,520	303,180	334,612
Receipts in connection with insurance	117,258	117,571	138,517	128,629	137,476
Government receipts from abroad	57,158	69,458	89,232	95,266	107,688
Others	4,964	7,218	5,800	18,253	34,894
Total	41,268	75,711	45,876	35,204	26,612
	581,190	692,952	740,375	820,553	888,060
(b) Extraordinary receipts:					
Foreign capital invested in Japan	84,475	119,556	95,713	159,437	193,014
Collection of capital invested abroad	105,988	174,287	218,635	225,688	484,934
Total	190,463	293,843	314,348	385,125	677,948
Grand Total	**771,653**	**986,795**	**1,054,723**	**1,205,678**	**1,566,008**
II. **Liabilities (Invisible Imports):**					
(a) Ordinary payments:					
Interests and dividends on Japanese securities possessed by foreign nationals	118,885	140,914	124,633	134,781	121,070
Profits of foreign undertakings and remunerations for foreign services in Japan	11,088	9,466	9,621	11,298	15,325
Payments in connection with shipping	82,142	105,748	106,906	125,520	140,750
Payments in connection with insurance	108,359	108,876	115,080	118,222	121,971
Expenditure abroad of Japanese tourists and travellers	51,258	68,462	65,794	68,942	70,507
Government expenditure abroad	92,882	128,008	141,696	159,975	164,526
Others	14,440	21,677	32,312	23,602	21,056
Total	479,054	583,151	596,042	642,340	655,205
(b) Extraordinary payments:					
Investments abroad of Japanese capital	100,954	215,775	398,537	579,990	652,378

Collection of foreign capital invested in Japan	189,645	99,044	99,252	176,674	294,822
Total	290,599	314,819	497,789	756,664	947,200
Grand Total	**769,653**	**897,970**	**1,093,831**	**1,399,004**	**1,602,405**
III. Balance (Excess of Exports (+) or Imports (–):					
(a) Excess of Ordinary Receipts	+102,136	+109,801	+144,333	+178,213	+232,855
(b) Excess of Extraordinary Payments	– 100,136	– 20,976	– 183,441	– 371,539	– 269,252
Total or Balance	+ 2,000	+ 88,825	– 39,108	– 193,326	– 36,397

Table 13. Balance of International Payments

(In million yen)

Inclusive of the figures for the foreign trade of Chosen and Taiwan

	1932	1933	1934	1935	1936
Current Items:					
Inward or Credit Movements (**Exports**):					
I Merchandise	1,491.7	1,992.2	2,339.0	2,874.5	2,871.9
II Interest and dividends	87.2	92.6	104.8	128.8	155.8
III Other services	464.5	549.5	620.6	647.8	696.2
IV Gold coin and bullion	112.7	34.7	—	—	—
Total	2,156.1	2,669.1	3,064.3	3,651.1	3,723.8
Outward or Debit Movements (**Imports**):					
I Merchandise	1,548.5	2,045.6	2,430.7	2,722.6	2,966.4
II Interest and dividends	125.0	145.6	131.2	142.6	131.0
III Other services	313.5	411.2	439.5	476.1	497.2
IV Gold coin and bullion	0.7	—	—	0.1	—
Total	1,987.7	2,602.4	3,001.4	3,341.4	3,594.6
Surplus (+) or deficit (–) on account of:					
(a) goods and services (I–III)	+ 56.4	+ 31.9	+ 62.9	+309.8	+129.3
(b) gold (IV)	+112.0	+ 34.7	0	– 0.1	0
(c) goods, services and gold (I–IV)	+168.4	+ 66.6	+ 62.9	+309.8	+129.3
Capital Items:					
Inward or Credit Capital Movement:					
I Long-term operations	114.0	258.6	266.7	286.0	530.0
II Short-term operations	67.7	20.0	94.5	173.2	94.3
Total	181.7	278.6	361.2	459.2	624.3
Outward or Debt Capital Movement:					
I Long-term operations	281.8	299.6	489.9	740.6	756.6
II Short-term operations	229.3	225.2	—	—	42.6
Total	511.1	524.8	489.9	740.6	799.2
Net inward (+) or outward (–) movement of capital	– 329.4	– 246.2	– 128.7	– 281.4	– 174.9
Difference between the balances obtained for goods, services and gold on the one hand and the capital items on the other, due to errors and omissions.	– 161.0	– 202.2	+ 65.8	– 28.4	+ 45.7

Commerce By Ports

There are at present forty-four open ports in Japan proper and Karafuto combined. Of these, eighteen are comparatively important viewed in the light of the value of foreign trade. It is needless to say that the three ports of Kobe, Osaka and Yokohama are far ahead of all the rest, claiming 82% of the total of both branches of trade in 1937. Kobe ranks first among these three ports. Formerly, Yokohama stood unrivalled in the volume of trade handled throughout the whole country. Since the great earthquake of 1923, however, Yokohama has been superseded by Kobe because the export of raw silk, which had chiefly been done through Yokohama, has been partly transferred to Kobe since the disaster. In 1934 Yokohama was even shot ahead of by Osaka to come down to the third rank. In 1935 it recovered to second position due to an increase in shipments of raw silk to the United States and a rise in its price. Osaka which ranks third among the trading ports of the country has of late years been showing marked developments.

Table 14. Exports and Imports By Principal Ports

(In ¥1,000)

	Exports				Imports			
	1936	1937	1937 (1st half)	1938 (1st half)	1936	1937	1937 (1st half)	1938 (1st half)
Yokohama	678,323	800,002	375,427	299,927	687,012	1,047,600	532,683	462,261
Kobe	970,784	1,107,552	530,797	366,656	958,220	1,119,514	712,216	395,623
Osaka	672,233	853,105	433,155	362,287	593,264	835,183	483,282	263,016
Nagasaki	7,692	10,703	6,114	5,064	16,817	24,253	11,527	10,026
Moji	64,732	66,407	33,988	37,926	98,012	175,087	71,116	81,779
Hakodate	35,066	33,508	8,698	5,509	2,348	2,650	1,737	3,726
Niigata	1,131	2,312	522	1,716	10,479	14,078	6,863	8,616
Shimizu	22,211	38,264	15,015	9,778	25,705	26,890	17,819	17,929
Taketoyo	452	158	135	3	18,791	18,422	11,161	14,394
Nagoya	131,501	147,909	68,190	53,657	108,777	148,329	106,915	36,612
Yokkaichi	7,395	13,791	6,762	8,270	67,345	94,725	82,617	15,374
Wakamatsu	22,428	17,990	9,654	10,432	74,248	118,064	41,137	34,647
Tsuruga	15,981	9,086	3,897	3,224	3,467	5,310	3,100	1,619
Aomori	5,784	5,242	2,246	2,340	3,560	5,052	2,018	1,961
Kamaishi	126	75	33	—	8,711	17,001	3,268	6,770
Otaru	23,007	31,337	12,516	10,370	4,809	7,783	5,622	6,675
Total incl. others	2,692,976	3,175,418	1,527,776	1,200,633	2,763,681	3,783,177	2,145,920	1,394,473

Table 15. Entrance and Clearances of Steamers By Flags

(a) Entered

	1935		1936		1937		1937 (1st half)		1938 (1st half)	
	No. of ships	Tonnage (1,000 tons)	No. of ships	Tonnage (1,000 tons)	No. of ships	Tonnage (1,000 tons)	No. of ships	Tonnage (1,000 tons)	No. of ships	Tonnage (1,000 tons)
Japan	13,935	43,932	14,317	54,573	12,668	41,161	7,309	23,248	5,631	18,381
Manchoukuo	101	88	108	106	171	135	60	54	92	73
Kwantung	1,402	3,531	1,530	3,941	1,347	3,318	712	1,766	444	1,076
China	920	1,806	1,635	3,340	1,873	3,933	946	1,971	612	1,283
Hongkong	147	484	160	530	170	527	83	267	86	256
D. E. I.	230	1,103	224	1,075	226	1,100	125	598	97	500
Great Britain	2,359	10,656	2,338	10,497	2,505	11,053	1,064	5,032	1,122	5,073
France	52	298	56	310	63	343	28	154	23	145
Germany	422	1,927	357	1,687	344	1,637	172	810	163	775
Italy	42	147	28	105	66	227	21	75	40	125
Netherlands	102	429	85	394	71	359	34	176	31	161
Sweden	113	404	122	434	135	498	56	209	68	250
Norway	876	2,876	946	3,138	1,052	3,646	464	1,597	495	1,780
Soviet Russia	1	2	3	7	6	13	4	9	5	7
Denmark	167	647	146	552	197	738	71	283	105	389
U. S. A.	611	3,750	479	3,080	362	2,419	180	1,119	103	808
Canada	100	742	81	720	82	659	36	303	25	221
Total incl. others	21,904	73,804	22,979	76,647	21,680	72,882	11,500	38,041	9,287	31,807

(b) Cleared

	1935		1936		1937		1937 (1st half)		1938 (1st half)	
	No. of ships	Tonnage (1,000 tons)	No. of ships	Tonnage (1,000 tons)	No. of ships	Tonnage (1,000 tons)	No. of ships	Tonnage (1,000 tons)	No. of ships	Tonnage (1,000 tons)
Japan	13,905	43,916	14,281	45,561	12,545	40,919	7,265	23,173	5,701	18,403
Manchoukuo	99	87	107	105	169	137	60	54	93	80
Kwantung	1,393	3,508	1,522	3,939	1,328	3,269	706	1,745	443	1,068
China	919	1,807	1,635	3,325	1,846	3,873	928	1,937	585	1,217
Hongkong	147	483	166	532	172	536	83	265	88	260
Dutch India	229	1,103	223	1,069	225	1,094	125	596	97	500
Great Britain	2,346	10,609	2,326	10,428	2,488	10,959	1,038	4,936	1,105	5,020
France	57	314	55	306	64	345	28	154	23	145
Germany	414	1,893	359	1,697	352	1,673	171	808	162	772
Italy	42	147	27	101	64	221	21	75	40	126
Netherlands	103	433	84	390	69	348	34	176	31	161
Sweden	106	384	121	431	136	501	56	209	69	255

	1935		1936		1937		1937 (1st half)		1938 (1st half)	
	No. of ships	Tonnage (1,000 tons)	No. of ships	Tonnage (1,000 tons)	No. of ships	Tonnage (1,000 tons)	No. of ships	Tonnage (1,000 tons)	No. of ships	Tonnage (1,000 tons)
Norway ...	876	2,876	951	3,150	1,041	3,628	456	1,576	487	1,757
Soviet Russia	1	2	2	6	7	15	5	10	5	7
Denmark ..	168	654	146	554	196	733	70	279	103	382
U. S. A. ..	610	3,731	477	3,066	361	2,406	179	1,113	102	805
Canada ...	102	757	80	711	83	668	37	312	25	221
Total incl. others .	21,837	73,669	22,912	76,517	21,497	72,424	11,394	37,775	9,299	31,665

Table 16. Customs Revenue

	Total exports (¥1,000)	Total imports (¥1,000)	Dutiable Goods (¥1,000)	Custom Revenue	
				Amount (¥1,000)	% to total dutiable goods
1929	2,148,619	2,216,240	854,320	147,336	17.25
1930	1,469,852	1,546,051	584,139	113,173	19.37
1931	1,146,981	1,235,673	463,974	111,760	24.99
1932	1,409,992	1,431,461	476,538	108,357	22.74
1933	1,861,046	1,917,220	549,388	115,598	21.04
1934	2,171,925	2,282,601	652,668	137,982	21.14
1935	2,499,073	2,472,236	763,636	152,706	20.00
1936	2,692,976	2,763,681	801,013	161,214	20.14
1937	3,175,418	3,783,177	1,052,412	196,994	18.62
1937 (1st half)..	1,527,776	2,145,920	527,390	99,244	18.82
1938 (1st half)..	1,200,633	1,394,473	875,717	96,507	11.02

THE IMPORT TARIFF OF JAPAN

It was in 1859, when most of the early commercial treaties between Japan and the Western countries had been concluded, that customs houses were for the first time established and customs duties levied at a few open ports selected for the purpose in this country. The customs tariff of that time was entirely determined by treaty, but the term of its operation was rather short, for the whole tariff was revised by treaty in 1866. This revised tariff remained in force for thirty-three years, and the customs duties were unchanged until 1899 when the treaties of commerce and navigation with foreign powers came into operation.

The operation of the revised commercial treaties with foreign countries in 1899 made it possible to bring into operation the statutory tariff which, combined with the conventional tariffs newly arranged, formed the customs tariff of this country. At the same time the export duties were entirely abolished.

In 1904 the urgent needs of the extraordinary fund in connection with the war with Russia led to the imposition of a special surtax on the customs duties as well as on other taxes, and soon after the restoration of peace the entire customs tariff was revised and the new tariff came into operation on October 1, 1906.

Tariff Revision in 1910.—The post-bellum development of the manufacturing industries in this country necessitated another tariff revision in 1910, and a tariff revision bill framed after a careful study of the changed condition of the manufacturing industries was presented to and approved by the Diet the same year, the new tariff taking effect on July 17, 1911. The articles enumerated in the new tariff, which was several times revised afterward, numbered 672, classified into seventeen groups, these being further subdivided, and the duties thereon were converted as far as possible into specific duties. Raw materials were made mostly duty free and upon half-manufactured materials light duties were levied; the rates for manufactured goods varied from 15% to 40%, but on many manufactured goods low rates were imposed, those manufactures on which a duty of 40% was imposed being few and far between and their import rather limited in quantity. Upon some articles of luxury was levied a duty of 50%, but their importation was also very small.

As the Tariff Convention with Great Britain and Germany were to terminate on the 16th July, 1911, and that with France on the 3rd of August, the same year, negotiations for their revision were opened with these countries prior to the termination of the existing treaties. A new Tariff Convention was concluded first with Great Britain, by which upon the guarantee that ten principal articles of export from Japan to Great Britain should be exempted from customs-duties upon importation into that country, concessions were made in the Japanese tariff upon principal British merchandise, such as

paints, linen yarns, cotton tissues, woollen tissues, mixed tissues of wool and cotton, and iron sheets; and next, a similar convention was concluded with Germany, by which, in consideration of concessions made by Germany on principal Japanese products imported into that country, reductions were made by Japan in the customs-duties upon principal German products, such as leather, salicyclic acid, quinine, artificial indigo, coal-tar dyes, woollen yarns, mixed tissues of wool and cotton, packing paper, zinc plates and sheets, and gas, petroleum and hot-air engines (whether combined with motive machinery or not). Although the new Tariff Conventions with Great Britain and Germany came into force simultaneously with the expiration of the old convention, the new Convention with France could not be established before the expiration of the old one, and accordingly a provisional Convention was concluded pending the establishment of a new Convention, which was put in operation on the 29th of Feb., 1912. By this Convention, in consideration of the application of the French minimum tariff rates to principal Japanese products, reductions were made in the customs-duties to be levied by Japan upon principal French products, i.e. yarns, woollen tissues, binoculars, automobiles and parts thereof, and knitting machines. Both countries were at liberty to raise or reduce their customs tariffs, and in the event of their being raised, the party which did not alter its tariff may, at three months' notice, abrogate the convention relating to customs-duties. A tariff convention with Italy was also concluded in June, 1913.

On the outbreak of war between Japan and Germany on Aug. 23, 1914, in consequent upon the World War, the aforementioned tariff convention with Germany came to an end, though the same rates of duty as arranged in the convention were applied until the end of March 1915.

The section relating to tariff agreements in the said Franco-Japanese Treaty of Commerce and Navigation and the whole of the similar treaty between Japan and Italy were to terminate in 1919, but it was temporarily arranged at the time between the Governments concerned that until new agreements were concluded or either party made declaration denouncing the agreements affected, the said section and treaty should remain in force.

In conformity with the Imperial Declaration concerning the Annexation of Chosen in 1910, the tariff system of the former Korean Empire was left in force in the territory for ten years after the event. On the expiration of the term of ten years on August 28th, 1920, the tariff in force in Japan proper was applied to Chosen and the tariff rates as adopted for trade between Japan proper and Chosen were abolished, with the exception of customs-duties on certain imports from Japan proper to Chosen. The latter had to be retained from considerations of economic and other requirements of Chosen.

Higher Duties on Luxuries.—Under Law No. 24, enacted and promulgated on July 31st, 1924, which regulates imports duties on certain luxuries, a 100 per cent. ad valorem duty was imposed for the time being on about 120 kinds of goods designated as luxuries. The object of the measures was not only to check luxurious habits and to cultivate a habit of economy but to help in diminishing the adverse balance of trade by checking the importation of such articles by means of higher tariff barrier.

Abrogation of Conventional Tariff with Great Britain.—The Anglo-Japanese Treaty of Commerce and Navigation concluded in 1911 was to terminate on July 16, 1923, but remained in force pending conclusion of a new treaty to replace it. The tariff convention arranged between the two countries at the time of the conclusion of the treaty was, however, abrogated in March, 1925, and in consequence thereof all specified merchandise imported into this country from Great Britain and the British colonies had come to be subject to the statutory tariff and taxed about three times the amount of the former conventional rates. Some of the Japanese export formerly admitted free to Great Britain and the British colonies were also affected by the change, these consisting of silk (gray), copper (ingots and slabs) and 8 other articles. To mitigate the undesirable effect arising from the sudden change of such magnitude in the customs duties, the Government provided a special tariff for iron plates and sheets imported into this country from Great Britain and her colonies as provisional measures after the abrogation of the said tariff convention. The temporary measure was, however, abolished in 1926, but the rates specified in the measure were adopted in the new tariff revised the same year and made general tariff applicable to similar imports coming from all foreign countries. Meanwhile a supplementary agreement to the time-expired treaty was arranged between Japan and Britain in July, 1925, by which Article 21 of the old treaty was abolished and substituted for by a new clause. The supplementary agreement was formally ratified in June, 1927, and took effect at the date of ex-

change of ratification to remain in force for five years from that date.

Amendments in 1925.—A partial amendment of import duties on luxuries was made on April 1st, 1925, by which articles imported for industrial purposes, materials for the manufacture of goods to be exported and several other articles were excluded from the list of the articles subject to the 100 per cent. ad valorem duty on luxuries. Then, again, with the object of encouraging the industries in the Kwantung Leased Territory and of promoting the export of the produce of that territory to the home country, portland cement and 29 other articles produced in Kwantung Province were exempted from import duties by the Act of June 18th, the same year.

Tariff Revision in 1926.—Although several amendments in minor details had been made from time to time, the customs tariff remained practically unchanged after 1910 and was not adapted to the great change in economic conditions at home and abroad. The Government, therefore, introduced into the Imperial Diet in 1926 a Bill proposing a general amendment embodying the following principles:—

(a) Raw materials such as are not produced or are scarce in this country should be made duty-free.
(b) Necessary protection is to be given to staple industries that have bright prospects for the future.
(c) Import duties should be left untouched or be reduced with respect to foreign articles with which home produce is able to compete.
(d) Duties on the necessaries of daily life should be reduced.
(e) In order to discharge consumption, high duties should be imposed upon articles other than necessaries of daily life.
(f) The number of specific duties should be increased and more minute classification of articles be made for convenience in the imposition of duties.

The measure was passed by the Diet, and was put in force on March 29, 1926. Although not the direct object of the amendment, an increase in the customs revenue was expected as a result of the change in the rates of duties and the adjustment of the relation between specific duties and ad valorem duties in accordance with the rise of prices of commodities.

Amendments in 1927.—The rates of import duties on sugar were amended in April, 1927, to cope with the changes in the rates of sugar excise made at the same time, and duties on corn starch, butter, oxidized cobalt, oleine, etc., were also altered at the same times. Changes were also made to the articles exempted from import duties under the preference given to the produce of the Kwantung Leased Territory, soya-bean oil and certain kinds of manufactured clothing being included in the free list. Besides, several staple products of the territory have had the rates of duties thereon lowered. Partial revision of the Customs Law, the amendment or revision of the Bonded Warehouse Law, the Bonded Factory Law and other regulations were also among the new measured enacted the same year.

New Treaties with Germany and Other Countries.—To replace the old treaty which was nullified on account of the outbreak of the World War, a new treaty of commerce and navigation was concluded between Germany and Japan in July, 1927, and was duly ratified on April 5th, 1928, the new pact taking effect after two weeks from the date of the exchange of ratification thereof. A provisional commercial treaty relating to the commercial and other rights of Japanese subjects in French Indo-China was newly concluded between Japan and France in August, 1927. Following the enforcement of the new German-Japanese commercial treaty a provisional agreement assuring the most favoured nation treatment on the basis of mutual reciprocity was also arranged between Japan and New Zealand in July, 1928, the measure taking effect on August 8th. Japan also arranged treaties of commerce or of amity with Bulgaria, Persia, Egypt, Ethiopia and Latvia Republic, the commercial treaty with the last named country having been concluded in August, 1928 and taken effect the same day. As the result of the establishment of formal commercial relations, Bulgaria, Germany, New Zealand and Latvia were added to the list of the countries entitled to the benefit of conventioned tariff.

Tariff Revision in 1929 and thereafter.—Partial revision of import duties, approved by the Diet, was promulgated on March 29, 1929, and enforced the same day. The change affected 26 articles enumerated in the staff schedule. Of 120 items subject to the 100% ad valorem duty or luxury tariff accordingly to Law No. 24 promulgated in 1924, 15 articles were excluded from the luxury tariff scheduled and restored to the former rates (statutory tariff). At the same time the rates of the statutory tariff on some of those articles were increased, the rates for other items remaining unchanged. Six articles, also placed on the 100% ad valorem schedule, were subject to slight changes in their classification.

The exceptions in the import duties applicable to Chosen (Korea) provided for in Law No. 53 of 1920, according to which five articles imported into the territory were given special treatment or subject to import duties specially provided for, were abolished and those articles imported into the territory were after March 29, 1929, subject to the same duties as imposed on similar commodities imported into Japan proper, excepting a few items for which special rates were provided.

Slight amendments or additions were made to the list of those commodities imported into the Kwantung Leased Territory, which were either exempted from import duties or accorded special treatment of reduction in the rates.

The provisional treaty of commerce between Japan and Persia arranged in 1927 was ratified in April, 1929, and took effect the same day. In accordance with the stipulation of the pact commodities imported into Japan from Persia came to be accorded the most favoured nation treatment on the same status as the goods coming from other countries entitled to the benefit of conventional tariff.

Tariff revisions were repeatedly made in 1930, 1931, 1933 and 1934, but the amendments made to the rates of duties were rather limited in scope each time. It suffices to say that the 100 per cent. ad valorem duty on luxuries created in 1924 as a temporary measure has been made a permanent one.

Luxury Tariff

On July 31, 1924 the Luxury Tariff Law was promulgated providing for the imposition of a hundred per cent. ad valorem duty on goods, one hundred and twenty in kinds, which are designated as luxuries.

By an amendment made to the Luxury Tariff in 1925 a part of the import duties was waived in respect of uncut or unpolished precious and semi-precious stones or unworked amber, for use in the manufacture of articles used in machinery or the manufacturing industries, the deposit of a security equivalent to the duty to be waived being required at the time of import. The amount of duty to be waived in accordance with the said provisions is as follows:—

Precious stones: 95 per cent. of the duty thereon.

Semi-precious stones: 80 per cent. of the duty thereon.

Preferential Tariff for Kwantung Products

In July, 1925 a law was gazetted for removing the import duties on some of the staples produced in the leased territory of Kwantung.

TRADE REGULATION AND TRADE PROTECTION LAW

The Trade Regulation and Trade Protection Law was promulgated and enforced in May 1, 1934. The law provides that in case of need to regulate or protect trade in order to meet the measure which is actually taken or which is going to be taken by a foreign country the Government shall be empowered to raise or reduce the duties on special goods for a certain period of time, or prohibit or restrict the importation or exportation of specified goods after submitting the question to the Customs Inquiry Council. The law is to be good for three years from the date of its promulgation.

TRADE AGREEMENTS WITH FOREIGN COUNTRIES

Conclusion of Japan-Australian Trade Agreement

The new Japan-Australian trade agreement, which had been under negotiation since the beginning of 1938, was concluded on July 2, 1938. The newly concluded agreement concerns the amount of cotton and rayon cloth exports from Japan to Australia as well as the amount of sheep wool imports from Australia to Japan. It replaces the old agreement which expired on June 30, 1938. With regard to the agreement the Japanese Foreign Office made the following announcement on July 2, 1938:

"The Imperial and Australian Governments adopted certain trade measures they found necessary for the restoration of normal trade relations between the two countries on January 1, 1937. Appropriate changes have now been made in this arrangement, the agreement as altered taking effection from July 1, 1938.

"The old agreement permitted the importation of 800,000 bales of sheep wool from Australia to Japan during the period beginning January 1, 1937, and ending June 30, 1938 and the exportation of 76,875,000 square yards of cotton and rayon textiles respectively from Japan to Australia.

"Under the present agreement, Japan is allowed to import two-thirds of the amount of her demand for sheep wool from Australia for one full year from July 1, 1938, while Australia is permitted to import cotton and rayon and staple fibre textiles up to 51,250,000 square yards for the same period."

Conclusion of Japan-Netherlands Trade Agreement

Despite the fact that the negotiations were long in a state of deadlock, and that many difficulties had to be surmounted, a new trade agreement was amicably concluded between Japan and Holland on February 3, 1938. The agreement lays the foundations for an exchange of reciprocal trade benefits between the two contracting parties and binds both parties to make honest efforts to settle amicably all trade problems which may arise in the future. The agreement will remain in effect up to the end of 1938, with the arrangement that it shall remain effective even after that time, provided neither of the parties make any special expression to the contrary three months before the time of its expiry.

The agreement concerns the Japanese Export Guild concerned and the Dutch traders in Japan and regulates their trade relations. Its provisions consist of four parts, the fourth part providing general rules.

The first part provides that the Japanese side suspend control of cotton cloth export. This entails a considerable concession on the part of Japan, as it practically means the abandonment by Japan of her self-protective measure against the import control measures on the part of the Netherlands. The second part provides that the Netherlands traders who have newly participated in the new trade relations under the present agreement be allowed the right to share in trade benefits at the rate of 62.5 per cent. of the old so far as silk, rayon and sarongs. The third part provides for an increase in the amount of the export of ceramic ware to the Netherlands East Indies from Japan, which measure Japan had refused so far.

Signature of Japan-Manchoukuo-Italian Trade Agreement

The Japan-Manchoukuo-Italian trade agreement, under negotiation among three countries, was formally signed on July 5, 1938, the formal procedure of signature being gone through by General Kazushige Ugaki, Japanese Foreign Minister, Mr. Yuan Chentou, Manchoukuo Ambassador, and Signor Ettori Conti, Italian representative. Prior to the signing of the Japan-Manchoukuo-Italian agreement, a treaty of amity, trade and navigation between Manchoukuo and Italy was formally signed at the Manchoukuo Embassy in Tokyo on July 5, 1938.

The Manchoukuo Embassy issued a statement to the following effect: "The treaty is a basic instrument aimed at consolidating friendship between the two countries and advancing their commercial relations. Ever since the recognition of Manchoukuo by Italy in 1937 in advance of all other nations, close and amicable relations have prevailed between Manchoukuo and Italy."

FOREIGN TRADE IN 1938

Japan's exports abroad for the first eight months of 1938 amounted to 1,642 million yen and imports to 1,797 million yen, showing a decrease of 22.7% and 31.7%, respectively as against the corresponding period of the preceding year.

The exports to the yen bloc countries for this period in 1938 amounted to 717 million yen, representing 43.4% of total exports, while the exports to countries outside of the yen bloc, amounting to 935 million yen, represented 56.6%. The amount of trade for the first eight months of 1938, classified by yen bloc and non yen bloc countries and compared with the figures for the corresponding period of 1937 shows that the yen bloc countries have become increasingly important in Japan's exports and imports.

Table 17. Japan's Foreign Trade for First 8 Months of 1938

Jan.—Aug.:		Value (In million yen) 1937	1938	Increase or Decrease over 1937	% to Total 1937	1938
Exports	Yen Bloc Countries..	512	717	40.0%	24.8	43.4
	Other Countries	1,549	935	−39.7%	75.2	56.6
	Total	2,061	1,652	−19.8%	100.0	100.0
Imports	Yen Bloc Countries..	327	399	22.2%	11.7	22.2
	Other Countries	2,481	1,398	−43.7%	88.3	77.8
	Total	2,808	1,797	−36.0%	100.0	100.0

The most outstanding features of the trade situation for the period under review were a decrease in the import of materials for export manufactures and a shrinkage in the export goods, notably textile manufactures. This was due chiefly to the fact that the period synchronized with the recent reorgnization of the entire cotton industrial system, which was responsible for a decrease in the production of bleached and printed cloths and those otherwise worked upon for export. Another cause lay in the fact that the average unit price fell, in fact as much as 23%, from the corresponding period of the preceding year.

On the other hand, the imports far outdistanced the exports in shrinkage. This import shrinkage was most conspicuous in cotton, sheep wool and wood pulp. The serious import shrinkage, as in the case of exports, was partly caused by the fall in the unit prices of the import materials concerned. For instance, the price of cotton, sheep wool and crude rubber fell off by 23%, 29% and 35% respectively on the average as compared with the corresponding period of the previous year. From this, it is clear that the imports did not decrease in actual quantity to the same degree as they did in monetary value.

Control of Foreign Trade

The restriction of imports consequent upon the Sino-Japanese hostilities had at first the object to check the import of goods not urgently needed. Restrictions have, however, gradually expanded, and the rate of restriction has also been strengthened. Article 1 of the Law relating to Temporary Regulation of Imports and Exports provides that the Government are authorized to restrict and prohibit, if necessary, the import and export of certain specified goods to safeguard the national economy under the influence of the China Incident. Commodities of which the import or export is restricted are as follows:—

1. Import commodities or which imports are restricted: Hides and leather, crude rubber, wood, raw cotton, pulp, wood, jute.
2. Commodities of which imports are generally prohibited: Over 270 commodities.
3. Commodities of which exports are generally prohibited: Rabbit furs, bristles, wool, goat's hair, camel's hair, naphthalin, nitric acid, china grass, ramie and jute, waste cotton, waste fibre, waste yarns and thread, rags of wool or wool mixture, flax etc.; coal, fluorite, antimony ore, tungsten ore, molybdenum ore, ferro-tungsten, iron pipes and tubes, special steel, antimony and sulphide of antimony, babbitt's metal and other antifriction metals, toys and manufactures of antimony or antimony alloys, automobiles and parts, internal combustion engines for automobiles.
4. Leading non-ferrous metals of which the import and distribution are controlled: Platinum, copper, lead, tin, zinc, mercury, antimony, sulphide of antimony, brass and bronze.

Establishment of Foreign Exchange Fund Account

Inspired by a resolution adopted by the Central Price Policy Commission, the Japanese Government decided in July, 1938 to release ¥300,000,000 of specie reserve of the Bank of Japan to establish a foreign exchange fund account in that bank. This specie is to be converted gradually into foreign currencies and will be worked in a revolving manner to facilitate the importation of matorials needed for the manufacture of articles for export. The development of foreign trade during the first half of 1938 made it clear that strengthened exchange control cannot alone remedy the situation caused by the decline in the export trade.

The gold of this exchange fund account will be shipped abroad and converted into dollars and pounds and will be deposited in special account at the New York branch of the Yokohama Specie pounds and will deposited in special account at the New York branche of the Yokohama Specie Bank. Exchange banks, domestic and foreign, may apply to the Bank of Japan for exchange funds when unable to accept import exchange contracts due to a deficiency of bills. The Bank of Japan will inspect the applications and when conditions warrant, will order the Specie Bank to lend exchange funds against securities. The interest rate to be paid by exchange banks is 2.5% per annum.

The application is limited to import of raw materials which are needed for the manufacture of articles for export. On this basis nine commodities have up to the present been nominated as eligible for exchange funds under an export link system, namely, raw cotton, raw wool, tallow and perfumes (for soap), ebony, Mexican fibre, bristles, manila hemp, and noils.

Funds advanced to the exchange banks must be refunded in foreign currencies within 4 months. Exchange banks will be bound to earmark a part of export bills obtained by them for refunding this account. It is calculated that if these funds are used in a rotating manner once

every four months, a maximum of 1,200 million yen of raw materials can be imported under the link system annually.

Foreign Exchange Control

Although the connection between the Japanese yen and the Manchurian yuan has been successfuly maintained, duplicate control of foreign exchange—namely by the Kwantung Bureau and the Economy Department of Manchoukuo—revealed many unexpected inconveniences. To secure imports of construction materials from countries other than Japan, it became necessary to unify the control of foreign exchange. As a consequence of a decision of the Economic Conference between Japan and Manchoukuo, the Manchoukuo Government established an Exchange Bureau at the Central Bank of Manchou in 1938. Applications for import exchange funds will be considered by an exchange commission composed of representatives of the Economy Department of Manchoukuo, the Kwantung Bureau and the Central Bank of Manchou.

Exchange banks will be bound to sell all export bills to the Central Bank of Manchou, which will distribute exchange funds by permission of the Exchange Bureau of the Bank.

Import and Export Link System

In order to promote the export trade, the link system was drafted to allow imports of raw materials in exchange for exports of manufactured goods in 1938. This system at the time of writing was adopted for the following articles.

Raw cotton imports for cotton yarns and tissues exports; wool imports for tops, woolen yarns, tissues and manufactures exports; noils, reclaimed wool, wool rags imports for felt hats and hat bodies, blankets, shawls, knitted goods exports; pulp imports for rayon, rayon tissues and manufactures exports; bristles, mexican fibre, ebony wood with white streak imports for export of brushes; manila hemp imports for Japanese-style paper exports; fragrant volatile vegetable oil and beef tallow imports for perfumed soap exports.

References:

Table Nos.: 1-6 a, 7 a & b, 8-11 a, 12-13 c, 14-17 a.

Key: a—Monthly Return of Foreign Trade of Japan, by Finance Department.
b—Department of Commerce & Industry.
c—Annual Report, Finance Department.

CHAPTER XXXX

SIX PREMIER CITIES

THE CITY PLANNING LAW

The rapid expansion of cities and towns in recent years has been such that their complete reconstruction is considered to be necessary as they hardly meet the radically changed requirements of modern traffic, sanitation, etc. The City Planning Law, first adopted in 1919, provides for the organization of the Central and Provincial City Planning Committees to deliberate on all important measures for preserving and promoting in and outside the city limits, matters of public welfare and benefit.

The expenditures involved are met either by the Government or by the communal bodies according as one or the other conducts the work. Private individuals materially benefited by the new plans and arrangements may be caused to bear the whole or part of the expenses within a certain limit. For raising the necessary fund, the municipality, with the approval of the Government, may levy upon the citizens special burdens not exceeding 12½% of land tax, 40% of prefectural taxes, etc. The law came into force in January, 1920, for the six premier cities of Tokyo, Kyoto, Osaka, Kobe, Nagoya and Yokohama, the same law being extended later to over forty smaller cities throughout the country including Sapporo, Otaru, Hakodate, Sakai, Amagasaki, Nagasaki, Niigata, Hiroshima, Okayama, Shimonoseki, etc., and is expected to do much for improving them as to street plan, sanitation, sewage system, etc., in harmony with the City Building Law passed by the Imperial Diet in April, 1919.

It may be noted that in September, 1922 Dr. Charles A. Beard, a noted American expert in municipal administration, arrived in Tokyo in response to the invitation of the Tokyo Municipal Research Board presided over by the then Mayor Viscount (afterward Count) Goto. Before he went home in March, 1923 he handed to the Mayor a report embodying the results of his six months' study of the important problem of Greater Tokyo. It has made a profound impression on the public.

Building Regulations.—The City Building Law came into operation on December 1, 1920, when the Rules for Operation were enforced. They specify the kind of building not allowable in the residential, industrial, or commercial quarters. A building in the residential quarters must not exceed, as a rule, 65 feet in height and in the other quarters 100 feet, though some allowance is made for those with spacious surrounding, such as a park, a road, etc.; in particular the height of a brick or stone building must not exceed 65 feet and that for a wooden one 50 feet.

Area and Population

Of the six premier cities, Tokyo now occupies the foremost place as to area and population in consequence of the expansion of the municipal district effected on October 1, 1932, as a preliminary to the realization of the Greater Tokyo plan. The following comparative table is based on the census taken.

Table 1. Area and Population of Six Premier Cities

	Population					
	Census					
	1925	1930	1935	Estimate 1937	Area (Sq. kms.)	Population per sq. km.
Tokyo	4,109,525	4,986,913	5,895,882	6,278,000	577.9	10,857
Osaka	2,114,804	2,453,573	2,989,874	3,215,300	185.1	17,379
Nagoya	783,754	926,141	1,110,314	1,187,700	158.8	7,470
Kyoto	826,456	952,404	1,080,593	1,134,500	288.7	3,926
Kobe	704,365	787,616	912,179	964,500	82.0	11,737
Yokohama	528,094	634,525	722,902	760,100	174.0	4,368

Note: International comparison statistics of city population will be found in the Chapter on Population and Emigration.

Table 2. Tax Burden in 1935–36

Cities	National Tax Total (¥1,000)	National Tax Per capita (Yen)	Prefectural Tax Total (¥1,000)	Prefectural Tax Per capita (Yen)	Municipal Tax Total (¥1,000)	Municipal Tax Per capita (Yen)	Grand Total Total (¥1,000)	Grand Total Per capita (Yen)
Tokyo	142,437	24.24	28,971	4.93	47,623	8.11	219,032	37.28
Osaka	62,060	20.76	17,416	5.83	27,487	9.19	106,963	35.78
Nagoya	15,246	14.08	4,644	4.29	8,260	7.63	28,149	26.00
Kyoto	11,288	10.45	6,190	5.73	8,230	7.62	25,709	23.79
Kobe	12,616	13.83	4,491	4.92	6,897	7.56	24,005	26.32
Yokohama	8,846	12.56	4,850	6.89	5,433	7.71	19,129	27.16

Table 3. Revenue of Six Premier Cities (Fiscal Year Ending Mar., 1938)
(In ¥1,000)

	Income from Tax Total	Income from Tax Per capita (Yen)	Income other than Tax: Property	Fees & Commissions	State Subsidies	Brought from Previous year	Loans	Sales of Property	Miscellaneous	Total incl. Others
Tokyo	51,698	8.768	2,149	69,422	3,682	2,105	113,725	3,164	33,656	295,611
Kyoto	9,213	8.526	183	16,925	348	2,325	10,628	279	6,512	92,277
Osaka	26,090	8.726	3,396	71,871	2,704	28,992	70,925	2,814	21,775	245,054
Yokohama ..	5,974	5.665	789	10,823	584	851	7,770	1,855	2,766	32,635
Kobe	11,680	12.804	342	28,906	317	3,030	4,763	....	6,590	58,522
Nagoya	8,818	7.942	108	12,239	168	1,030	8,143	683	6,087	38,804
Total	**113,472**	——	**6,966**	**210,186**	**7,802**	**38,333**	**225,955**	**8,795**	**77,386**	**719,903**

Table 4. Expenditure of Six Premier Cities
(In ¥1,000)

	Education	Civil Engineering	Sanitation	Industry	Social Works	Gas and Electric	City Planning	Sinking Funds	Miscellaneous	Total incl. Others
Tokyo	42,531	31,657	44,735	1,636	8,976	22,712	5,418	108,042	11,827	295,611
Kyoto	8,340	2,878	5,432	1,680	348	2,325	10,628	279	6,512	42,277
Osaka	34,637	20,421	22,356	1,542	2,704	28,992	80,925	2,814	21,775	245,054
Yokohama	3,588	1,410	3,759	342	1,316	3,560	527	14,702	2,357	32,635
Kobe	6,334	2,603	4,407	429	2,020	18,913	1,927	10,031	4,010	58,522
Nagoya	5,258	1,754	6,961	395	766	2,793	2,797	9,931	4,986	38,804
Total	**100,748**	**60,723**	**87,651**	**6,023**	**19,252**	**117,911**	**42,163**	**210,296**	**34,091**	**719,903**

Table 5. Municipal Loans Classified by Purposes (In ¥1,000)

	Year Ending Mar. 31:	Education	Sanitation	Industrial Encouragement	Disaster Civil Engrg.	Civil Engrg.	Electric and Gas	Social Enterprises	Total incl. others
Tokyo	1934....	25,228	90,447	16,815	323	340,093	180,946	5,690	722,713
	1935....	37,051	88,748	21,482	99	92,636	221,049	2,647	752,003
	1936....	66,328	124,144	33,934	281	158,457	243,129	5,412	782,404
	1937....	63,236	197,118	45,199	1,707	108,840	263,259	5,581	822,351
Osaka	1934....	16,426	46,551	15,449	——	132,609	216,160	18,300	450,608
	1935....	23,319	53,850	15,016	——	150,302	207,341	9,758	467,323
	1936....	35,668	55,806	17,302	2,320	157,979	208,422	7,244	493,336
	1937....	45,578	60,587	16,351	7,136	169,283	219,947	6,315	534,521
Nagoya	1934....	11,402	20,001	436	——	18,081	23,315	10,363	83,602
	1935....	14,908	19,593	635	——	29,687	23,196	1,248	90,532
	1936....	14,999	20,561	1,364	120	30,996	26,963	1,515	97,933
	1937....	17,644	19,955	1,854	109	39,000	27,326	807	108,168
Kyoto	1934....	9,113	4,062	3,237	249	2,405	5,942	7,197	36,561
	1935....	9,262	5,173	3,094	249	5,316	5,792	8,469	40,103
	1936....	3,255	3,260	2,935	——	8,528	4,487	8,273	46,382
	1937....	6,895	4,225	316	——	10,935	3,728	7,905	59,976
Kobe	1934....	1,940	1,279	6,294	——	7,599	35,240	4,524	107,777
	1935....	5,818	12,025	1,012	——	15,241	33,360	1,872	105,062
	1936....	8,044	9,928	984	391	9,982	15,709	1,227	106,121
	1937....	11,360	10,721	1,374	——	17,709	36,849	1,923	113,721
Yokohama ..	1934....	10,630	20,824	4,142	15,960	22,288	24,933	6,899	146,791
	1935....	10,983	16,398	4,087	15,648	25,207	30,016	6,443	161,511
	1936....	11,293	15,681	4,031	15,615	23,062	29,548	6,163	164,607
	1937....	8,706	11,622	3,975	15,574	21,038	29,397	4,710	177,058

SOCIAL WORKS

With the growing importance of social problems in general, the municipal authorities are attending to various social and relief works, though financial considerations are hampering their activities in this direction.

Among the various social undertakings calculated to give relief to the increasing pressure on living, there are two that deserve mention, as they have been taken up in recent years by various municipal authorities especially in the six premier cities. These are (1) the "public markets" and (2) the "common dining halls."

The Public Market.—The first markets of the kind was established in Osaka in 1918, soon after the "Rice Riots" which broke out in many parts of the country. At first rice was the sole article offered for sale, but subsequently the list has been very much enlarged and at present it covers most articles of food and other commodities of daily necessity. Exempt from tax, supplied direct by producers and enjoying other advantage that tend to reduce the cost, articles on sale at the public markets are reputed cheaper though considered a trifle poorer in quality than those brought by errand boys of retail-merchants to their regular customers. Those who patronize the public markets are people of middle and lower classes, and it is believed that the habit of buying direct at shops will grow, our people now being so dependent on their regular retailers as to leave them free to such articles. The example set by Osaka has spread to other cities, and at the end of 1936 there were in Tokyo as many as 45 such markets, in Osaka 53, in Kobe 12, in Kyoto 13 (end of 1935), in Nagoya 14, in Yokohama 6 and a number in other cities The public markets were at first temporary barrack sheds, but many have since been rebuilt in permanent style. At first no fee was charged on retailers using the stalls at a public market, but at present in most places the stall-keepers are charged a certain rate. Rates in Tokyo range from ¥10 to ¥2 per tsubo per month according to the location.

The Common Dining Halls.—Interesting to note the first common dining hall in Japan, that in Tokyo, owes its existence to a philanthropist, who with the idea of supplying cheap and wholesome food to poorer people started in 1918 the "Domestic dining hall" on the modest scale of serving 60 sitters at a time, Then appeared similar establishments in Osaka, Nagoya and other cities, most of them run by religious and other charity bodies, and a few as municipal undertakings. At first the charges were 8 sen for breakfast and 10 sen for either dinner or supper, but the tariff has been somewhat advanced lately owing to a rise of prices. At a model municipal hall in Tokyo 8 sen for breakfast and 10 sen for either dinner or supper is a rule, while in a corresponding establishment in Osaka the tariff is uniform, 12 sen.

THE RECONSTRUCTION OF TOKYO AND YOKOHAMA

Thanks to the indefatigable efforts made by both the authorities and citizens, this stupendous work of reconstructing the devastated area of Tokyo and Yokohama, covering no less than 8,783.333 acres and expending a sum of about 730 million yen, was thoroughly completed in March, 1930, when the Reconstruction Bureau of the Home Office which was created soon after the occurrence of the great disaster of 1923 to supervise the execution of the gigantic task was discontinued, some items of minor importance, that unfinished, being taken over by the reconstruction of the respective municipalities. In Tokyo, the memorable accomplishment of the great work was celebrated with appropriate ceremonies on March 26, 1930. A brief survey of some of the important items of the complicated reconstruction planning and its progress follows.

Street Adjustment

The main idea underlying this principal work of city planning in Tokyo was to increase the percentage of roads to the total area of the urban districts from only 12% before the disaster to 25%, nearly equal to the figures in Paris and Berlin. To enter into some details, the present street system consists of two principal main thoroughfares traversing the city, one running from south to north with a breadth of 33 to 44 metres and the other east to west with the breadth of 33 to 36 metres, these being crossed by 52 lines of secondary main thoroughfares, each with a breadth of 22 metres or over, and 112 lines of auxiliary roads, each 11 to 22 metres wide. The spaces thus divided are again crossed by a number of small streets each 6 to 11 metres wide. In the uptown sections outside the burnt area and the suburban districts, the cob-web pattern consisting of mixed radiating and circular lines has been adopted for remodelling the street lines according to the main road net plan mapped out in the summer of 1927. By the end of 1929 the whole of the 52 secondary main thoroughfares was com-

pleted and the auxiliary roads nearly completed in the summer of 1930.

Adjustment of Building Lots

What complicated the work of Reconstruction is that a new comprehensive city planning according to the approved principle of modern times is to be carried out without affecting the private interest of the citizens concerned. The long established system of purchasing or expropriating land necessary for the improvement of roads or canals or the erection of public schools, parks, etc., does not answer the purpose for the present reconstruction work which requires a vast area of land, approximately 700,000 tsubo (571.82 acres) being required for effecting the projected city planning. If steps were taken to purchase or expropriate such extensive area of lots and drive out the dwellers from the land thus purchased or expropriated some 200,000 citizens would be rendered homeless. For carrying out the dual work the burnt area was cut up into 65 re-plotting divisions, and in each a re-plotting committee of 16 to 25 members was elected by the landowners and tenants of the division with full authority to decide upon all matters regarding the auxiliary streets, the cutting up of blocks within its division into lots and distributing the new lots among the old owners. All the land taken for streets, parks and other public purposes in excess of 10 per cent. was paid for by the city or by the State according to the location and uses of the land condemned.

Of the 65 re-plotting divisions or sections into which the burnt area had been divided, the work in 15 divisions was taken up by the State as State undertaking and that in the remaining 50 divisions by the Municipality as municipal undertaking. The re-plotting in the entire area was completed by the end of 1929. The number of buildings removed in the re-plotting zone aggreated 203,461, and the removal of these buildings was completed early in 1930.

Bridges

Most of the wooden bridges in Tokyo and Yokohama having been destroyed or badly damaged by the 1923 disaster over 500 bridges (over 400 in Tokyo and about 100 in Yokohama) in important places were reconstructed quake-proof and fire-proof. Among the newly built bridges in the city of Tokyo, special attention is drawn to the six larger bridges on the Sumida River which were completed by February, 1928 at the cost of ¥13,000,000.

Parks

The reconstruction programme for Tokyo provided for the establishment of 3 large parks with an aggregate area of over 67,000 tsubo and 51 smaller parks with a total area of over 47,000 tsubo, the aggregate area thus coming to over 114,000 tsubo. The per capita area of parks has thus been increased from 37/100 tsubo before the disaster to 54/100.

The Fire Zones

The Zones specified in 1922 for the two cities of Tokyo and Yokohama had to undergo more or less modification in the following year. One of the most important legislations newly adopted since then as regards the fire zones was the enactment in 1924 of the Building Aid Regulation. The Treasury set apart in the Reconstruction Budget a sum of ¥20,000,000 with the object of allowing aid at the rate of ¥20-50 per tsubo to those who construct approved permanent buildings in the fire zones. This aid spread over five years ending 1928-29. The fund has so far been left practically untouched, only about 13% being disbursed. The explanation is that the period of overhauling the temporary buildings in the fire zones has been prolonged till 1938 and also chiefly because, as is generally thought, the calamity has too seriously crippled the citizens financially to enable them to start the construction of costly fire-proof houses. It should be remembered that the building area in the zone of Tokyo and Yokohama as converted to one-storey level area totals 1,352,000 tsubo (1,104.333 acres), but the permanent buildings sanctioned covered only 190,844 tsubo in both cities. In other words, the permanent buildings sanctioned did not exceed 14% of the total building area.

THE SIX PREMIER CITIES

TOKYO

Greater Tokyo

By absorbing the outlying districts comprising five towns and eighty-two villages Greater Tokyo was realized on October 1, 1932, the city being divided into thirty-five sections, and rising to the position of the largest city of Japan. In respect of area, the Greater Tokyo ranks fifth among the large cities of the world, covering an area of 577.9 square kilometers, as in 1937, and in respect of population Greater Tokyo with 6,278,000 inhabitants leads all large cities of the world, being second only to New York. Below is given statistics of the area and population of old Tokyo and new Tokyo:—

Table 6. New Tokyo Compared With Old Tokyo

	Area (Sq. kms.)	No. of households	Population		Area (Sq. kms.)	No. of households	Population*
Old Tokyo (1930) ..	83.6	414,710	2,070,913	New Tokyo (1937) .	577.9	1,275,800	6,274,000

Note: * Estimate.

TOKYO

Finance of Greater Tokyo

The finance of the city is divided into two kinds, namely, ordinary and special finances. The ordinary finance covers general revenue and expenditure such as office maintenance, education, public works, sanitation, maintenance of parks, cemeteries, etc., social works, city planning and reconstruction or rehabitation undertakings, while other items are grouped under the head of special finance. Principal items of the special finance are civic electric railways, electric power supply, motor-houses, harbour works and waterworks, etc.

The amount of net expenditure of both ordinary and special finances for 1938-39 recorded an increase of approximately 90 folds compared with that of 1898 (¥3,355,345) when Tokyo became an independent self-governing city. The municipal revenue principally consists of fees and charges, municipal loans, city taxes, government subsidy, payment on transfer, property account, treasury payment, compensation, prefectural subsidy, special assessment, proceeds of sale of property, indemnity, contribution, etc.

Below are given the statistics of the revenue and expenditure of Tokyo for the past few years (the figures covering both general and special accounts):—

Table 7. Net Revenue and Expenditure of Tokyo
(Excluding balance carried from previous year and reserves)
(In Yen)

Year Ending March 31:	Revenue	Index	Expenditure	Index	Per capita Revenue	Per capita Expenditure
1899	3,892,257	100	3,370,389	100	2.73	2.36
1933	152,856,895	3,927	164,345,256	4,876	28.78	30.94
1934	165,727,867	4,258	173,489,713	5,147	30.21	31.62
1935	211,111,275	5,424	224,014,021	6,647	37.28	34.58
1936	196,193,308	5,040	179,774,670	5,333	33.39	30.60
1937	221,396,938	5,088	211,074,271	6,259	36.93	37.11
1938*	239,728,780	6,159	238,455,096	7,075	39.39	39.18
1939*	267,408,145	6,870	268,301,506	7,965	42.67	42.76

Note: * Budget estimates.

The details of net revenue and expenditure are as follows:—

Table 8. Details of Revenue & Expenditure of Tokyo, 1938–39 Budget
(In ¥1,000)

	Ordinary Account	Special Account	Gross Total
(a) Revenue			
Properties	1,719	889	2,608
Fees and Commissions	8,259	61,255	69,514
State Subsidies	10,110	1,052	11,162
Renumerations	3,269	——	3,269
Sales of Properties	1,854	2,440	4,294
Municipal Tax	49,875	——	49,875
Collectable old Tax	17,979	——	17,979
Loans	44,262	36,992	81,254
From other accounts	5,049	92,999	98,048
Total including others	153,767	212,776	366,543
(b) Expenditure			
City (general)	15,544	585	16,129
Education	32,270	——	32,270
Industries	848	1,123	1,971
Health and Sanitation	17,562	2,511	20,073
Social Enterprises	6,995	3,900	10,073
Civil Engineering	38,927	9,848	48,776
City Water	——	25,510	25,510
Electric	——	35,012	35,012
Sinking Fund	——	70,033	70,033
To other accounts	34,485	63,756	98,241
Total including others	153,767	212,776	366,543

Sewage System.—The comprehensive sewage system first adopted in 1908 and revised in 1924 is based on this datum; population to be served 3,000,000 in old Tokyo; one half of the daily wasted matter to be discharged in 8 hours, supposing the per capita diem waste to be 0.167 sq. metres; maximum rainfall per hour estimated at 50 mm. The whole city is subdivided into three drainage sections in old districts and into four sections in new districts and the sewer-conduits measure 1,721,000 metres in all in old districts and 112,570 metres in new districts. The area to be drained totals 6,992 hectares in old districts and 14,219 hectares in new districts. Started in 1911 the work was partially completed before the seismic disaster of September 1923, which has very much dislocated the prescribed arrangement. At present the work is included partly in the Government rehabilitation and partly in the municipal improvement programme. The former has set apart ¥43,580,000 for the purpose, the work extending from the 1923 fiscal year to 1928. For completing the remaining sewage work and repairing the earthquake damage something like ¥76,000,000 was necessary, a sum which the city could ill afford to meet. The municipal authorities, therefore, decided to change it to the 1919-30 period work. Meanwhile for 20 places mostly situated in the saved area of the city, which from their natural formation have frequently been flooded on occasions of heavy rain, the authorities began improvement work at the estimate of ¥4,580,000, spread over from 1925 to 1929. With the commencement of the municipal sewage work the suburban towns have, at the instance of the city, also started their own sewage improvement.

The sewage works already completed and under construction as classified according to kind of works are shown below, with the amount of outlay and the period:—

Table 9. Tokyo's Sewage Works Already Completed
(March, 1937)

	Outlay		Measures completed (meters)	Time required for completion
	Estimate (Yen)	Disbursed (Yen)		
Old City:				
1st-term work	15,000,000	14,618,123	135,818	1911–1913
1st-term urgent work	2,520,000	2,497,989	14,876	1916–1920
2nd-term work	20,000,000	4,311,293	35,115	1920–1923
Reconstruction work	40,000,000	39,603,453	280,057	1923–1931
Sewer-conduits removal work	2,454,911	2,310,518	102,577	1923–1931
Temporary repair work	1,600,000	948,402	30,465	1926–1929
Unemployment relief work	3,749,000	3,397,000	45,360	1927–1930
City planning work (urgent)	3,000,000	2,674,000	39,615	1930–1932
2nd continuing city planning work (urgent)	8,250,000	7,561,000	120,534	1930–1933
Continuing city planning work (urgent)	5,740,000	5,600,000	33,792	1925–1934
New City:				
Already completed before amalgamation	6,390,000	6,390,000	183,760	1921–1932
Senju-cho sewage work (extraordinary)	27,000	19,000	703	1932

Table 10. Tokyo's Sewage Works Under Construction
(March, 1937)

	Outlay		Measures completed (meters)	Time
	Estimate (Yen)	Disbursed (Yen)		
Continuing city planning construction work	38,500,000	13,272,000	229,176	1932–1942
Continuing suburbs sewage improvement work	14,910,000	9,956,000	226,684	1932–1939

Road-making and Improvement.—The road-making and improvement programme of the prefecture and the city of Tokyo has undergone radical change since the earthquake disaster of 1923. There were, however, several items for which the design remained unaltered, except for the extension of the period of completion, including one to construct around the city a "circular" 12-ken road extending 19 m. 26 ch. 6 yd., besides the urban terminal of a little under 3 m. The whole is estimated to demand ¥25,000,000 approximately. The other is called the "radical" road, comprising the four national highways existing from olden time. The total length is 19 m. 16 ch. 5 yd., besides about half a mile terminal in the city. The effective width will be 48 to 72 feet and the expense is estimated at ¥18,750,000. The two road-makings were originally designated for completion in nine years beginning 1921, but the period has been extended five years more.

Pavement Work.—The pavement work was started by the city in the 1921 fiscal year as a six-year programme for principal thoroughfares

of 36 feet or over in width, but it was later transferred to the control of the Reconstruction Bureau for the most part. At the same time the city took up on its own account the paving of part of the saved area as a four-year work for completion in the spring of 1926. The area to be treated totals 348,000 tsubo with the cost estimated coming up to ¥3 millions. The area of pavement work completed by the spring of 1926, was, however, only about 190,000 tsubo or 239,000 metres in length, the average cost involved being ¥45 per tsubo. The materials used are wood-blocks, asphalt, concrete and cut stones. Some parts are to be macadamized.

The length and area of paved roads at the end of 1937 are shown below including those in new districts:—

Table 11. Area of Pavement of Tokyo
(March, 1937)

	Total road area (Sq. meters	Area of pavement (Sq. m.)	Per cent.
Old districts	15,055,772	14,101,885	93.7
New districts	33,057,182	11,263,421	34.1
Total	48,112,954	25,365,306	52.7

Bridges.—The bridges now number more than they were before the earthquake disaster, as those burnt have been either reconstructed or repaired while several have been newly constructed. The River Sumida is now spanned by ten large bridges of which four are new. Many more were constructed in other parts of the city. Taught by the tragic experience of the 1923 disaster they have been constructed quake-proof and fire-proof. At the end of December 1937 the bridges numbered 5,193.

Waterworks.—The water supply arrangements in Tokyo date back more than 350 years to the time of the Tokugawa Shogunate, when the primitive mode of conducting water by wooden pipes was adopted. This device was continued well into the Meiji era. In 1892-98 the work of renovation was carried out at an estimated outlay of ¥9,189,000 met by means of foreign loans. The work was based on the plan of providing for 1,500,000 people at the rate of 4 cubic feet per head. To meet the demand of the fast growing population a further expansion was decided upon in 1912 at an outlay of ¥20,-720,000 on a 7-year programme, further to be increased in 1920 to ¥47,600,000 in anticipation of the probable rise of prices by 1928. The seismic disaster of 1923 retarded the expansion work intended to supply 17,280,000 cubic feet a day on an average for 3,000,000 people. In 1924, the construction of part of the second period work requiring speedy execution was started with an outlay of ¥4,700,000 as a work spread over 3 years, and in 1926 the construction of two new additional reservoirs for completion by 1933 at an estimated cost of ¥22,-360,000 was taken up. At the end of March, 1937 the area supplied totalled 468 square kilometres, houses supplied 877,895 and people supplied 5,682,282. The condition of water supply in the last few years is as follows:—

Table 12. Statistics of City Water of Tokyo
(March, 1937)

	Area of water supplied (sq. km.)	No. of households	Volume of supply (cub. ft.)	Receipts (Yen)	Consumption per house old per day (cub. ft.)
Old area	468	367,533	98,167,124	8,625,946	0.732
New "		501,362	65,762,809	7,116,142	0.305
Total		877,895	163,929,933	15,742,088	0.518

Electric Tramways.—The municipalization of street tramways was realized in 1911. The purchase of the three tramways was effected at the cost of ¥63,915,000. At the end of March, 1936 there were 3,600 conductors and 2,100 drivers. The results of the municipal tramways in recent years are tabulated below:—

Table 13. Results of Municipal Tramways of Tokyo

Year Ending Mar. 31:	Working mileage (km.)	No. of cars			No. of Passengers carried (1,000)	Receipts (¥1,000)
		4-wheels	Bogies	Total		
1931	345.318	297	1,297	1,594	369,738	23,799
1932	345.283	294	1,181	1,475	335,439	21,562
1933	345.210	227	1,112	1,339	300,782	19,198
1934	346.779	227	1,131	1,358	295,686	18,853
1935	346.647	198	1,129	1,327	287,461	18,025
1936	346.539	190	1,127	1,317	294,189	18,475
1937	346.568	190	1,127	1,317	309,841	19,079

Motor Bus Service.—As an auxiliary traffic organ, the Municipality runs the auto bus service in various parts or sections of the city with a number of cars amounting to 1,035 and the total extension of the lines under operation being 179.3 kilometers at the end of March, 1937. In contrast to the decline shown in the tramway business, the municipal authorities have met with marked success in their bus service. The results of the motor service in recent years are shown below:—

Table 14. Results of Motor Service of Tokyo

Year Ending Mar. 31:	Working mileage (kms.)	No. of Cars	No. of Passengers: Total (1,000)	No. of Passengers: Per day	Receipts: Total (¥1,000)	Receipts: Per day (Yen)
1931	122.874	652	39,621	141,005	3,476	9,417
1932	135.494	658	39,081	106,779	3,277	8,953
1933	144.558	662	41,233	112,968	3,096	8,481
1934	148.564	809	48,589	133,116	3,527	9,662
1935	158.278	935	71,998	197,256	4,953	13,569
1936	168.503	935	79,192	216,372	5,555	15,179
1937	179.301	1,035	93,668	256,624	6,197	16,977

Subways.—The first subway line in Japan extending 1.27 miles between Asakusa and Ueno was constructed by the Tokyo Subway Co., and opened to traffic in December, 1927. As at the end of March, 1936 the total length of the lines operated was 8.0 kilometres. The number of passengers for 1935-36 was 28,956,000 approximately (daily average being 79,000). The terminals of the subway line in 1937 were Asakusa and Shimbashi. An extension to Shibuya from Shimbashi is under construction.

Electric Lighting.—The Municipality also operates the electric lighting business which it took over from the Tokyo Street Tramway Co., when the electric tramways were municipalized. The intrusion of the Municipality in this field has proved an occasion for breaking down the monopoly so far held by the private electric companies, and in lowering the tariff. At the end of March, 1937 the total lamps installed number 1,528,312, electric power supplied amounting to 68,790 k.w.

Tokyo Harbour.—With the rapid development and progress made by the City of Tokyo and the increase of population to nearly 6,000,000, the consumption of goods has risen to a corresponding degree. However, the harbour facilities are still inadequate to fulfil its complete function. The Tokyo Municipality, therefore, decided to carry out improvements with an estimated cost of ¥33,000,000 over the space of ten years, commencing with the year 1930. In 1937 about 25 per cent. of the work had already been completed. In 1922, the total tonnage of vessels which entered Tokyo Harbour was only 300,000 tons, but after the great earthquake disaster of 1923, the same showed a remarkable increase. Now the maritime installation of the harbour has accomodation for 34 vessels from 3,000 tons to 6,000 tons each alongside the quays at the same time. When these improvements are completed tentatively in 1940, the port will be able to receive 80 vessels of the 6,000 ton class at the same time.

Reclaimed Land—The sea within the harbour area was thoroughly dredged. From this dredging there has resulted a vast area of reclaimed lands. The reclaimed lands along the waterfront of Tokyo Harbour will be more than 2,000,000 square metres and the total area of reclaimed lands will reach about two times and a half of the entire area of Shiba ward. The greater part of this area is as yet untouched but the completion of the work, it is expected, will become the city's most important commercial and industrial districts.

Municipal Assets and Liabilities

At the end of October, 1937 the total assets of the Tokyo municipality amounted to ¥921,771,000. It showed an increase of ¥17,597,000 over the like date of the previous year. The details are as follows:—

Table 15. Tokyo Municipal Assets as at the End of Oct., 1937

(In 1,000 yen)

Land	377,380
Buildings	59,289
Machineries, etc.	247,709
Electric tramways	49,920
Electric wires and routes	51,859
Vehicles	37,763
Electric machine and tools	12,258
Ships	4,838
Securities	657
Deposits and cash	13,289
Loans	39,033
Total including others	921,771

The outstanding issue of the municipal loans as at the end of March, 1938 stood at ¥855,186,000. It is 437 times the corresponding figure as at the end of 1891 or soon after the municipalization of the city. This amount of loans works out at ¥140 per capita.

OSAKA

By the absorption of the outlying district in 1926 the industrial city of Osaka outstripped Tokyo (old Tokyo before its expansion in Oct., 1932) in area and population, the ambitious programme for realizing the Greater Osaka plan having been effected by 1928 with a fund of ¥200 millions. To mention the principal features of improvement, the main thoroughfares have been widened; all wooden bridges replaced by new structures of fire and earthquake-proof materials, the plan also providing for the construction or extension of subways, elevated street car lines, and surface electric railways. A central city market with a site of about 30 acres was established in 1928, and water supply capacity is to be increased to 128,000,000 gallons a day from 84,000,000. With the completion of the consolidation of the two adjacent counties (Higashinari and Nishinari) with the city, it must be added, the industrial capacity has been augmented by about 150 per cent., the value of industrial production for 1935 amounting to ¥1,503,339,937.

Principal Municipal Undertakings

1. **Waterworks.**—The genesis of the Osaka waterworks dates back to 1895 when the River Yodo that runs through the city was utilized for supplying water to 610,000 persons. This was next extended so as to provide for 800,000 and further for supplying a million more. The last work was the 4th waterwork programme commenced in 1925 and finished in February 1930, at the cost of ¥7,710,000. By the completion of this work the supplying capacity per day increased to 230 million koku, the total outlay amounting to over ¥930,000 including another construction work of water pumps and faucets commenced in 1929 and completed in 1931. The total area supplied reached upward of 83,000 tsubo and the number of persons provided totalled 300,000. In 1933 the municipal authorities undertook the fifth expansion work in view of the fast increasing demand in recent years, as a 5-year programme with an outlay amounting to ¥19,500,000 to provide for 3,300,000 persons and to increase the daily supply capacity to 862,000 cubic metres.

At the end of 1935-36 the number of houses supplied totalled 536,404 and the total volume of water supplied in the fiscal year amounted to 129,150,172 cubic metres, the average daily volume of water supplied for the total population in Osaka city amounting to 354,000 cubic metres.

Table 16. Statistics of Water Works of Osaka

	No. of houses supplied	Volume of water supplied (1,000 cubic meters)	Average daily volume of water supplied (1,000 cubic meter)	Volume of water supplied per household (cubic meters)
1930	454,345	95,719	262	211
1931	463,663	100,809	276	217
1932	473,093	105,009	287	222
1933	471,049	107,938	296	229
1934	500,435	116,688	320	233
1935	522,781	122,910	337	235
1936	536,404	129,150	354	241

2. **Electric Tramways.**—From the very outset the Street Electric Tramway within the city limits was a municipal undertaking, and at the end of December, 1937, 107.0 kilometres were open to traffic and the number of passenger cars totalled 796. Data on traffic service for the last few years are as follows:—

Table 17. Results of Tramways of Osaka

	Mileage (kms.)	No. of passengers carried (1,000)	Receipts (¥1,000)		Mileage (kms.)	No. of passengers carried (1,000)	Receipts (¥1,000)
1930	102.81	285,568	16,036	1934	103.93	250,078	14,064
1931	103.93	257,747	14,170	1935	104.00	260,705	14,623
1932	103.93	232,804	13,133	1936	106.50	267,290	14,961
1933	103.93	288,432	13,456	1937	107.00	277,513	15,465

Since January, 1930 the Municipalty has been constructing a high speed railway partly for the purpose of relieving unemployment. On May 20, 1933 a section of the railway was opened to traffic.

The working length of the railway at the end of December, 1936 was 4.1 kilometres and the number of cars in operation 23. The number of passengers for the year was 17,624,237 and receipts from fares ¥1,505,651.

The electric tramway service in the suburban districts is maintained by over nine lines conducted by seven private concerns, all connecting with the city lines at important points. The extension of the lines under operation totalled 929 kilometres as at the end of March, 1937. The results of those private lines are returned as follows:—

Table 18. Results of Private Lines of Osaka
(End of March, 1937)

	Mileage (kms.)	Passengers (1,000) Total	Per day	Receipts (¥1,000)
Nankai	150	112,766	309	8,821
Hanshin	73	82,907	227	8,539
Hankyu	78	66,205	181	8,411
Keihan	136	65,395	179	9,580
Osaka Electric..	138	48,817	134	7,467
Sangu Express..	223	7,141	20	2,539
Osaka Railway..	54	18,344	50	1,313
Hanwa	63	18,849	52	2,287
Hankai	14	3,335	9	187
Total	929	423,759	1,161	49,144

As an auxiliary transport organ in the city the Municipality is running the auto service in different sections, the total length of lines being 180 kilometres (on December 31st, 1937) and the service being maintained with 839 cars. The results of the service for the past few years are shown below:—

Table 19. Results of Bus Service of Osaka

	Working mileage (kms.)	No. of passengers carried (1,000)	Receipts (¥1,000)	No. of passengers per day (1,000)
1931....	143.3	34,559	2,256	91
1932....	146.1	44,286	2,634	121
1933....	152.2	48,531	2,890	133
1934....	164.4	56,456	3,368	155
1935....	173.4	72,417	4,254	198
1936....	175.5	84,098	4,891	230
1937....	180.0	99,615	5,831	...

3. Harbour Works.—The harbour works first started in 1897 on an 8-year programme at the estimated cost of ¥22,570,400, of which ¥4,680,000 and a portion of land valued at ¥1,900,000 came from the State treasury was followed by an extension work involving ¥2,200,000 on a 10 year programme in 1906. The whole work was completed in April 1929 after a period extending 33 years from the start, the total cost involved being ¥45 millions. The harbour covering 1,980,000 tsubo waterfront embraced by two breakwaters (54 cho and 28 cho in length respectively) and a reclamation covering 1,300,000 tsubo is capable of taking in 41 steamers of 5,000 tons capacity or 8 steamers of 10,000 ton capacity at one time. As the port suddenly gained in importance with regard to the import trade after the World War, further expansion work was planned and started in 1929 to be completed by 1936 at the cost of ¥9,160,000 of which ¥3,840,000 is supplied by the State treasury. In 1933 another reclamation work covering 920,000 square metres was started with a fund amounting to ¥5,220,000 on a ten-year programme, the land to be utilized for an aerodrome and a harbour. But, this programme had to be changed by a severe rain-storm which swept through Western Japan doing serious damage. An extensive programme was drawn up anew for the reconstruction and improvement of the harbour of not a temporary but permanent nature spreading over six years beginning 1934 and involving an expenditure of ¥23,800,000. The work is progressing steadily.

4. Sewage Works.—Warned by the outbreak of virulent epidemics in 1886 and 1890 the city undertook the improvement of sewage work in 1894-99 as regards the old city. In 1911 a further improvement was planned on a 10-year programme at an estimated outlay of ¥4,500,000, one-thrid of which was supplied from the State treasury. The work was started in 1909 and completed. In September 1928 further improvement work was planned on a 10-year programme at an estimated cost of ¥17,500,000. Another improvement work is in course of construction to be finished by 1941 as a continuing work from 1936 with a fund amounting to ¥58,500,000.

KYOTO

Municipal Undertakings

The three leading municipal undertakings, i.e. Canal and Water-power works, Waterworks, and Electric tramway, are briefly described below:—

1. Canal & Water-power Works.—The first Biwa Canal, completed in 1895 at the cost of ¥1,838,317 was designed for the conveyance of passengers and goods and also for the supply of waterpower, while the second canal, completed lately at the cost of ¥4,477,805 supplies water for drinking, fire brigade and for purposes of hydro-electricity, etc.

2. Waterworks.—The waterworks started in 1908 were completed in March 1912, at the cost of ¥3,000,000 of which ¥750,000 came from the State treasury. The water is drawn from Lake Biwa by means of the second canal and was designed as the first term work to provide for 500,000 people and the second work for 200,000 people. At the end of March 1936, the condition of water supply stood as follows:—

Length of water pipes 675,474 meters; No. of houses supplied 147,114 (67.4% of the total number of houses); No. of population supplied 707,228 (65.4% of the whole poulation); Volume of water supplied 42,917,300 cubic metres; Receipts ¥1,727,732.84.

3. Electric Tramways.—The municipal street tramways service commenced in 1908 now extends for 69.93 kilometres.

The results of the municipal tramways in the last few years are as follows:—

Table 20. Results of Tramways of Kyoto

Year Ending Mar. 31:	Open mileage (kms.)	No. of cars	Passengers carried	Passenger receipts
1931.....	56.1	417	102,978,000	¥5,914,000
1932.....	59.5	421	98,079,736	5,626,959
1933.....	59.5	421	93,323,574	5,400,500
1934.....	60.0	409	95,112,075	5,481,689
1935.....	62.7	410	97,275,703	5,601,309
1936.....	66.4	411	101,441,478	5,830,071
1937.....	67.2	410	104,554,000	5,983,000
1938.....	69.9	440	109,483,000	6,250,000

At the end of 1935-36 the municipal auto bus service involved 140 cars and the operating length of lines of 43.062 kilometres. The number of passengers carried during 1935-36 was 10,675,571 and the fare receipts amounted to ¥931,711.16.

YOKOHAMA

In April, 1927, the Greater Yokohama plan was put into effect by absorbing the outlying districts comprising two towns of Tsurumi and Hodogaya and seven villages, all these embracing 22,922 households with 109,193 inhabitants. By the absorption the city has had its area trebled and its population increased over 100,000 as shown in the following table:—

Table 21. Yokohama Old and New

	Area (Sq. kms.)	No. of household	Population
Old Yokohama (1911)	24.800	59,377	405,888
New Yokohama (1934)	52.129	82,229	515,081
Present Yokohama			
(1934)	133.875	154,181	703,900
(1935)	135.635	148,545	704,290
(1936)	173.180	155,785	738,400
(1937)	173,180	160,211	759,770

Tsurumi being a promising thriving industrial town lying between Yokohama and Tokyo, its annexation is judged as an important addition to the prosperity of the city, which being hilly in the rear and rather narrow in extent is unfit for industrial activity. Tsurumi and adjacent districts, while facing the waterfront of the harbour have sufficient level space in the rear to enable the new Yokohama to grow as an industrial city. Following this absorption the new city was divided into the following five sections:

Table 22. No. of Households & Population of Yokohama
(Oct., 1937)

	No. of household	Population	Pop. per household
Tsurumi-ku	26,153	127,600	4.88
Kanagawa-ku	34,552	168,200	4.89
Naka-ku	77,516	358,900	4.63
Hodogaya-ku	10,092	50,200	4.97
Isogo-ku	11,898	54,800	4.61
Total	160,211	759,770	4.74

Municipal Undertakings

Electric Tramways.—As at the end of March, 1936 the working mileage of the municipal tramways was 46.43 kilometres and the number of cars 200. The number of passengers carried during 1935-36 was 43,543,943, or the daily average of 119,298. Fare receipts were ¥2,789,261 which works out at ¥7,642 a day. At the end of March, 1936 the municipal motor bus service was conducted with 112 cars, the total working mileage being 71.39 kilometres. The number of passengers for 1935-36 was 12,286,708, or 336,622 a day on the average. Fare receipts were ¥776,668, the daily average being ¥21,729.

Gas Works.—The business was first started as a private enterprise but was municipalized in 1892. The estimated account for 1936-37 put revenue and expenditure at ¥1,870,169. The pipes laid measure about 731.75 miles and about 53,372 households have connection as at the end of 1935.

Waterworks.—The Yokohama waterworks enjoy the honour of being the pioneer in Japan and the estimated account of 1936-37 is ¥3,913,765 both for revenue and expenditure.

Harbour Works.—The harbour works, originally started in 1900 and practically finished in 1917, sustained an extensive damage in the great earthquake disaster of 1923, and the 3rd period work which had been going on since 1921 had to be temporarily suspended. The repair of the work damaged in the disaster was mostly finished in February, 1925 and the remaining work completed in 1930 at the cost of ¥22,000,000.

The Municipality obtained in June, 1928 an approval for a railway loan of ¥16,477,000 to be appropriated for the refilling-in work of the water fronts of 641,438 tsubo at Tsurumi and Koyasu in order to establish an industrial belt there on a grand scale. The work was started in 1933 by the Government and a part of the piers was opened in the spring of the same year.

KOBE

Municipal Undertakings

Water supply is the only undertaking Kobe conducts on its own resources, electric lighting, urban tramways, and gas works being all left to private enterprise while the reconstruction of the harbour is a State undertaking to which the city has been obliged to contribute about ¥3,000,000. Kobe is, however, free from foreign encumbrances, all the loans being domestic.

Waterworks.—The waterworks were at first designed in 1909 to supply 3 cubic feet per capita a day to 250,000 inhabitants, but the plan was later altered in scope and made to provide for 100,000 families, 25 cubic ft. a day. The work extended till 1923 and required the expenditure of ¥12,858,720 of which the State grants amounted to ¥3,403,000. In 1926 the Municipality carried out an expansion work of the water supply for the city by laying pipes in the eastern suburbs to draw more water from the Chikari pond behind Mt. Rokko. The work has already been finished.

Electric Tramways.—The tramway system within the city limits is operated by the Municipality. There are five private tramway companies attending to the suburban service, these being the Shinyu Railway (operating Kobe-Arima line), the Sanyo Electric Railway (operating Hyogo-Himeji line) the Hanshin Electric Railway (operating Kobe-Osaka line), the Hanshin Express Electric Railway (operating Kobe-Osaka line), and the Hanshin Kokudo Electric Railway (operating the line laid in 1927 along the national highways between Osaka and Kobe and forming a parallel line to the State railway).

The number of passengers carried by the municipal tramways during 1935-36 was 88,824,009 and earnings ¥4,879,855.

Besides the electric tramway service, the Municipality runs an auto bus service, the number of cars in operation at the end of 1935-36 being 203 and the length of routes under operation 69.77 kilometres. The number of passengers carried during 1935-36 was 15,001,785 and earnings ¥1,301,698 or ¥3,566 a day on an average.

Harbour Works.—The first term work extending over 16 years, started in 1907 at the total cost of ¥15,090,000 of which ¥3,660,000 was borne by the Municipality, was completed in March, 1922. The harbour now has four quays (1,592 ken long) with berth for 19 boats of 3 to 20 thousand tons (about 400,000 tons) at the same time. The second term work which was taken in hand in 1919 as a 15-year programme with a view to reclaiming a water-front of about 91,600 tsubo at the estimated cost of ¥50,320,000, is now nearing completion. Upon its completion the harbour will have capacity for 15 more large steamers.

NAGOYA

Municipal Undertakings.—Nagoya manages on its own resources its waterworks, sewage, street tramways, slaughter-houses, public cemetery, and the disposal of garbage, etc. The waterworks, first completed in 1918 at the cost of ¥5,279,882, provided for supplying 4 cubic ft. per day per capita to a million people, but owing to the fast increasing consumption and the expansion of the city limits in 1921 the 2nd-term extension work was started in 1923 with an outlay amounting to ¥346,048 and the 3rd term extension work was taken in hand in 1926 to supply 3,880,000 cubic ft. a day to 970,000 more people at the cost of over ¥6,996,603 spread over 6 years. The work was partially finished in 1928 and supplied 47,021 cubic ft. a day to 83,837 households as at the end of September, 1929. In 1929 the 4th-term work extending to 1932 was started at a cost of ¥3,750,000. This being completed in March, 1933, another extension work was taken in hand in 1933 at a cost of ¥2,485,000 the total outlay from the beginning amounting to ¥18,857,533.

The results of waterworks in the last few years are shown in the following table:—

Table 23. Results of Water Works of Nagoya

	Volume of water filtered (cubic meters)	Volume of water supplied (cubic meters)	No. of houses supplied	Total No. of hydrant fire hoses	Receipts (Yen)
1924.....	16,098,095	14,519,260	61,364	46,181	716,079
1925.....	16,439,648	15,106,604	66,177	51,156	1,090,218
1926.....	16,213,943	14,867,941	71,112	55,249	1,211,435
1927.....	17,254,526	15,940,678	77,343	59,265	1,234,495
1928.....	18,356,278	17,716,565	85,816	66,407	1,255,333
1929.....	21,081,730	19,205,493	98,947	75,898	1,315,745
1930.....	21,297,948	19,701,709	106,396	81,303	1,325,622
1931.....	25,548,244	25,191,755	122,324	94,913	1,508,878
1932.....	28,853,673	28,578,712	134,137	104,807	1,624,190
1933.....	34,433,159	34,333,350	135,436	112,051	1,697,905
1934.....	....	38,986,390	145,165	....	1,832,242
1935.....	44,404,110	40,479,680	163,737	126,548	1,938,511
1936.....	50,167,550	47,653,710	172,211	132,841	....
1937.....	54,920,930	52,741,780	171,678	152,878	....

Street Tramways.—The street tramways formerly conducted by a private concern was municipalized in 1922 at the cost of ¥11,927,364. The lines, which extended for 51.16 miles and numbered 15, increased to 22 lines in 1930-31. The 1st-term improvement work was started in 1922 as a 5-year programme with an outlay of about ¥10,040,000 of which ¥6,460,000 was raised by loans. In 1926 the 2nd-term improvement work was taken up as a 9-year work with a fund amounting to ¥24,200,000, which was completed in 1930, and in 1931 the authorities undertook another extension work spreading over 3 years with a fund amounting to ¥2,960,000. The business results in recent years are shown below:—

Table 24. Results of Tramways of Nagoya

Year Ending Mar. 31:	Working kilometers	No. of cars	No. of passengers (1,000)	Train-kilometers (1,000)	Total receipts (¥1,000)	Total expenses (¥1,000)
1931.....	53.5306	328	67,917	15,580	3,715	2,217
1932.....	53.5306	328	62.516	15,379	3,411	2,155
1933.....	54.1750	328	60,399	15,693	3,286	2,101
1934.....	54.6070	328	62,755	16,237	3,370	2,836
1935.....	55.0190	328	62,924	16,671	3,351	2,193
1936.....	55.0190	309	69,244	17,239	3,543	2,272
1937.....	84.401	316	76,079	....	4,020	....

Motor-bus.—Started in February, 1930, the monthly receipts averaged ¥27,933.50, the number of cars was 40 in the initial year. Receipts for 1935-36 totalled ¥1,564,742.43 and the number of cars at the end of March, 1936 was 346. The results of the business in the last few years are shown below:—

Table 25. Results of Motor-bus Service of Nagoya

Year Ending Mar. 31:	Working mileage (kms.)	No. of cars	No. of passengers (1,000)	Train kilometers (1,000)	Total receipts (Yen)	Total expenses (¥1,000)
1931.....	54.612	124	10,358	6,495	613,540	506,801
1932.....	67.347	141	13,802	8,413	817,037	716,036
1933.....	69.847	141	16,266	9,266	963,708	770,453
1934.....	101.047	174	19,172	....	1,097,201	933,636
1935.....	102.047	174	21,392	11,396	1,212,188	909,098
1936.....	113.847	346	27,525	12,996	1,564,742	....
1937.....	156.287	...	52,904	....	3,021,262	....

Harbour Works.—The first work was started in October, 1907. At present the harbour has a capacity for 10,000 tons of steamers. The 4th period expansion work is in course of construction at the cost of ¥2,120,000.

FOREIGN TRADE OF PRINCIPAL PORTS

The following tables will serve to show the general situation of the foreign trade of Yokohama, Osaka, Kobe and Nagoya in recent years:—

Table 26. Foreign Trade By Principal Cities

(Amount in ¥1,000)

Through the Ports of:		Exports			Imports		
		Amount	Index	% to Total	Amount	Index	% to Total
Yokohama	1932	400,659	100	28.4	355,358	100	24.8
	1933	500,888	125	26.9	456,354	128	23.8
	1934	490,201	122	22.6	537,316	151	23.5
	1935	626,017	156	25.6	616,588	174	24.9
	1936	678,323	169	25.2	687,012	194	24.9
	1937	800,002	197	25.2	1,047,600	295	27.7
Kobe	1932	499,302	100	35.4	535,647	100	37.4
	1933	650,539	110	35.0	641,122	120	33.4
	1934	790,601	159	36.4	791,544	148	34.7
	1935	910,899	183	37.2	821,641	153	33.2
	1936	970,784	194	36.0	958,220	179	34.7
	1937	1,107,552	222	34.9	1,119,515	209	29.6
Osaka	1932	334,212	100	23.7	267,987	100	18.7
	1933	463,529	139	24.9	441,692	165	23.0
	1934	586,180	176	27.0	522,290	195	22.9
	1935	620,143	186	25.3	546,750	204	22.1
	1936	672,233	201	25.0	593,264	221	21.4
	1937	853,105	256	26.9	835,183	312	22.1
Nagoyâ	1932	64,459	100	4.6	69,553	100	4.9
	1933	89,420	139	4.8	91,178	131	4.8
	1934	115,515	179	5.3	88,526	127	3.9
	1935	129,478	201	5.3	95,529	137	3.9
	1936	131,501	204	4.9	108,777	156	4.0
	1937	147,909	229	4.7	148,329	213	3.9
Total including others	1932	1,409,992	100	100	1,431,461	100	100
	1933	1,861,056	132	100	1,917,220	134	100
	1934	2,171,925	154	100	2,282,531	152	100
	1935	2,449,073	174	100	2,472,236	173	100
	1936	2,692,976	191	100	2,763,681	194	100
	1937	3,175,418	225	100	3,783,177	264	100

References:

Table Nos.: 1 a, 2-5 b, 6-25 c, 26 d.

Key: a—Cabinet Statistic Bureau.
b—Department of Home Affairs.
c—Reports by Each Municipal Bureau.
d—Monthly Return of Foreign Trade of Japan, by the Department of Finance.

CHAPTER XXXXI

SPORTS

INTRODUCTORY REMARKS

Virtually every known sport is played in Japan. The principal machinery that controls sports in the Empire consists of the Japan Amateur Athletic Association, to which matters concerning international competition are generally referred to, the Nippon Rikujo Kyogi Renmei (Japan Amateur Track and Field Federation), the Nippon Suijo Renmei (Japan Swimming Federation), and the Japan Student League of Track and Field Sports. Headquarters of these organizations are located in Tokyo.

SWIMMING

The Japanese have shown ability particularly in swimming, and in this sport the country has enjoyed world-wide fame. Among the recent aquatic achievements of Japan may be mentioned the championship she won at the 10th and 11th Olympic Games at Los Angeles in 1932 and at Berlin in 1936. There are swimming meets, well organized in every detail necessary, for students from the grammer schools up to the universities. Thus is seen the reason why talent is discovered and then developed.

The aquatic callendar of Japan was brightened in 1937 by the visit of a squad of noted American swimmers who arrived at Yokohama in July. The American swimming team was composed of the following: Jack Medica, Adolf Kiefer, John Higgins, Elbert Root and Miss Katherine Rawls. All of the American stars performed well. Among the outstanding perpormances in the events at Tokyo were the world's record for the 200 meters breast-storke hung up by Hamuro; the 100 meter back-stroke won by Adolf Kiefer, women's 100 meter back-stroke won by Miss Rawls and the 400 meter free-style won by Makino who defeted Jack Medica by a touch.

Perfonmances at the aquatic meets are shown below:—

Table 1. Results of All-Japan Aquatic Meet Held at the Meiji Shrine Pool

(August 14–16, 1937)

Men's Contests

Event	1st. Time	1st. Name	2nd. Time	2nd. Name	3rd. Time	3rd. Name
100 m. free style	58.4	S. Arai	60.0	Kataoka	60.8	Sasaki
200 " "	2:13.2	S. Arai	2:13.8	Sugiura	2:19.2	Kataoka
400 " "	4:50.8	S. Makino	4:51.0	Medica	4:51.6	Sugiura
1,500 " "	19:37.8	H. Takahashi	19:50.6	Tanaka	19:58.2	Honda
500 m. backstroke	30.4*	A. Kiefer	31.6	Kojima	31.6	Yoshida
100 "	1:07.6*	A. Kiefer	1:09.4	Yoshida	1:09.6	Kojima
100 m. breaststroke	1:13.6	R. Koike	1:13.6	Hamuro	1:16.4	Ito
200 "	2:40:4†	T. Hamuro	2:44.4	Koike	2:45.2	Noda
High Diving (pt.)	151.01	E. Root	143.77	Shibahara	133.02	Koyanagi

Women's Contests

100 m. free style	1:09.8	K. Rawls	1:16.0	Takuma	1:16.4	Umemura
200 " "	2:52.6	T. Furuta	2:52.8	Takuma	2:53.4	Miura
400 " "	6:00.6	Y. Miki	6:01.8	Miura	6:08.6	Akiyama
50 m. backstroke	40.0	S. Ito	40.6	Aita	41.0	Izumi
100 "	1:24.2	K. Rawls	1:26.2	Ito	1:29.0	Yamamoto
100 m. breaststroke	1:31.0	C. Nanri	1:31.4	Tsuboi	....	Kajioka
200 "	3:16.0	U. Tsuboi	3:18.4	Nanri	3:22.2	Goto
Spring Board (pt.)	107.07	K. Rawls	90.90	M. Osawa	66.63	R. Osawa
High Diving (pt.)	36.15	M. Osawa	32.61	R. Osawa	31.41	Yokoyama

Note: * Indicates Japan's Highest International Record.
† Indicates Japan's & World Highest Record.

Kwanto Aquatic Meet

One of the outstanding results obtained in the 1938 Kwanto Championship, held at the Meiji Shrine pool on August 10, 1938 was the establishment of a new world record in the 1,500-meter free-style event. Tomikatsu Amano, of Nihon University swimming the 1,500-meter free-style race set the new world time of 18 minutes, 58.8 seconds, renewing that of Arne Borg of Sweden set in 1927, by 8.4 seconds. Another world record was achieved by Shigeo Arai of Rikkyo University in the 200-meter free-style event when he negotiated the distance in 2 minutes, 9.6 seconds.

Comparison of Amano's Lap-time with Arne Borg's

Distance (meters)	Arne Borg	Amano	Dis'ance (meters)	Arne Borg	Amano
100	1,03.0	1,06.4	900	11.25.8	11.16.2
200	2.19.4	2.20.2	1,000	12.43.4	**12.33.8**
300	3.38.0	3.35.8	1,100	14.18.4	13.51.4
400	4.56.0	4.52.6	1,200	15.18.4	15.08.8
500	6.15.0	**6.09.0**	1,300	16.35.6	16.26.2
600	7.33.0	7.25.4	1,400	17.54.0	17.44.0
700	8.51.0	8.42.0	1,500	19.07.2	**18.58.8**
800	10.09.0	9.59.2			

Note: Figures in black indicate world records.

Performances at recent aquatic meets are shown below:—

Rable 2. Results of 1938 All-Japan Aquatic Meet

(At the Koshien Pool Osaka, Aug. 19–21)

Men's

	1st Time	1st Name	2nd Time	2nd Name	3rd Time	3rd Name
100 m. free style	60.0	T. Sasaki	62.4	Tsuruoka	63.0	Koyanagi
200 " "	2:10.6*	S. Arai	2:15.8	Miyamoto	2:19.4	Sasaki
400 " "	4:47.0	S. Arai	4:47.4	Amano	4:56.6	Miyamoto
1,500 " "	19:19.2	T. Amano	20:01.4	Honma	....	Koshido
50 m. backstroke	31.0	Y. Kojima	32.0	Taniguchi	32.4	Sakamoto
100 "	1:09.2	Y. Kojima	1:11.0	Taniguchi	....	Sakamoto
100 m. breaststroke	1:13.0†	T. Hamuro	1:13.0	Koike	1:17.0	Oura
200 "	2:42.2	T. Hamuro	2:44.6	Oura	....	Tobata
High Diving (pt.)	3:20.4	T. Shibahara	103.77	Koyanagi	....	....

Women's

100 m. free style	1:16.6	M. Taniguchi	1:16.6	Iijima	1:17.6	Yoshida
200 "	2:51.0	H. Miura	2:51.0	Taniguchi	....	Takuma
400 "	6:01.4	H. Miura	6:13.8	Muraoka	....	Miki
100 m. backstroke	1:26.0	S. Ito	1:28.2	Yamamoto	....	Iijima
100 m. breaststroke	1:32.0	K. Nakayama	1:32.2	Nonaka	1:33.0	Nanri
200 "	3:20.4	K. Nakayama	3:21.6	Nonaka	....	Okawa
Spring Board (pt.)	88.95	M. Osawa	86.78	R. Osawa	....	Yokoyama
High Diving (pt.)	33.46	R. Osawa	32.82	Tanaka	....	Yokoyama

Note: * Indicates New World & Japanese Records.
† Indicates Japan's Tie Record.

Table 3. Results of 17th All-Japan Students Aquatic Meet

(At the Meiji Shrine Pool, Sept. 17, 1938)

	1st Time	1st Name	2nd Time	2nd Name	3rd Time	3rd Name
50 m. free style	26.8	Y. Miyazaki	26.8	Sasaki	26.8	Hasegawa
100 " "	58.4	S. Arai	58.8	Sasaki	61.4	Sugiura
200 " "	2:12.0†	S. Arai	2:17.0	Sagitani	2:18.6	Sugiura
400 " "	4:48.0	H. Takahashi	4:51.6	Amano	4:52.0	Makino
800 " "	10:04.2	T. Amano	10:05.2	Takahashi	10:14.6	Makino

	1st Time	1st Name	2nd Time	2nd Name	3rd Time	3rd Name
50 m. backstroke	31.0	Y. Kojima	31.8	Taniguchi	32.0	Yoshida
100 "	1:08.8†	Y. Kojima	1:10.4	Yoshida	1:11.0	Taniguchi
100 m. breaststroke	1:13.0*	T. Hamuro	1:13.2†	Koike	1:15.2	Yamada
200 "	2:42.8†	T. Hamuro	2:42.0†	Koike	....	Oura
High Diving (pt.)	112.91	Koyanagi	109.98	Shibahara	82.41	Yano
800 m. relay	9:11.8	Rikkyo Univ. (Arai, Honma, Iwakiri, Uto.)	9:14.8	Waseda Univ. (Sugita, Shinma Makino, Sugiura.)	9:15.8	Keio Univ. (Takahashi, Terada, Watanabe, Shimamoto.)

Note: * World & Japanese Tie Records.
† Highest Records for the All-Japan Students Meet.

Table 4. Japanese Swimming Records Compared With World Records

Men's Free Style

	Japanese Record Time	Holder	Year	World Record Time	Holder	Year
100 meters	57.2	Yusa	1935	56.4	Fick (U.S.)	1936
200 "	2:09.6	Arai	1938	2:07.2	Medica (U.S.)	1935
300 "	3:32.0	Negami	1935	3:21.7	Medica (U.S.)	1935
400 "	4:45.2	Negami	1935	4:38.7	Medica (U.S.)	1934
500 "	6:09.0	Amano	1938	5:57.8	Medica (U.S.)	1933
800 "	9:55.8	Makino	1935	9:55.8	Makino (Japan)	1935
1,000 "	12:33.8	Amano	1938	12:33.8	Amano (Japan)	1938
1,500 "	18:58.8	Amano	1938	18:58.8	Amano (Japan)	1938

Men's Breaststroke

100 meters	1:13.0	Koike	1935	1:10.0	Higgins (U.S.)	1933
	1:13.0	Hamuro	1938			
200 "	2:40.0	Hamuro	1937	2:37.2	Kasley (U.S.)	1936
400 "	5:24.4	Tsuruta	1928	5:45.0	Jensen (Denmark)	1935
500 "	8:30.8	Tsuruta	1928	7:23.8	Kaye (U.S.)	1935

Men's Backstroke

100 meters	1:07.2	Kiyokawa	1936	1:04.8	Kiefer (U.S.)	1936
200 "	2:31.2	Yoshida	1936	2:24.0	Kiefer (U.S.)	1935
400 "	5:23.2	Yoshida	1936	5:13.4	Kiefer (U.S.)	1936

Men's Relay

800 meters	8:51.5	Yusa, Sugiura Taguchi, Arai	1936	8:51.5	Yusa, Sugiura, Taguchi, Arai (Japan)	1936

Women's Free Style

	Japanese Record Time	Holder	Year	World Record Time	Holder	Year
100 meters	1:11.0	Kojima	1936	1:04.6	Ouden (Holland)	1936
200 "	2:45.0	Kojima	1933	2:25.3	Ouden (Holland)	1935
300 "	4:22.6	Morioka	1935	3:50.4	Ouden (Holland)	1935
400 "	5.58.0	Kojima	1933	5:16.0	Ouden (Holland)	1934
500 "	7:44.8	Morioka	1933	6:45.7	Hvegar (Denmark)	1936
800 "	12:31.8	Morioka	1935	11:11.7	Hvegar (Denmark)	1936
1,000 "	15:57.0	Morioka	1933	14:44.8	Madison (U.S.)	1931
1,500 "	24:08.6	Morioka	1933	22:36.8	Frederiksen (Denmark)	1936

Women's Breaststroke

100 meters	1:25.7	Maehata	1935	1:20.2	Holzner (Germany)	1936
200 "	3:01.9	Maehata	1936	3:03.4	Maehata (Japan)	1933
400 "	6:37.6	Maehata	1933	6:24.8	Maehata (Japan)	1933
500 "	8:03.8	Maehata	1933	8:03.8	Maehata (Japan)	1933

Women's Backstroke

	Japanese Records			World Records		
	Time	Holder	Yeat	Time	Holder	Year
100 meters	1:25.1	Yokota	1932	1:13.6	Senff (Holland)	1936
200 "	3:10.4	Yokota	1933	2:48.7	Holm (U.S.)	1936
400 "	——	——	——	5:59.8	Mastenbrock (Holland)	1936

Women's Relay

400 meters	5:06.7	Kojima, Yokota, Morioka, Arita	4:32.8	Selback, Mastenbrock, Wagner, Den Auden (Holland) 1936

BASEBALL

Baseball is without question the most popular sports in Japan, being a favorite game among all classes of boys, from primary school children to college students. It is played during the greater part of the year on every available park in the country. It was first introduced by the American professors who were engaged in 1876 for the newly created Sapporo Agricultural College (now Hokkaido University). In reviewing the history of the sport, we may note that in 1905, the Waseda University team made the first expedition to the United States and in 1907, Keio University invited the St. Louis team of Honolulu, Hawaii. Since then, Japanese teams and those of American universities have frequently exchanged visits. Baseball has progressed to such a state in this country that it can be safely said that the leading university teams of Japan today are stronger than most of the collegiate teams of the United States.

The creation of the Tokyo Six University Baseball League (Keio, Meiji, Rikkyo, Hosei, Tokyo Imperial and Waseda) in 1925 placed the sport on a firm basis. Games of this league are played during the spring and fall and comprise the greatest event of the nation's annual sports program. The Keio-Waseda series are synonymical of the world series of the American major leagues with crowds of more than 50,000 seeing each game.

The standing of the universities in the series is given below:—

Results of Tokyo Six Univ. Baseball League
(Spring, 1938)

	W	M	H	K	R	I.U	Won	%
Waseda ..	x	2	1	1	1	2	7	.70
Meiji	0	x	1	2	2	2	7	.70
Hosei	1	1	x	1	0.5	2	5	.55
Keio	1	0	1	x	1	2	5	.50
Rikkyo ...	1	0	1.5	1	x	1	4	.45
Imp. Univ.	0	0	0	0	1	x	1	.10
Lost ...	3	3	4	5	5	9		

Note: Fractional number indicates drawn games.

Winning percentages of the two teams (Meiji and Waseda) being the same, the penant game was held in which the former beat the latter by the score of 4–0. Meiji University thus won three consecutive championships in the Tokyo Six University Baseball League. In the autumn series of 1938 Meiji again won the championship.

Winners of the Tokyo Six University League

Year	Spring game	Autumn Game
1925	(no game)	Waseda
1926	Keio	Waseda
1927	Keio	Meiji
1928	Meiji	Keio
1929	Keio	Waseda
1930	Keio	Hosei
1931	Keio	Rikkyo
1932	Keio	Hosei
1933	(no game)	Rikkyo
1934	(" ")	Hosei
1935	Hosei	Waseda
1936	Meiji	Waseda
1937	Meiji	Meiji
1938	Meiji	Meiji

GOLF

Golfiing in Japan dates back to 1907 when the first All-Japan amateur championship was played and won by a Mr. Lawson. While the game has been played chiefly by the moneyed classes, there in no doubt that it is growing in popularity. Waseda, Meiji and Keio universities, for instance, have organized a Kanto Students Golf Federation and its first championship tournament was played in August, 1935. At present there are no fewer than 13 clubs in the country and some of the courses compare favorably with the best in the world.

Winners in the All-Japan Open Championship are given below:—

Table 5. Holders of All-Japan Open Golf Championship

Year	Winners	Score
1927.....	Akaboshi	309
1928.....	Asami	301
1929.....	Miyamoto	298
1930.....	Miyamoto	287
1931.....	Asami	281
1932.....	Miyamoto	298
1933.....	Nakamura	294
1934....	(Cancelled because of rain).	
1935.....	Miyamoto	296
1936.....	Miyamoto	293
1937.....	Chin	284

Past title-holders of the All-Japan amateur and professional crowns are as follows:—

Table 6. Holders of All-Japan Amateur Golf Championship

Year	Winners	Score	Losers
1927	S. Nomura	4–3	T. Ichiji
1928	S. Akaboshi	up(36h)	H. Kawasaki
1929	F. H. Brown	–up	S. Nakamura
1930	R. Akaboshi	10–9	T. Soma
1931	K. Nitta	6–5	S. Takahata
1932	K. Narimiya	4–3	N. Nabeshima
1933	N. Nabeshima	5–3	K. Narimiya
1934	N. Nabeshima	10–8	A. Akaboshi
1935	N. Nabeshima	12–11	K. Nitta
1936	G. Sato	1 up	K. Narimiya
1937	G. Sato	6–4	N. Nabeshima
1938	G. Sato	2–1	Kubota

Table 7. Holders of All-Japan Professional Golf Championship

Year	Winners	Score	Losers
1931	R. Asami	7–5	S. Chin
1932	L. Montes	4–3	J. Morioka
1933	L. Montes	6–5	M. Rin
1934	T. Miyamoto	3–1	J. Ishii
1935	T. Toda	7–5	S. Chin
1936	T. Miyamoto	5–3	J. Miyamoto
1937	I. Uekata	1 up	S. Chin

Leading golf links in and about Tokyo, Yokohama and other places are as follows:—

Table 7—B. Leading Golf Links

Name	No. of holes	Length (yards)	Area (tsubo)	Location
Kawana Golf Link	18	7,084	....	Ito, Shizuoka Prefecture
Tokyo Golf Club (Asaka Course)	18	....	220,000	Tokyo
Kobe Golf Club	18	5,000	....	Mt. Rokko, near Kobe
Hodogaya Country Club	18	6,105	....	Hodogaya, Yokohama
Yokohama Golf Club	9	2,312	....	Negishi, Yokohama
Maiko Country Club	9	2,482	....	Tarumi, Hyogo Prefecture
Naruo Golf Club	9	3,300	....	Naruo, Hyogo Prefecture
Inagawa Golf Course	18	6,557	160,000	Inagawa, near Naruo, Hyogo Prefecture
Ibaraki Country Club	18	6,300	....	Ibaraki, Osaka Prefecture
Musashino Country Club	18	6,475	....	Kazama-mura, Chiba Prefecture
Nagoya Golf Club	18	6,063	....	Aichi Prefecture
Kasumigaseki Golf Club	18	6,600	....	Kasumigaseki, Saitama Prefecture
Fujisawa Golf Club	18	6,350	180,000	Fujisawa, Kanagawa Prefecture
Hirono Golf Club	18	——	250,000	Mino-gun, Hyogo Prefecture
Fujigaya Link	18	6,750	....	Fujigaya, Higashi Katsushika-gun, Chiba Prefecture
Takanodai Golf Club	18	6,720	200,000	Koushibashi-mura, Chiba-gun, Chiba Prefecture
Sagami Country Club	18	6,535	....	Yamato-mura, Koza-gun, Kanagawa Prefecture
Abiko Golf Club	18	6,374	....	Abiko, Chiba Prefecture

BOXING

For boxing, Japan is much indebted to Captain Warren J. Clear formerly of the American Embassy, who at the invitation of General Ugaki, then Minister of War, began instruction in 1924 of a class of 45 officers and non-commissioned officers in the art of self-defense. To the 9th Olympic Games at Amsterdam in 1928, Japan sent two champions, Usuda and Okamoto. The former had had experience and fought his way to the semi-finals in his division. In 1932, five men were sent to the Olympic Games in Los Angeles.

Through the organization of the All-Japan Professional Boxing Federation in the fall of 1935, professional boxing took a great spurt. For the first time, champions for the respective divisions were decided after an elimination tournament between November 5 and December 26, 1934, the finals being held at the Kokugikan wrestling arena of Tokyo.

Amateur boxing is an important sports event in the country's inter-collegiate circles and is gaining in popularity.

BASKETBALL

Basketball had a hard struggle to get a start in Japan, and it was not until the fall of 1921 that a tournament was run off in connection with

the annual track and field championships, four teams responding, all from the Y. M. C. A.'s of Tokyo, Yokohama and Osaka. Eager to master this sport, the Japanese have been practising conscientiously and have developed players to such a stage that a representative all-star Japanese team is able tody to proyide interesting competition for the best clubs in the world.

The visit of an American team, comprised of collegiate stars in May, 1935, was a highlight in the basketball program during the past year. While the visitors won all 10 games played, they were impressed with the development shown by the Japanese in this sport.

In the 1937 All-Japan championships played at the Kyoto Gymnasium Court in December 1937, the Kyoto Imperial University five won the title by defeating the Waseda University team, 40 to 34 in the finals. Championship holders of the All-Japan meets are as follows:

Table 8. Holders of the All-Japan Basketball Championship

Year	Winners	Score	Losers
1931.....	Tokyo Imperial University	2–0	Doshisha University
1932.....	Tokyo Imperial University	2–0	Kyoto Imperial University
1933.....	Tokyo Imperial University	2–0	Kyoto Imperial University
1934.....	Tokyo Imperial University	2–0	Kansei Gakuin University
1935.....	Tokyo Imperial University	2–1	Kansei Gakuin University
1936.....	Waseda University	2–0	Kansei Gakuin University
1937.....	Kyoto Imperial University	2–0	Waseda University

TRACK AND FIELD ATHLETICS

Much headway in track and field athletics has been shown by Japan in recent years. In certain of the events, including the hop-step and jump the Japanese athletes have hung up world records. The participation of Japan at the various Olympic games as well as the visits of foreign athletes to Japan have no doubt been beneficial factors in improving the performances of our participants.

In 1937 Japan was visited by a distinguished group of American track and field stars. Headed by Mr. Charles Hunter, of the San Francisco Olympic Club fifteen American athletes arrived in Japan in the middle of August and for several weeks toured Japan where they displayed their prowess in the respective events. The members of the team were: Jack Wierschauser, sprinter; Bob Young, 400 meters; Charles Fenske, 1,500 meters; Allan Tolmich, dashes and hurdles; Tom Moore, 400 meter hurdles; James Reynolds, shot put and discuss throw, Floyd Lochner, 5,000 meters; Bill Sefton and Earl Meadows, pole vault; Dave Albritton, high jump; William Reitz, javelin throw; Irving Folwartshny, hammer throw and shot put; Kermit King, broad jump; Richard Gansley, hop-step and jump.

Comparison of Japan's best records compared with world records are as follows:—

Table 9. Japanese Track and Field Records Compared with World Records

(a) Men's Field & Track

	Japanese Records			World Records		
	Time	Holders	Year	Time	Holders	Year
100 m. dash	10.3	R. Yoshioka	1935	10.2	Owens (U.S.)	1937
200 "	21.2	R. Yoshioka	1933	20.3	Owens (U.S.)	1935
	"	N. Nishi	1933			
	"	R. Taniguchi	1934 & 1937			
400 "	49.0	I. Nakashima	1932	46.1	Robinson (U.S.)	1937
	"	K. Imai	1934	1:49.8	Hampson (Britain)	1932
					Eastman (U.S.)	1934
800 "	1:54.0	K. Aoji	1934			1930
1,000 "	2:31.8	K. Nakamura	1937	2:23.6	Ladoumegue (France)	1936
1,500 "	3:56.8	H. Tanaka	1937	3:47.8	Lovelock (New Zealand)	1936
3,000 "	8:36.2	K. Murakoso	1937	8:18.4	Nielsen (Denmark)	1934
5,000 "	14:30.0	K. Murakoso	1936	14:17.0	Lehtinen (Finland)	1932
10,000 "	30:25.0	K. Murakoso	1936	30:06.2	Nurmi (Finland)	1924
110 m. hurdle ..	14.6	T. Murakami	1935	14.1	Towns (U.S.)	1936
200 " ..	24.3	Y. Fukui	1926	22.6	Owens (U.S.)	1935
	"	Abe	1930			
400 " ..	54.2	T. Aihara	1937	50.6	Hardin (U.S.)	1934
400 m. relay ...	41.4	K. Sasaki, B. Suzuki, M. Taniguchi, R. Yoshioka.	1935	39.8	Owens, Metcalfe, Draper, Wykoff. (U.S.)	1936

	Japanese Records			World Records		
	Time	Holders	Year	Time	Holders	Year
800 " ...	1:28.0	T. Takano, B. Kondo, M. Taniguchi, B. Suzuki.	1934	1:25.8	Borah, House, Smith, Lewis, (U.S.)	1927
	(meters)			(meters)		
Running High Jump	2.01	K. Tanaka	1935	2.07	Johnson (U.S.)	1936
	"	Z. Asakuma	1935	"	Albritton (U.S.)	1936
Running Broad Jump	7.98	C. Nambu	1931	8.06	Owens (U.S.)	1936
Hop, Step & Jump.	16.00	N. Tajima	1936	16.00	N. Tajima (Japan)	1936
Pole-Vault	4.35	S. Oye	1937	4.43	Varoff (U.S.)	1936
Shot Put	14.13	S. Takata	1934	17.40	Torrance (U.S.)	1934
Discus throw	44.76	K. Kikumoto	1935	53.10	Schroder (Germany)	1935
Javelin throw	68.59	S. Nagao	1934	77.23	Jarvinen (Finland)	1936
Hammer	51.27	I. Abe	1936	57.77	Ryan (U.S.)	1913

(b) Women's Field & Track

	Japanese Records			World Records		
	Time	Holder	Year	Time	Holder	Year
50 m. dash	6.4	Hitomi	1927	6.3	Meizlikova (Czecho.)	1922
100 "	12.2	Hitomi	1928	11.4	Stephens (U.S.)	1936
"	"	Watanabe	1933			
200 "	24.7	Hitomi	1929	23.6	Walasiewicz (Polland)	1935
800 "	2:28.6	Idota	1936	2:12.4	Koubkova (Czecho.)	1934
1,000 "	3:32.3	Onishi	1935	3:03.5	Lunn (England)	1934
400 m. relay	50.2	Muraoka, Shibata, Tsuchikura, & Watanabe.	1932	46.4	National Team (Germany)	1936
800 m. relay	1:49.2	Kato, Kanajima, Manabe, & Idota.	1936	1:45.8	National Team (Germany)	1932
80 m. hurdle ...	12.1	Yamashita	1938	11.6	Engelhardt (Germany)	1933
	(meters)			(meters)		
Running High Jump	1.55	Yamanouchi	1936	1.65	Didrickson (U.S.)	1932
Running Broad Jump	5.98	Hitomi	1928	"	Shiley (U.S.)	1932
Hop, Step & Jump.	11.43	Watanabe	1932	5.98	Hitomi (Japan)	1928
Shot put	12.64	Kojima	1937	———	———	———
Discus throw	39.98	Kojima	1937	14.38	Mauermeyer (Germany)	1934
Javelin throw	44.51	Yamamoto	1936	48.31	Mauermeyer (Germany)	1934
				46.745	Gindele (U.S.)	1932

VOLLEY-BALL

Volley-Ball was introduced to Japan hand in hand with basketball, and is now quite popular among school girls. The National Championship games are held annually. Girls' championship games also take place every year.

SOCCER AND RUGBY

Perhaps as a result of the presence of the then British Ambassador Sir Conyngham Greene at the Kanto matches, a silver cup was presented in March, 1919 by the Football Association in England to the Japan Football Association, which latter, however, did not come into existence until October, 1921, when it was organized in Tokyo with Mr. J. Imamura as president and Prince I. Tokugawa and the British Ambassador as honorary presidents. With the formation of the Association the National Championship game was started.

Soccer.—In January, 1932, the Japan Football Association invited a Canadian rugby team, the first foreign team that has ever made a trip to Japan to play the game, and the Japanese made a fair showing against them. Soccer is less popular than Rugby but it is contested every year at the Meiji Shrine Stadium among the leading universities and colleges. At the 1938 contest of Kwanto vs. Kwansai University league held at the Meiji Shrine stadium, Waseda got the championship beating Keio University with a score of 4—1.

Rugby.—First introduced by Mr. G. Tanaka who studied at Cambridge the sport is now as well developed in the Kwansai district as in the Kwanto district.

In January and February, 1934, a series of international football tournaments was held between various Japanese teams and the visiting students rugby team from Australia, the matches being held in Tokyo and Kobe.

At the Kwanto vs. Kwansai 11th contest for 1938 the Kwanto team won with a score of 27—3. Past winners are given below:

Table 10. Holders of All-Japan Soccer Championship

	Winners	Score	Losers
1st (1935).....	Keijo Soccer Assn.	6—1	Tokyo Lit. & Sc. Univ.
2nd (1936).....	Keio B. R. B.	3—2	Fusei College
3rd (1937).....	Keio University	3—0	Kobe Higher Comm. Univ.
4th (1938).....	Waseda University	4—1	Keio University

Table 11. Rugby Results

1928	Kwanto	9— 6	Kwansai
1929	"	17— 6	"
1930	"	35— 7	"
1931	"	13— 8	"
1932	"	33—22	"
1933	"	54—16	"
1934	"	40— 3	"
1935	"	8— 6	"
1936	"	56—11	"
1937	"	48—11	"
1938	"	27— 3	"

The first full-fledged American style football game in Japan was played on Thanksgiving Day, November 29, 1934 at the Meiji Shrine grounds between an all-collegiate team against the Yokohama Country and Athletic Club eleven. Though outweighted heavily, experience was a stronger factor and the students won by a 26 to 0 score.

With the view to educating the public on American football, the Asahi Shimbun of Tokyo invited a group of 35 American collegiate football stars, comprising blue and red teams under the management of Albert Maloney, former star player of the University of Southern California, to Japan in early spring of 1935. They played exhibition games in Tokyo and in the Kwansai. Needless to say, the visitors had no trouble winning from Japan in the first dual competition held in this sport.

HOCKEY AND CRICKET

Hockey.—This Western game is of the latest introduction in Japan, and it was only in November, 1926, that the first national championship tournament was held, when the Waseda team came out first in the final. This same team with the strong addition from other colleges made up a newly combined Japanese team and participated in the 10th Olympic Games at Los Angeles and acquired a second position beating the United States team by 9—2, and trailing the British-Indian team with 10—1. It was rather a remarkable achievement for any hockey team to score even a single point against the strong and well-balanced team such as the Indian.

An event of international importance was the visit in March, 1930 of the Battlesford Millers ice hockey team of Saskatchewan, Western Canada, which won all seven matches played against the best talent available in the Empire. The Canadians displayed excellent teamwork in their passing attack and the handling of their sticks was superb. Though they won with one-sided scores, the Japanese team seemed to improve with each game and clearly demonstrated they were learning much from the performance of the visitors.

In the 15th All-Japan Championship contest held at the Nitta grounds (Tokyo) in the autumn of 1937, Keio University won the championship, beating Kyoto Imperial University by a score of 12–0. The annual record is as follows:—

Table 12. All-Japan Hockey Championship

1923.....	Keio Univ.
1924.....	Toyama School
1925.....	Meiji Univ.
1926.....	Waseda Univ.
1927.....	Meiji Univ.
1928.....	Keio Univ.
1929.....	Waseda Univ.
1930.....	Tokyo Univ. of Com.
1931.....	Waseda Univ.
1932.....	Keio Univ.
1933.....	Keio Univ.
1934.....	Tokyo Univ. of Com.
1935.....	Tokyo Univ. of Com.
1936.....	Waseda Univ.
1937.....	Keio Univ.

LAWN TENNIS

Lawn tennis has the distinction of being the first Japanese sport that has laid a claim to international notice and gained for Japan entrance into the international Davis Cup tournament. It was Kumagai, Shimizu and Kashio, who for the first time in 1921 played for Japan. In the 1929 competition Japan, represented by Harada, Ohta and Toba in the American zone tournaments, defeated Mexico, then Canada, but in the final contest was beaten by the French team. Since then the Japanese team has been fighting its way through the European zone instead of the American zone where repeatedly Japanese were repulsed by the team from the United States and never has it been fortunate enough to reach the final of Inter-zone matches. In 1933, Japan went to the second round without having the first matches, beat the Greek team five to nothing, Denmark five to nothing, but in the semi-final challenge round was beaten by the strong team of Italy by three matches to two. Kuwahara, Satoh and Miki were Japanese representatives. Later in the same season J. Satoh and Miki went to England and showed their skill and stamina in the Wimbledon Tournament, though beaten by Austin of England in the semi-finals of the men's single.

In October, 1937 Japan was visited by Germany's two ranking players, Von Cramm and Henckel who played in exhibition matches in the Kansai and Kanto.

In the 1937 Davis Cup tournament, Japan was represented by Jiro Yamagishi and Fumiteru Nakano. They were chosen to contest the preliminaries in the American Zone and faced the Canadian team, beating the same by 5–0. In the Interzone finals Japan faced the Australian stars composed of Adrian Quist and John E. Bromwich at the Mount Royal Tennis Club court, Montreal, on August 12, 13 and 14th. Scores of the Inter-zone finals were as follows:

August 12: Quist beats Nakano 6–3, 4–6, 9–7, 6–1. Yamagishi beats Bromwich 6–0, 3–6, 7–5, 6–4. August 13: Quist and Bromwich beat Yamagishi and Nakano 6–2, 6–4, 6–3. August 13: Quist beats Yamagishi 6–4, 6–4, 2–6, 9–7. Nakano won over Bromwich 6–1, 1–6, 6–4, 3–6, the final and deciding set being defaulted by Bromwich when he retired after 24 games. The annual standing of the Japanese team in the Davis Cup Tournament is as follows:

Table 13. Japan's Performance in the Davis Cup Tournaments

Year	Victor over:	Defeated by:	Score (matches)	Japanese Players
1921	Philippines, Belgium & Australia...	U.S.A.	5:0	Shimizu, Kumagai
1922	(Japan not represented)	———	—	———
1923	Canada	Australia	4:1	Shimizu, Fukuda & Kashio
1924	Canada	Australia	5:0	Shimizu, Okamoto & Harada
1925	China, Spain	Australia	4:1	Shimizu, Harada & Fukuda
1926	Mexico, Philippines & Cuba.....	France	3:2	Tawara, Harada
1927	Mexico, Canada	France	5:0	Harada, Ohta & Toba
1928	Cuba, Canada	U.S.A.	5:0	Abe, Ohta, & Toba
1929	———	U.S.A.	4:1	Abe, Ohta
1930	Portugal, India, Spain & Czechoslovakia	Italy	3:2	Ohta, Harada & Abe
1931	Jugoslavia, Egypt	England	5:0	J. Sato, H. Sato & Kawaji
1932	Greece, Denmark	Italy	3:2	J. Sato, Nunoi
1933	Hungary, Ireland, Germany	Australia	3:2	Fujikura, Yamagishi &
1934	———	Australia	4:1	Nishimura
1935	Holland	Czechoslovakia	4:1	Nishimura, Yamagishi
1936	(Japan not represented)	———	—	———
1937	———	U.S.A.	5:0	Nakano, Yamagishi
1938	Canada	Australia	3:2	Yamagishi, Nakano

ROWING

This sport was originated by the Tokyo Imperial University about the year 1880, and fostered by the young Englishman, Prof. Strange. The Sumida River in Tokyo, the Seta River and Lake Biwa, both near Kyoto, are regular scenes of contest for the championship in spring or autumn every year. The adoption in 1920 of the international standard boat with eight outrigged sliding seats at the instance of Dr. S. Kishi (late Chairman of Japan Athletic Association) revived this sport which had lost much of its interest. In that year the Japan Amateur Rowing Association with Dr. S. Kishi as chairman was organized for all the collegiate institutions of the country.

In the 1932 Olympics, Waseda represented Japan in the eight oar event and Keio in the four oars event. Both of them did not come through in the first preliminary beats.

In the 1936 Olympics Japan was represented by the Tokyo Imperial University eight which performed creditably.

WRESTLING

Though a national game of Japan of ancient origin and still popular among all classes of people, this manly sport suffered decadence after the overthrow of feudalism, but it soon recovered popularity with the rise of militarism.

The Tokyo Professional Wrestlers' Association possesses an amphitheatre at Ryogoku, Tokyo,

capable of accommodating 13,000 persons. Tokyo and Osaka are two headquarters of the game where there are some 200 professional wrestlers who are classified into nine grades of which only those of the first two or three, numbering in all ten, occupy the front rank. Grand matches are held twice a year, January and May, ten days on each occasion. For convenience of public display, the wrestlers are divided into two opposing "camps," eastern and western, and each wrestler is pitted with one on the opposite side, till the whole ten in the rival camps have gone through the matches in the prescribed ten days. There are two grades of champions, namely the Yokozuna (who alone is entitled to hang round his waist the honoured straw festoon) and next the Sankaku (or three services which are the Ozeki, Sekiwaki and Komusubi). The Association is composed of retired champion wrestlers, limited to 80 in number, wrestlers on active service and umpire. Regular income of wrestlers is very small, and it is on account of the share they are allowed in the profit of the Association and especially of the gifts they receive from their regular patrons that the wrestlers are able to maintain themselves. Wrestlers indeed are considered from former times as pets of society, from their simplicity and disinterestedness as compared with more artful and worldly actors. The traditional tricks and dodges of wrestlers number forty-eight based on the fundamental "hand," viz., "nage" (to throw), "kake" (feet entangling), "hineri" (to twist) and "sori" (to uplift). In practice, however, tricks as used on the ring number some two haundreds.

Wrestling is also popular among college boys and several times a year they hold matches at either Tokyo or Osaka to contest the championship.

On July 12, 1937 an American amateur wrestling team visited Japan for a series of bouts with the leading Japanese collegiate wrestlers. The team was composed of: Frank Ota and Harold Kightlinger (bantamweights); Roy Moore Jr. and Fortune Masdeo (featherweights); Emilio Buruno (lightweight); Willis Jackson (featherweight); Lyun Madray (midleweight). The visitors put up a fine performance and won the majority of the contests in which they participated.

WINTER SPORT

SKATING AND SKIING

Skating is an ancient pastime in north-eastern Japan but regular skating dates some thirty years back and was introduced by foreigners. As a sport for general public a performance was first given about 1907 on Lake Suwa (in Nagano prefecture), about 40 miles north-west from Tokyo, and with the shores abounding in hot springs. Lake Matsubara, also in Nagano, is another popular skating rink. Several lakes at the north-eastern foot of Mt. Fuji are also visited by skaters. The Ice Sports League now exists as rival to the Japan Skating Association.

The Japanese high skating records compared with world records are as follows:

Table 14. Japanese Highest Skating Recosrds Compared with World Records

Men's Speed Events

Distance	Japanese Records			World Records		
	Time	Name	Year	Time	Name	Year
500 meters	43.5s	S. Ishiwara	1936	42.3s	Engnestangen (Finland)	1937
1,500 "	2:25.0	S. Kin	1930	2:12.2	Krob (Finland)	1937
3,000 "	5:04.9	S. Kin	1936	4:51.8	Ballangrud (Finland)	1936
5,000 "	8:49.9	S. Kin	1936	8:17.2	Ballangrud (Finland)	1936
10,000 "	18:02.7	S. Kin	1936	17:17.4	Carlsen (Finland)	1928

Women's Speed Events

500 meters	52.5s	M. Taki	1936	46.4s	Shou Nilsen (Finland)	1937
1,000 "	1:51.2	M. Taki	1936	1:38.8	Shou Nilsen (Finland)	1937
1,500 "	2:50.0	Y. Ejima	1936	2:38.1	Shou Nilsen (Finland)	1937
3,000 "	6:14.5	Y. Ejima	1936	5:29.6	Shou Nilsen (Finland)	1937
5,000 "	10:20.3	M. Kitani	1936	9:28.3	Shou Nilsen (Finland)	1937

Miss Fritzi Burger, Austrian queen on the ice, who placed second in the women's figure skating competition at the last Olympics in 1932 was in Japan early in 1935 through an invitation extended by the Asahi Shimbun. Her exhibitions at the Shibaura rink of Tokyo and at Osaka, without a doubt, contributed greatly to the development of this sport in Japan. She took particular pains to coach Japanese talent while on her visit.

Skiing was introduced about 1910 by an Austrian officer attached to a Japanese regiment in

Takata, Niigata-ken, one of the most snowy districts in Japan. The favourite skiing slopes as they exist at present are Seki, Taguchi and Akakura on the slope of Mt. Kyoko, about 10 hrs. from Tokyo; Numajiri at the foot of Mt. Bandai (about 8 hrs. from Tokyo) which was chosen by the Waseda Ski Club in 1923 as its training ground; Goshiki about 2 m. up Mt. Azuma, situated close by Itaya station on the O-u Railway Line, about 10 hrs. from Tokyo. Owani in Aomori-ken, Takata in Niigata-ken, Sapporo and other slopes in Hokkaido are also good skiing grounds. Skiers in the Kyoto-Osaka district enjoy the sport on Mount Ibuki standing near the shore of Lake Biwa.

Hannes Schneider, noted Austrian skier, came to Japan in the spring of 1930 and gave lectures on skiing in Tokyo. He visited leading skiing grounds in Northern Japan and Hokkaido, where he gave lectures or coached the Japanese skiers.

Table 15. Results of the 16th All-Japan Skiing Meet

(Feb. 8th–13th, 1938 at Sapporo)

(a) **Records for Young Men:**

Events	Records	Holders
18 kms.	1'41.58"	S. Takata (Mitsubishi Bibai)
43 kms.	4'16.20"	K. Tajino (Sapporo Ry. Region)
40 kms. relay	3'37.14"	Toyohara Ski League (Toyohara)
Turn	146"	M. Wakagi (Hopper)
Descent	5.10"	F. Tatsuta (Waseda University)
New Doubles ..... (Turn & Descent)	520.1 points	T. Kojima (Hopper)

(b) **Records for Adults:**

18 kms.	1'30.21"	T. Kuwahara (Toyohara Ski League)
Doubles	454.3 points	T. Sakata (Hopper)
Jumping	221.9 points	T. Kamegamori (Hokkaido Imp. Univ.)

(c) **Records for Boys:**

18 kms.	1'32.17"	H. Ito (Toyohara Ski League)
Doubles	420.1 points	T. Takemi (Sapporo Com. School)
Jumping	213.5 points	T. Kurushima (Karafuto Ry. Region)

HORSE RIDING AND RACES

Horse racing has revived prosperity with the permission of pari mutuel tickets under strict restriction in 1923. The Government is encouraging racing by granting aids. Eleven race clubs exist, as Hanshin at Naruo, Tokyo at Fuchu and Nippon at Yokohama, etc. There are 8 others in the provinces, races being held semi-annually, namely in spring and autumn.

In the spring races of 1933 there were altogether 507,445 admissions, prizes awarded amounting to ¥1,700,982, tickets sold ¥37,342,000 and amount distributed ¥31,501,000.

The fastest records are as follows:—

Table 16. Highest Japanese Record

Gallop

Distance	Name	Age	Record	Club	Year
1,600 metres.....	Yae-hikari	4	1'42.0"	Hanshin	1934 (Spring)
1,800 "	King II	7	1'52.4"	Fukushima	1932 (Spring)
2,000 "	Yamayasu	5	2'05.3"	Niigata	1932 (Spring)
2,000 "	Efford	5	2'05.3"	Hanshin	1934 (Spring)
2,200 "	General	4	2'18.2"	Hanshin	1937 (Spring)
2,300 "	Happy-mite	4	2'26.2"	Tokyo	1937 (Spring)
2,400 "	Banryu	5	2'32.0"	Fukushima	1934 (Spring)
2,600 "	Asahagi	6	2'45.3"	Hanshin	1934 (Spring)
2,700 "	Saranack	6	2'54.4"	Hanshin	1937 (Spring)
2,800 "	Marie-utopia	4	3'04.0"	Nippon	1937 (Spring)
3,200 "	Hakuko	5	3'26.0"	Nakayama	1933 (Autumn)
3,400 "	Tokumasa	5	3'40.2"	Hanshin	1937 (Spring)
4,000 "	Hakuryu	5	4'23.4"	Nakayama	1932 (Spring)

Trot

Distance	Name	Age	Record	Club	Year
3,200 metres.....	Tsurushima	7	5'26.2"	Kokura	1934 (Spring)
3,200 "	Mama	8	5'26.2"	Sapporo	1936 (Autumn)
3,400 "	Riyo	4	5'11.1"	Hanshin	1934 (Spring)
3,600 "	King-sport	4	5'31.4"	Hanshin	1934 (Spring)
3,800 "	King-sport	7	5'58.0"	Nakayama	1934 (Spring)
4,000 "	Clean-hit	4	6'19.1"	Kyoto	1934 (Autumn)
4,200 "	My-father	4	6'31.4"	Hanshin	1936 (Spring)
4,300 "	Tokachi-aisei	7	7'06.4"	Nakayama	1937 (Spring)
4,400 "	Ontario	4	6'53.4"	Tokyo	1935 (Spring)
4,500 "	Ehime	4	7'04.0"	Tokyo	1937 (Spring)
4,600 "	Zenryo	4	7'13.2"	Nakayama	1937 (Spring)
4,800 "	King-sport	4	7'20.3"	Hanshin	1934 (Spring)
5,000 "	Best-neck	4	7'44.0"	Hanshin	1935 (Spring)
5,200 "	Idaho	4	8'11.1"	Hanshin	1935 (Spring)
6,000 "	Ontario	4	9'35.1"	Hanshin	1935 (Autumn)

Table 17. Foreign Bred Gallop

Year	12 miles			1 mile		
	Place	Name	Speed	Place	Name	Speed
1926.....	Tokyo	Sonohana	2'45.59"	Tokyo	Sonohana	1'47.00"
1927.....	"	Asbel	2'44.00"	Yokohama	Shirano	1'46.40"
1928.....	"	Chishima	2'40.55"	Tokyo	Bisk	1'47.85"
1929.....	"	Virginia	2'51.78"	"	Rina	1'48.70"
1930.....	"	"	2'51.90"	"	Chishima	1'48.10"

Table 18. Horse Race Clubs

	Established		Location
Tokyo Race Club	May,	1919	Fuchu-machi, near Tokyo
Nippon Race Club	December,	1905	Negishi, Yokohama
Hanshin Race Club	March,	1907	Naruo-machi, Hyogo Prefecture
Kyoto Race Club	March,	1907	Mukojima-machi, Fushimi-ku, Kyoto
Kokura Race Club	July,	1910	Kokura, Kyushu
Niigata Race Club	December,	1907	Sekiya-machi, Niigata City
Nakayama Race Club	July,	1907	Katsushika-machi, Chiba Prefecture
Hakodate Race Club	May,	1900	Yukawa-machi, near Hakodate, Hokkaido
Sapporo Race Club	April,	1907	Sapporo, Hokkaido
Fukushima Race Club	April,	1908	Fukushima City, Fukushima Prefecture
Miyazaki Race Club	September,	1907	Miyazaki City, Kyushu

Horsemanship has also gained some popularity among college students and even women. There are at present about 15 equestrian clubs in larger cities while many universities and collegiate schools have their students' horse-riding societies.

MOUNTAINEERING

Mountaineering as a pious act of religious people is an ancient custom among the Japanese, but it is only about fifteen years ago or so that the practice began to appeal to the sporting sentiment of those who are inclined to test their sturdy legs and power of endurance by mountain climbing. The example was first set by foreigners.

Sacred peaks visited by mountain pilgrims are found almost everywhere in Japan, but of these the most popular are Fuji, Ontake, Tateyama, etc.

Fuji (12,387 ft.)—Fuji, though the highest in Japan proper, is the easiest of ascent, and also in the season best provided with accommodations and facilities. Even a post office is opened then. There are five regular paths leading to the summit, viz., Omiyaguchi (about 20 m. to top), Gotemba-guchi (20 m.), Subashiri-guchi (13 m.), Suyama-guchi (18 m.) and Yoshida-guchi (18 m.). The first four lie along the Tokaido railway while the last is approached from the opposite side.

"Japanese Alps."—It is generally believed that this name was first given by an English mountaineer to the mountain ranges extending from the Pacific to the Japan Sea, the broadest region of Honshu, and lying approximately between 35°–37° N. and 137°–139° E. The Japanese Alps are commonly divided into three groups, viz., Northern Alps, Central Alps, and Southern Alps, with peaks standing 10,000 ft. or thereabout as follows: —

Table 19. Peaks

Northern Alps:—	Tsubakurodake
Ontake	Tsurugidake
Norikuradake	**Central Alps:—**
Yakedake	Kiso-Komagatake
Hodake	Enadake
Yarigatake	**Southern Alps:—**
Tateyama	Kai-Komagatake
Shirouma	Jizodake
Jonendake	Senjogatake
Dai-tenjodake	Akaishidake
Arakawadake	Shirane-Kitadake

Of the three groups the northern one is most popular, on account of comparatively easy access, presence of several thermal springs existing in the valley, as Kamikochi (5,000 ft.), Shirabone (4,000 ft.) and Hirayu (4,000 ft.), and richness of flora. The Southern Alps are deep and their peaks are difficult to ascend owing to the presence of foothills and primeval forest; also wild beasts are still met with now and then.

Hodaka, consisting of three peaks, is noted for rock-climbing, for which fact the chain is compared with the European Alpine peaks, and as the three Hodaka stand lofty, steep, liable to crumble, and therefore require help of roping, appeal strongly to the adventurous spirit of bold climbers. It was probably on that acount that Prine Chichibu (Hon. Mem. of the Alpine Club), climbed Hodaka in 1928 with Mr. Maki, a mountaineer of international fame who scaled Mt. Alberta of the Canadian Rockies in July, 1925, and with some other mountain climbers of note.

Mountaineering and Exploration

Peak-hunting is no longer the main object of mountaineering in Japan as no peak worthy of the name is left unexplored. The attention of a mountaineer of any pretension is now chiefly directed to exploring little known valleys and river sources, or primeval forest districts as in the so-called "Kishu Alps." By calling in the help of ski, the explores have in the winter season extensively covered Shirouma, the Tateyama range and other peaks.

References:
Table Nos: 1-19 a.
Key: a—Research of the Japan Manchoukuo Year Book.

CHAPTER XXXXII

CHOSEN (Korea)

GEOGRAPHY

POSITION, AREA, CLIMATE, ETC.

Position—33° 6′ 40″—43° 00′ 36″ N.L.; 124° 11′—130° 56′ 23″ E.L.
Area—85,228 sq. m. **Coastline**—18,204 kms. (Inclusive of Outlying islands)

Northern Korea is mountainous and rich in timber, and southern Korea fertile and well cultivated. The Rivers Tumen and Yalu separate the peninsula from Manchoukuo. Principal rivers are the Oryoku-ko (Yalu), 790 kms.; Daido-ko (Tadong), 397 kms.; Kan-do (Han), 470 kms.; and Toman-ko (Tumen), 521 kms.

METEOROLOGICAL OBSERVATION

Table 1. Temperature (1936)

	Fusan	Jinsen	Gensan	Keijo	Heijo
Highest ..	30.5	32.6	37.0	34.3	36.0
Lowest ...	−12.4	−18.2	−17.3	−20.1	−22.8

Table 2. Weather Conditions in 1936

	Fusan	Jinsen	Gensan	Keijo	Heijo
Clear days	83	75	101	72	91
Wet days	111	126	112	131	118
Early frost	Nov. 11	Nov. 13	Nov. 9	Oct. 6	Oct. 7
Late frost	Apr. 13	Apr. 10	Apr. 12	Apr. 19	Apr. 13
Early snow	Dec. 17	Dec. 3	Nov. 27	Dec. 3	Dec. 3
Late snow	Apr. 3	Apr. 3	Apr. 9	Apr. 3	Apr. 9

POPULATION

Table 3. Area, Population and Households

(End of 1936)

	Area (Sq. Kms)	Households				Population			
		Japanese	Natives	Foreigners	Total	Japanese	Natives	Foreigners	Total
Keiki-do (Kyongki)	12,820.88	35,945	422,252	2,361	460,558	153,723	2,225,379	13,194	2,392,296
Chusei Hoku-do (N. Choongchong)	7,418.38	2,284	166,453	222	168,959	8,593	897,736	721	907,055
Chusei Nan-do (S. Choongchong)	8,106.48	6,539	266,862	472	273,873	26,314	1,454,830	1,819	1,482,963
Zenra Hoku-do (N. Chonla)	8,554.09	8,658	288,997	597	298,152	35,844	1,502,380	2,462	1,540,686
Zenra Nan-do (S. Chonla)	13,837.37	10,524	468,389	354	479,267	44,154	2,370,853	1,334	2,416,341
Keisho Hoku-do (N. Kyongsang)	18,988.83	12,060	450,275	406	462,741	49,887	2,402,970	1,418	2,454,275
Keisho Nan do (S. Kyongsang)	12,304.58	23,528	402,816	407	426,751	96,926	2,115,553	1,927	2,214,406
Kokai-do (Whanghai)	16,737.66	5,764	313,053	994	319,811	20,582	1,614,738	3,930	1,639,250
Heian Nan-do (S. Pyong-an)	14,943.64	9,557	263,150	1,013	273,720	39,094	1,390,298	5,148	1,434,540
Heian-Hoku-do (N. Pyong-an)	28,444.50	6,786	283,589	3,972	294,347	22,363	1,578,605	19,914	1,620,882
Kogen-do (Kwan-won)	26,262.99	4,435	279,438	255	284,128	15,019	1,513,276	776	1,529,071
Kankyo Nan-do (S. Hamkyong)	31,978.46	14,564	269,329	1,510	285,403	51,052	1,544,883	6,248	1,602,178
Kankyo Hoku-do (N. Hamkyong)	20,346.50	12,347	137,296	1,576	151,219	45,433	762,071	6,389	813,893
Total	220,794.36	152,891	4,011,899	14,139	4,178,929	608,989	21,373,572	65,275	22,047,836

Table 4. Population by Occupation

	Japanese		Koreans		Foreigners		Total	
	1931	1936	1931	1936	1931	1936	1931	1936
Agriculture & Forestry	41,927	35,468	15,740,970	16,493,858	9,207	13,409	15,792,104	16,542,735
Aquatic	12,324	9,352	306,179	317,590	28	73	318,531	327,015
Mfg. Industry	74,151	91,974	434,880	594,739	5,136	10,942	514,167	697,655
Commerce & Transportation	148,182	176,055	1,247,619	1,463,461	16,245	29,347	1,412,046	1,668,863
Civil Service and Professional Occupations	182,660	245,571	547,541	638,237	1,660	2,159	731,861	885,967
Others	32,832	26,556	1,082,978	1,490,645	5,067	8,933	1,120,877	1,526,134
Without Occupation	22,590	24,013	350,001	375,042	781	412	373,372	399,467
Total	514,666	608,989	19,710,168	21,373,572	38,124	65,275	20,262,958	22,047,836

Table 5. Movement of Population

		1929	1930	1931	1932	1933	1934	1935	1936
Birth	Male	386,700	406,438	379,861	329,782	322,079	333,899	340,187	335,034
	Female	343,478	365,832	338,021	288,495	281,328	295,577	300,381	295,456
	Total	730,179	772,270	717,882	618,277	603,407	629,476	640,568	630,490
Still-birth	Male	1,997	2,485	2,463	2,557	2,802	2,647	2,734	2,795
	Female	1,600	1,945	1,865	2,080	2,150	2,118	2,135	2,203
	Total	3,597	4,430	4,328	4,637	4,952	4,765	4,869	4,998
Death	Male	244,808	205,164	219,250	243,872	215,090	219,062	231,755	234,441
	Female	216,922	176,713	191,138	213,646	186,232	188,201	198,943	199,607
	Total	461,730	381,877	410,388	457,518	401,322	407,263	430,698	434,048
Marriage		194,265	199,281	184,598	130,550	126,644	121,383	123,416	126,169
Divorce		8,184	9,077	8,093	6,712	5,873	5,137	5,323	5,379

Table 6. Number of Households and Population of Koreans

	No. of households	Population		
		Male	Female	Total
1927	3,484,461	9,512,491	9,119,003	18,631,494
1928	3,489,344	9,521,317	9,146,017	18,667,334
1929	3,518,094	9,569,706	9,214,731	18,784,437
1930	3,679,463	10,003,042	9,682,545	19,685,587
1931	3,690,695	10,023,837	9,686,331	19,710,168
1932	3,772,234	10,183,362	9,853,911	20,037,273
1933	3,805,684	10,269,286	9,936,305	20,205,591
1934	3,857,169	10,416,040	10,097,764	20,513,804
1935	3,984,772	10,769,916	10,478,948	21,248,864
1936	4,011,899	10,842,097	10,531,475	21,373,572

Table 7. Population in Principal Cities

(End of 1936)

Keijo (Seoul)	677,241
Jinsen (Chemulpo)	100,303
Gunsan	42,127
Taikyu	108,669
Fusan	206,386
Heijo (Pyongyang)	180,421
Chinnanpo	48,727
Gen-san (Wonsan)	61,772
Moppo	60,005
Kaijo	55,482
Seishin	56,665
Shingishu	50,912
Kanko	54,350

Table 8. Number of Foreigners

	Male	Female	Total
1928	44,494	8,828	53,322
1929	47,962	10,184	58,146
1930	56,634	12,475	69,109
1931	31,270	6,854	38,124
1932	31,168	7,983	39,151
1933	33,731	8,895	42,626
1934	40,435	10,204	50,639
1935	46,468	12,420	58,888
1936	50,632	14,643	65,275

ADMINISTRATION

THE GOVERNMENT-GENERAL

Korea is under the rule of the Governor-Gen-

eral, who is appointed by the Emperor. By the revision effected in 1919 in the organization of the administrative machinery of the peninsula, the former military government was replaced with one in which the civil factor is predominant. Thus the Governor-Generalship is now open to either a civilian or a service man, though formerly it was restricted to a General or an Admiral.

Directly under the Governor-General is an Inspector-General of Political Affairs whose function is to assist the Governor-General and inspect the official business of the local governments and various other affiliated objects. The Government-General is divided into the Government-General's Secretariat and the Bureau of Internal Affairs, Finance, Justice, Industry, Education, Politics, Communications, Railways and Monopoly.

The Central Council.—This is in effect a Privy Council and considers matters submitted to it by the Governor-General. The members of the Council consist of one President, one Vice-President, five Advisors and 65 Councillors, all Koreans.

LOCAL ADMINISTRATION

The entire territory is divided into thirteen "do" or provinces which are ruled over by Governors.

Besides the thirteen provinces, there are twelve "fu" corresponding to the city in Japan proper.

Table 9. Provinces and Seats of Government

Province	Seat of Office
Keiki-do (Kyongki)	Keijo (Seoul)
Chusei Hoku-do (N. Choongchong)	Seishyu
Chusei Nan-do (S. Choongchong)	Taiden
Zenra Hoku-do (N. Chonla)	Zenshyu
Zenra Nan-do (S. Chonla)	Koshyu
Keisho Hoku-do (N. Kyongsang)	Taikyu
Keisho Nan-do (S. Kyongsang)	Fusan
Kokai-do (Whanghai)	Kaishyu
Heian Nan-do (S. Pyong-an)	Heijo
Heian Hoku-do (N. Pyong-an)	Shingishu
Kogen-do (Kwan-won)	Shunsen
Kankyo Hoku-do (N. Hamkyong)	Ranan
Kankyo Nan-do (S. Hamkyong)	Kankyo

Local Councillors.—As a preliminary step toward self-government, local advisory bodies were created in October, 1920. These are essentially consultative bodies and are of three kinds: (1) Provincial Councils, (2) Municipal Councils, (3) Village Councils.

FINANCE

With the annexation a Special Account was established for the Government-General, the expenditure to be met by the revenue of Korea and the deficit filled up with aids from the home Government. All public utility items as road-making, harbours, railways, etc., are defrayed with proceeds from public loans, or borrowed money chargeable to the Special Account, while military and naval outlays are payable out of the General Accounts of the Imperial Government. The latter totalled ¥125,626,000 from 1919 to 1923. In 1919 the Government-General could for the first time dispense with financial aid from the Imperial Government, but the reforms in the police system and other administrative organs carried out that year required help again from the Imperial Treasury.

Table 10. Revenue & Expenditure

(Year ending March 31; In ¥1,000)

(a) Revenue

Ordinary:	1934 (Settled)	1935 (Settled)	1936 (Settled)	1937 (Settled)	1938 (Budget)	1939 (Budget)
Taxes	47,625	56,129	64,364	74,306	68,675	77,384
Stamp receipts	13,898	16,670	18,670	20,939	18,693	20,623
Receipts from Government undertakings and properties	135,193	160,606	175,927	198,142	233,551	258,154
Miscellaneous receipts	2,703	3,121	3,401	3,680	3,528	3,911
Total	199,419	236,527	262,362	297,067	324,447	360,071
Extraordinary:						
Proceeds of sale of State property	1,125	589	466	358	99	26
Receipts from the issue of public loans or borrowings	25,648	27,926	20,923	26,122	65,000	106,000
National treasury grants	12,854	12,825	12,826	12,918	12,914	12,909
Transfer of the surplus from preceding year	5,806	22,849	32,593	46,261	22,182	24,143
Other receipts	7,275	226	1,050	1,767	3,012	2,010
Total	52,654	64,415	67,857	87,426	103,207	145,088
Total Revenue	**252,073**	**300,942**	**330,219**	**384,493**	**427,654**	**505,159**

(b) Expenditure

Ordinary:	1934 (Settled)	1935 (Settled)	1936 (Settled)	1937 (Settled)	1938 (Budget)	1939 (Budget)
Royal Household of Ri	1,800	1,800	1,800	1,800	1,800	1,800
Government-General	3,799	4,002	4,532	5,237	11,243	6,804
Judicial courts, and office consignment	3,488	3,553	3,698	3,794	4,198	4,488
Prisons	4,616	5,064	5,716	5,854	5,999	6,527
Local governments	29,032	26,092	26,777	27,355	28,488	29,137
Educational institutions and libraries	1,362	1,368	1,513	1,696	2,088	2,632
Customs-houses	1,187	1,250	1,394	1,514	1,516	1,609
Forestry	3,862	4,796	5,565	6,032	7,292	10,103
Communications	13,038	13,992	14,878	15,999	18,315	21,220
Monopoly bureau	23,914	27,980	30,058	32,063	37,389	38,672
Railways	49,292	62,313	65,980	76,393	95,416	108,489
Transferred to national debt consolidation fund special account.	24,364	25,022	27,015	31,011	29,765	31,709
Total including others	167,479	192,305	205,979	226,827	266,454	289,365
Extraordinary:						
Subsidies	17,262	19,702	21,781	21,717	28,713	33,482
Expenses for repairs and construction	1,956	3,310	4,464	4,708	7,112	6,380
Expenses for public works	8,545	10,169	12,035	12,935	18,871	19,018
Railway construction and improvement	18,706	18,498	23,880	34,425	63,454	104,392
Improvement expenses for arable lands	5,136	4,414	3,850	3,877	3,368	1,570
Total including others	61,745	76,044	77,979	97,646	158,670	228,717
Total expenditure	**229,224**	**268,349**	**283,959**	**324,472**	**425,124**	**518,915**

PUBLIC DEBTS

Table 11. Government Loans Outstanding

(Year ending March 31; In ¥1,000)

	1934	1935	1936	1937
Drought relief loan	8,750	7,750	6,250	2,300
Chosen peers relief fund loan	1,780	1,600	1,420	1,240
4% loan (1st series)	637	637	637	637
5% loan	109,165	109,465	107,677	101,999
4½% Exchequer bonds	23,871	23,871	23,871	23,871
5% Exchequer bonds	239,114	229,114	206,374	—
4% Exchequer bonds	84,264	118,249	162,335	162,335
4% loan	8,146	8,146	8,146	8,146
3½% Exchequer bonds	—	—	—	238,193
Total	473,026	498,831	516,708	549,731

EDUCATION AND RELIGION

EDUCATION

Under the new educational ordinance and regulations of 1922, the ordinary and higher common schools for Korean boys and girls are placed on the same status as elementary and secondary (i.e. middle and girls' high schools), while according to circumstances, Korean children may be admitted into the latter schools and Japanese into the former. The schools of the secondary and higher grades for vocational training are controlled in practice by the regulations governing the corresponding institutions in Japan proper. Both Japanese and Korean students are co-educated in those schools. The statistics of schools for the latest year available are given below:—

Table 12. Statistics on Schools

(End of May, 1937)

		No. of schools	Teaching staff	Enrolment	Annual expenditure (Yen)
Elementary Schools	Government	2	17	622	.....
	Public	503	2,508	89,189	4,859,4 4
Middle Schools	Public	16	324	7,778	1,233,196
Girls' High Schools	Public	29	446	11,268	1,354,605
	Private	1	21	656	64,445
Common Schools	Public	6	56	2,448	.....
	Public	2,503	12,604	858,941	21,116,738
	Private	92	637	37,793	789,598
Higher Common Schools	Public	16	368	8,922	1,149,041
	Private	11	248	6,707	445,129
Girls' Higher Common Schools	Public	11	133	2,948	664,093
	Private	10	181	4,200	379,426
Agricultural Schools	Public	34	398	7,510	2,074,170
Commercial Schools	Public	17	294	6,481	1,134,938
Engineering Schools	Government	1	32	238	88,801
Fisher Schools	Public	3	26	282	65,630
Vocational Schools	Public	6	79	1,298	275,263
	Private	3	43	844	52,579
Supplementary Technical Schools	Public	116	438	5,659	1,050,523
	Private	9	48	666	46,901
Collegiate Schools	Government	5	382	1,292	1,062,643
	Public	2	61	570	131,584
	Private	8	313	2,390	990,648
University	Government	1	132	516	2,620,760
Preparatory Course of University	Government	1	37	461	165,137
Normal Schools	Government	6	166	3,768	1,464,709

University Education.—The Imperial University of Keijo was the only government university in the peninsula. It was opened in 1926, consisting of two departments, (1) medicine, and (2) law and literature. The preparatory course of two years attached to the university was opened two years earlier, or in 1924. The course was extended to three years as is the case with the government national colleges in Japan, beginning with the academic year of 1933-34. Both the organization and details of the university are almost the same as the Imperial Universities in Japan.

Normal School Education.—Normal school education is co-educational in principle. Qualifications of the applicant to the normal school are somewhat lower than is the case with Japan, while the course is a little longer. In April, 1929 simultaneously with a reform of the Education Act of Korea it was decided that the normal school should be conducted by the Government only for some time to come. In June of the same year two government normal schools were established one each in Taikyu and Heijo, and in March, 1931 the normal schools, which had hitherto been financed by provincial governments, were closed. In April, 1935 a normal school for girls was established in Keijo. As at the end of May, 1937 there were six normal schools.

Korean students studying in Japan on October 1, 1936 numbered 6,397. Of that number 4,770 were in Tokyo and 1,627 in the provinces. Most of those students consisted of those preparing themselves for admission into colleges and universities and of those studying economics and politics in the collegiate course of private universities and other institutions.

RELIGION

All religious faiths enjoy equal opportunity and protection from the Government, there being no state religion in Korea. The Confucian cult is spreading among the higher classes, and Buddhism among the lower. The latter, however, is not so prosperous as in Japan proper. Standing between the two, Christianity has gained a great vogue among all classes.

Table 13. State of Religious Propagation

(End of 1936)

	Missions	Missionaries	Adherents
Christianity	4,752	3,195	489,626
Buddhist	667	720	285,540
Shinto	291	571	104,602

Judicature.—The Law Courts in Chosen consist of eleven district courts, three Courts of Appeal and one Supreme Court. There are thirteen prisons for adults and two for juveniles. The number of convicts and accused classified by sex is tabulated below:

Table 14. Number of Convicts and Accused

	No. of convicts		Criminal defendants		Detained		Infants	
	Male	Female	Male	Female	Male	Female	Male	Female
1927	11,599	365	1,332	57	385	13	5	6
1932	15,279	395	2,491	83	565	51	8	5
1933	15,987	425	1,929	70	631	48	4	7
1934	15,219	465	1,584	81	542	48	9	15
1935	15,933	490	1,422	64	463	42	16	10
1936	16,032	491	1,554	56	368	39	5	12

GARRISON AND POLICE

The troops in the peninsula represents two Divisions, one being quartered at Ranan and the other at Ryusan near Keijo, besides the 6th air regiment established in 1922-23. Prior to the "independence" agitation the policing force consisted of gendarmes and police. With the reorganization of the administrative system in 1919 the gendarmes were mostly converted into police at their own option. The police forces consist of about 20,000 men.

PUBLIC WORKS

Roads.—As soon as it was established, the Government-General laid out a complete system of roads consisting of 547 lines of various classes with a total length of 25,842 kilometres. The first term construction or improvement of the roads has been carried out since 1911 as a continuing work of six or seven-year-period with an outlay of ¥10,000,000. The second term work has been carried on from 1917 as a continuing work to be finished by 1938 with the total outlay of ¥31,119,000. In connexion with road-making, a number of bridges have been constructed.

Rivers.—Almost all rivers were in a neglected condition before the annexation, the damage due to floods reaching over 10 million yen in some years. In 1915 the Government-General started investigation into the Rakutoko and thirteen other rivers for purposes of systematic control. As a result, a riparian work was started on the Bankei-ko and Sainei-ko, in 1925 as a six year-work and also on the Rakuto-ko, Daidoko and two other rivers in the following year as a ten year-work. The sum of ¥48,400,000 was estimated as an expenditure for the improvement of these six rivers. In 1929 the sum of ¥5,000,000 was added to the estimate by reason of the necessary extention of the scope of repair involved in the two rivers of the Bankei-ko and the Sanei-ko, but later the expenditure had to be reduced and the work had to be postponed. After all the expenditure was cut down to ¥49,973,000 and the first term of the work for the six rivers is expected to be completed in 1938-39.

Harbour Work.—Harbour works were commenced with Fusan, where all the terminal facilities for the Fusan-Seoul Railway have been completed. At Jinsen a spacious lockgate dock has been constructed to accommodate two ships of 4,500 gross tons and under, by taking advantage of the great tidal range (22-23 ft.) of the locality. The work of improvement at Gensan, Seishin, Joshin, Gunsan, Moppo, Tashota (first term work) and Yuki (first term work), Jinsen (extension), Chinnampo (extension) and Joshin (provision for storing timber) Seishin fishing port has been completed. A similar work is now in progress at Jinsen, Fusan, Reisui, Yuki, Masan, Joshin and Tashito.

BANKING AND OTHER FINANCIAL ORGANIZATIONS

As for organs for monetary circulation in Korea, there are first of all the Bank of Chosen (formerly called Bank of Korea) as the central bank, the Chosen Industrial Bank and the Oriental Development Company, which both make it their principal business to make advances on real estate. Besides, there are many credit associations and "mujin" companies as petty organs of monetary circulation for the provincial people.

Bank of Chosen.—The Bank of Chosen was known as the Bank of Korea before the an-

nexation. On the promulgation of the Bank of Chosen Act in March, 1911, the Bank of Korea was renamed the Bank of Chosen. The financial position of the Bank is shown in an accompanying table.

The Bank has its head office at Seoul and branches or sub-branches at Tokyo, Osaka, Kobe, Shimonoseki, Antung, Dairen, Mukden, Hsinking, Harbin, Kaikuan, Yingkow, Lungchingtsun, Liaoyang, Tiehling, Ssupingkai, Port Arthur, Tsingtao, Shanghai, Tientsin, New York.

Table 15. Principal Accounts of Bank of Chosen

(In ¥1,000; End of 2nd half)

	1929	1930	1931	1932	1933	1934	1935	1936
Nominal capital	40,000	40,000	40,000	40,000	40,000	40,000	40,000	40,000
Capital (paid-up)	25,000	25,000	25,000	25,000	25,000	25,000	25,000	25,000
Reserves	2,101	2,901	3,701	4,501	5,301	6,101	6,901	7,701
Deposits	151,150	98,785	111,462	193,932	215,105	228,193	292,122	411,142
Loans	290,462	248,758	273,673	303,785	322,950	373,171	374,248	414,653
Bills discounted	24,260	17,796	23,726	33,683	31,558	47,363	48,566	69,696
Earnings	26,186	23,492	24,366	38,709	41,477	42,016	42,227	47,486
Expenses	24,321	21,664	22,531	36,860	39,624	40,169	40,368	45,614
Net profits	1,865	1,828	1,835	1,849	1,853	1,847	1,859	1,872
Dividend	900	940	940	940	940	940	940	940
Rate of dividend (%)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0

Chosen Industrial Bank (Chosen Shokusan Ginko).—The Chosen Industrial Bank was established in 1906 chiefly for the purpose of making advances on real estate to help promote the industry of the peninsula. (Its financial position will be found in the Business Directory Section of this issue.)

Chosen Savings Bank.—Savings deposits in Korea were handled by banks, credit associations and post offices till the Government-General issued the Savings Bank Regulations on December 24, 1928. The following year the Chosen Savings Bank was established in accordance with provisions of the Regulations. The Bank is capitalized at ¥5,000,000, of which ¥2,500,000 is paid-up. Its head office is situated in Seoul and branch offices at Fusan, Heijo and Jinsen.

Ordinary Banks.—An ordinary bank was established in Korea for the first time in 1878 when a branch office of the First Bank (Daiichi Ginko) was set up at Fusan. This was soon followed by the creation of similar agencies at various treaty ports by the same bank and other Japanese banks such as the Juhachi, Gojuhachi, etc. In 1889 the Dai Kan Tenichi Ginko was established as the first banking institution formed by Korean capitalists, and in 1903 another Korean bank (Kanjo Ginko) was brought into being. All these banks on the whole made sound developments with extended sphere of operation under the Banking Regulations enacted in 1912 (revised in 1920), amended in 1928 and has been in force since January 1, 1929). In 1936 there were seven ordinary banks in Chosen with a combined paid-up capital of ¥13,481,000.

Trust Companies.—Trust business was introduced into Korea in March, 1908 by the Fujimoto Goshi Kaisha. In the war boom of 1919 many trust companies were established in the peninsula. At present there is one trust company in Korea, namely, the Chosen Trust Company. (The financial position of the company will be found in the Business Directory Section of this issue.)

Bankers' Clearing House.—The first bankers' clearing house in Korea was established in Seoul in July, 1909. There are now similar institutions in eight other places.

Credit Association.—The credit association makes it its business to make loans to its members, to keep in custody industrial products, to issue warehouse receipts for them, to receive deposits from either the members or non-members, and to act as agents, with the sanction of the Governor-General, for other credit associations or banking establishments. For a village association there is, besides, a Government grant as stock fund of not more than ¥1,000. City associations operating in urban districts are allowed to engage in bill-discounting business. At the end of June, 1937 there were 62 city associations and 646 village associations with a total membership of 1,606,664.

Mutual Loan Companies (Mujin Kaisha).—"Mujin" business in Korea has made marked developments since the promulgation of the Chosen Mujin Business Act in April, 1921. In 1931 the legislation was amended in order to keep abreast of the times. At the end of July, 1936 there were 28 mutual loan concerns.

Table 16. Principal Accounts of Ordinary Banks

(In ¥1,000; End of 2nd half)

	1930	1931	1932	1933	1934	1935	1936
No. of Banks	13	12	12	8	8	7	7
Nominal capital	26,425	26,425	26,425	26,075	25,675	24,175	24,175
Capital (paid-up)	14,721	14,721	14,721	14,371	14,231	13,481	13,481
Reserves	3,457	3,513	3,793	3,717	4,029	4,006	4,419
Deposits	109,566	106,863	112,793	128,144	144,547	159,349	158,454
Loans	90,545	92,876	93,727	99,126	115,925	131,152	148,771
Bills discounted	13,802	12,833	16,207	16,879	23,927	26,400	26,213
Earnings	14,997	16,034	13,527	13,724	15,512	18,914	18,077
Expenses	13,610	14,840	12,344	12,330	14,381	17,317	16,492
Net profits	1,387	1,194	1,183	1,412	1,131	1,597	1,585
Dividend	731	609	575	487	490	452	471

FOREIGN TRADE

Thanks to various measures taken by the Government-General for the promotion of industry and the growth of private enterprises since the annexation, the foreign trade of Korea has gradually developed. Its pace of development since the World War is especially remarkable.

Korea trades extensively with many countries of the world but with none more closely than with Japan proper as shown in the accompanying table. Principal foreign destinations of her goods are Manchoukuo, Kwantung Province, the United States of America and China, and principal countries sending goods are Manchoukuo, China, Kwantung Province, the United States, British India, the Philippines, and the Dutch East Indies.

Trade By Ports.—There are twelve trading ports in Korea. These are Fusan, Jinsen, Gensan, Chinnanpo, Gunsan, Moppo, Seishin, Rashin, Yuki, Joshin, Ryuganpo and Shingishu. Fusan ranks first in the amount of trade handled, followed by Jinsen, the former chiefly handling trade with Japan and the latter that with Kwantung Province, China, Europe and America. As for the specialities of these ports, exports are chiefly handled by such ports as Chinnanpo, Gunsan, Shingishu, Moppo, Seishin and imports by Shingishu, Chinnanpo, Seishin, Gensan and Keijo.

Table 17. Chosen's Foreign Trade

(In yen)

(a) Imports and Exports

To and from Foreign Countries

	Exports	Imports	Total	Excess of imports
1929	35,773,033	107,767,710	143,540,743	71,994,677
1930	25,852,353	88,854,562	114,706,915	63,002,209
1931	12,771,572	52,695,966	65,467,538	39,924,394
1932	29,209,754	61,685,953	90,895,707	32,476,199
1933	52,773,273	64,368,264	117,141,537	11,594,991
1934	57,673,853	79,527,309	137,201,162	21,853,456
1935	64,902,252	100,589,577	165,491,829	35,687,325
1936	75,265,783	114,499,061	189,764,844	39,233,278
1937	113,097,753	128,138,998	241,236,733	15,041,263

To and from Japan Proper and Other Colonies

	Exports	Imports	Total	Excess of imports or exports
1929	309,891,023	315,325,841	625,216,864	— 5,434,818
1930	240,694,825	278,194,196	518,889,021	— 37,499,371
1931	249,726,697	217,770,365	466,797,062	+ 31,256,332
1932	282,144,296	258,670,063	540,814,359	+ 23,474,334
1933	315,854,449	339,817,196	655,671,645	— 23,962,747
1934	407,693,582	439,622,621	847,316,203	— 31,929,039
1935	485,893,879	558,813,765	1,044,707,644	— 72,919,886
1936	518,047,263	647,918,073	1,165,965,336	—129,870,810
1937	572,445,017	735,413,504	1,307,858,521	—162,968,487

(b) Imports and Exports of Gold Specie and Bullion

(In yen)

To and from Foreign Countries

	Exports	Imports	Total	Excess of exports
1929	——	246,297	246,297	246,297
1930	2,450	11,594,311	11,596,761	11,591,861
1931	22,486	21,903,782	21,926,268	21,881,296
1932	30,301	753,627	783,927	723,326
1933	20,132	41,085	61,217	20,953
1934	18,531	66,851	85,382	48,320
1935	11,131	69,370,595	69,381,726	69,259,464
1936	2,107,810	7,221,275	9,329,085	5,113,465
1935 (Jan.-June)	11,126	20,906,689	20,917,815	20,895,563
1936 (" ")	733,441	3,422,638	4,156,079	2,689,197
1937 (" ")	10	684,944	684,954	684,934

To and from Japan Proper and Other Colonies

	Exports	Imports	Total	Excess of exports
1929	6,096,811	639,908	6,736,719	5,456,903
1930	26,801,109	137,178	26,938,287	26,663,931
1931	39,525,530	53,479	39,579,009	39,472,051
1932	28,284,905	9,850,993	38,135,898	18,433,912
1933	24,375,261	3,807,016	28,182,277	20,568,245
1934	36,331,413	335,182	36,666,595	35,992,231
1935	210,581,658	3,847,047	214,428,705	206,734,611
1936	63,465,862	823,137	64,288,999	62,642,725
1935 (Jan.-June)	85,719,769	998,785	86,718,554	84,720,984
1936 (" ")	23,358,831	775,206	24,134,037	22,583,625
1937 (" ")	40,158,537	6,856,760	47,015,297	33,301,777

(c) Staple Exports

(In yen)

To Japan Proper and Other Colonies

Items	1932	1933	1934	1935	1936	1937
Rice & paddy	144,796,809	152,693,012	222,289,526	240,434,225	249,426,537	231,090,936
Soya beans	20,484,007	19,260,706	18,142,055	17,401,117	23,460,989	23,343,251
Fresh fish	4,649,938	5,269,295	5,316,852	5,202,297	4,173,504	5,671,677
Dried fish	4,336,589	4,247,943	5,543,116	4,453,581	3,440,742	3,619,416
Apples	1,288,733	1,609,080	1,996,829	1,624,903	2,169,840	2,534,765
Ginned cotton	3,501,100	6,487,791	8,137,014	13,471,226	11,457,447	8,266,072
Raw silk	11,665,127	14,009,028	11,473,610	14,189,104	15,420,612	18,962,103
Cocoon	1,267,177	1,762,348	784,897	1,179,271	1,39 ,064	1,434,762
Wild silk yarn	7,763,413	9,175,747	6,542,818	5,714,382	4,431,736	6,229,604
Cotton fabrics	605,700	734,313	913,495	1,187,524	1,218,911	4,920,024
Coal	3,841,351	4,549,402	6,003,455	6,460,485	6,259,273	6,794,911
Black lead	634,784	957,350	1,228,310	2,068,342	1,999,427	2,006,764
Iron ore	1,081,926	1,907,880	985,645	4,229,077	1,104,181	4,921,213
Pig iron and Steel ingot	9,178,657	5,085,969	7,325,277	12,313,846	9,621,646	.....
Cows	3,238,022	4,237,448	4 113,590	4,617,372	4,279,873	4,553,210
Cement	427,169	387,239	118,129	2,797,230	4,770,162	2,343,004
Paper	2,572,657	3,726,693	3,922,395	3,284,752	3,464,874	3,660,362
Timber	1,024,142	696,601	1,145,485	2,506.221	1,744,366	2,161,963
Fish oils	1,207,355	1,177,200	1,183,583	5,454,640	8,176,396	7,7 6,464
Fertilizer	18,433,506	18,749,758	25,188,948	32,004,436	38,390,286	37,676,079
Total incl. others	282,144,296	315,854,449	407,693,482	486,893,879	518,047,263	622,445,017

To Foreign Countries

Items	1932	1933	1934	1935	1936	1937
Rice & paddy	540,416	2,013,646	1,977,653	3,649,495	1,527,879	1,382,941
Fresh fish	822,387	974,070	1,156,578	941,818	948,515	1,180,513
Dried fish	233,609	296,289	376,424	448,054	488,489	544,710
Refined sugar	2,350,497	2,292,097	2,521,361	3,143,356	4,017,672	4,467,723
Apple	413,143	939,245	487,148	838,211	765,234	469,749
Hide	107,024	73,369	108,260	215,425	313,547	645,954
Ginseng	23,340	187,810	1,144,432	1,056,075	1,821,881	700,261
Cotton yarn	1,242,997	974,413	1,330,623	559,337	654,268	1,560,401
Cotton fabrics	5,901,381	5,470,550	5,584,203	3,531,382	6,322,002	18,182,359
Rayon fabrics	.....	.....	.....	1,080,066	3,132,843	9,452,521
Iron	912,184	3,061,200	4,486,355	5,939,382	3,955,648	.....

	1932	1933	1934	1935	1936	1937
Cement	168,143	1,203,048	1,702,897	942,147	1,145,359	885,860
Timber	1,614,656	5,059,753	6,185,495	5,615,767	4,703,236	7,228,029
Fertilizers	51,624	3,857,579	68,927	148,379	2,036,568	229,561
Re-exports	1,300,034	798,290	1,133,593	1,733,357	2,056,155	5,701,013
Total incl. others	29,209,754	52,773,273	57,673,853	64,902,252	75,265,783	113,097,735

(d) Staple Imports

(In Yen)

From Japan Proper and Other Colonies

Items	1932	1933	1934	1935	1936	1937
Rice & paddy	1,528,288	1,512,583	3,062,024	7,021,869	4,998,300	4,910,246
Flour	3,766,052	3,983,430	5,403,855	10,949,674	7,828,663	5,934,529
Wheat	220,355	232,895	96 ,895	1,948,692	2,878,339	364 702
Sugar	7,426,539	4,272,787	5,066,761	5,949,097	5,824,675	6,333,128
Saké	1,160,586	1,118,384	1,513,920	1,656,478	1,974,822	1,983,057
Beer	1,730,031	2,110,216	1,542,354	857,609	803,283	945,554
Ginned & whipped cotton	6,488,242	8,553,203	11,804,860	16,237,201	24,317,292	33,905,272
Cotton yarn	5,884,644	5,993,135	9,490,865	9,621,128	5,737,832	3,827,970
Jeans	1,899,467	2,881,623	2,029,306	1,304,494	1,003,332	1,249,485
Woolen tissues	5,863,424	8,164,178	9,608,280	10,235,225	12,60 ,848	11,841,140
Silk tissues	3,327,765	18,440,820	24,950,176	31,993,946	86,564,740	40,825,979
Gunny bags	645,735	1,100,982	1,143,251	1,212,181	1,395,671	2,053,929
Paper	6,547,846	7,562,282	8,796,170	11,896,340	13,426,605	16,866,408
Timber	2,063,427	4,530,333	7,756,6 9	9,128,860	12,113,564	12,217,391
Fertilizers	4,8 8,594	7,745,578	14,239,061	17,226,094	28,256,830	21,297,581
Crude rubber	1,082,734	2,049,474	4,370,725	5,428,149	4,682,730	6,583,451
Iron & steel	14,285,860	20,148,578	26,813,269	39,561,704	44,691,070	.....
Coal	4,084,593	5,504,440	6,193,810	8,007,843	10,119,6 2	12,057,164
Cement	2,360,598	3,348,542	5,472,044	4,916,413	7,400,055	4,917,125
Watch, clock, Scientific machines, arms, and parts thereof	4,667,699	6,3 9,236	7,471,470	9,537,232	11,362,192	14,916,067
Vehicles, vessels, and parts thereof	6,386,045	11,753,575	15,811,849	21,420,402	26,748,316	29,829,531
Other Machineries	8,278,700	11,762,408	16,723,304	31,368,506	40,862,486	54,520,245
Total incl. others	258,670,083	339,817,196	439,622,621	558,813,765	647,918,073	785,413,504

From Foreign Countries

Items	1932	1933	1934	1935	1936	1937
Millet	16,025,129	12,874,413	15,736,957	19,623,802	22,457,963	14,111,334
Soya bean	1,814,741	2,736,942	3,469,033	2,610,138	6,086,286	11,769,809
Refined Sugar	218,741	1,579,195	1,248,500	1,632,300	3,221,475	3,561,609
Salt	2,091,685	2,713,466	2,423,182	2,501,469	1,971,090	2,339,814
Leaf tobacco	980,213	310,539	3,070,016	4,563,779	2,871,718	8,445,491
Crude oil and heavy oil	1,444,662	1,979,628	2,396,428	4,801,916	10,484,451	.....
Volatile oil	1,891,470	2,497,237	2,388,431	3,624,364	2,201,040	.....
Fuel oil	4,036,894	1,174,858	1,576,051	1,475,838	746,344	.....
Pongee yarn	7,944,642	9,412,325	6,679,569	3,563,601	4,468,089	6,618,502
Chinese linen	1,204,369	1,147,109	1,776,196	1,510,073	1,472,917	1,859,396
Coal	3,788,658	5,231,009	6,973,028	6,689,713	7,110,517	8,278,639
Iron and steel	864,592	329,310	1,487,782	2,822,788	1,734,747	.....
Fertilizers	2,915,347	3,709,827	6,255,728	8,936,250	13,134,878	7,032,688
Sewing machine	223,774	343,525	1,197,456	2,597,027	2,933,556	3,587,387
Timber	2,033,567	1,605,242	2,044,507	3,739,588	3,457,333	3,828,341
Bean cake	2,529,565	3,463,193	6,018,434	8,153,832	9,172,599	3,567,009
Re-imports	1,400,764	2,249,531	2,421,162	2,535,068	2,093,115	4,225,110
Total incl. others	61,685,953	64,368,264	79,527,309	100,589,677	114,499,061	128,138,998

(e) Imports and Exports By Countries

(In yen)

	Exports						
Asia:	1931	1932	1933	1934	1935	1936	1937
China	12,086,984	947,840	1,598,605	2,007,644	3,312,938	3,702,394	4,842,350
Manchoukuo	—	22,867,847	40,588,063	48,358,325	50,034,014	55,533,097	71,527,215
Hongkong	21,721	108.034	394,565	543,068	499,144	601,111	656,668
British India	8,568	20,353	115,999	110,238	343,792	393,568	7 0,806
Straits Settlements	155,279	114,097	222,347	289,973	223,695	344,947	414,478
D.E.I.	64,891	48,595	103,070	215,139	200,066	265,143	1,021,827

	Exports						
	1931	1932	1933	1934	1935	1936	1937
French Indo-China .	33,397	4,355	4,607	20,257	29,930	38,377	11,561
Asiatic Russia.....	22,458	67,016	79,996	3,976	587,323	33,071	2,145
Total incl. others .	12,487,060	28,601,327	48,104,447	56,839,684	63,494,423	71,308,119	101,138,231
Europe:							
Great Britain	3,967	2,693	11,409	3,795	197,059	197,446	343,996
Germany	4,053	3,282	810,881	2,048	11,722	10,470	2,261,841
Total incl. others .	11,044	7,102	743,337	35,875	328,232	292,592	2,899,291
American Countries:							
U. S. A.	121,704	406,897	2,764,723	312,878	546,901	993,879	1,474,747
Canada	1,680	1,228	1,186	972	1,107	11,833	96,148
Total incl. others .	123,547	408,186	2,747,916	313,891	575,357	1,599,402	2,068,890
Other States	149,921	200,139	1,177,573	484,403	504,240	2,075,670	7,021,415
*Grand total incl. others.....	12,771,572	29,209,754	52,773,273	57,678,853	64,902,252	75,265,783	113,097,736

	Imports						
Asia:	1931	1932	1933	1934	1935	1936	1937
China	39,509,056	3,772,679	5,858,038	7,796,226	16,448,267	15,148,247	10,867,606
Manchoukuo	—	39,723,227	40,765,021	46,681,998	49,016,730	59,402,956	62,227,733
Hongkong	21,334	8,625	17,280	31,203	7,664	6,758	14,860
British India	357,696	220,017	763,110	2,619,459	565,160	208,983	255,501
Straits Settlements.	184,200	259,862	1 7,386	75,013	1,724,384	1,3.3,681	1,523,412
D.E.I.	1,4e7,943	616,537	2,137,6o6	1,431,263	3,511,835	9,726,514	8,277,250
French Indo-China .	25,027	197,996	3	70,810	60,485	437,157	206,453
Asiatic Russia	252,633	1,020,7:0	1,144,681	113,681	538,213	335,418	7,514
Total incl. others.	42,089,469	48,940,786	55,102,443	64,756,219	79,205,461	94,519,713	93,699,896
Europe:							
Great Britain	1,313,419	1,545,940	988,625	975,791	3,309,650	5,457,322	5,457,205
Germany	1,312,121	819,286	423,182	380,138	336,480	1,941,959	1,973,146
Total incl. others .	2,892,126	2,670,430	1,529,225	1,558,851	4,104,285	7,134,155	7,905,547
American Countries:							
U. S. A.	4,550,470	5,079,175	2,195,225	5,083,778	7,547,938	9,151,692	21,311,699
Canada	32,912	56,343	484,603	724,173	472,725	526,114	76,761
Total incl. others.	4,627,948	5,162,511	2,713,384	6,192,770	8,373,519	10,632,965	22,658,225
Other States	33,294	1,471,177	652,8.8	1,309,816	2,611,461	657,372	72,432 282
*Grand Total	52,695,966	61,635,953	64,368,264	79,527,309	100,589,577	114,499,061	128,138,998

Note: * Including bonded manufacturing warehouse.

(f) Entrance & Clearance of Ships

	No. of ships			Tonnage		
	1935	1936	1937	1935	1936	1937
From Foreign Countries						
Entrance:						
Steamships	1,365	1,348	1,289	1,519,375	1,648,706	1,728,972
Sailing crafts	21,246	17,681	14,015	120,416	122,893	119,248
From Japan Proper and Other Colonies						
Steamships	14,800	15,722	14,231	12,941,952	13,624,387	13,008,990
Sailing crafts	10,377	10,296	10,659	269,470	320,253	357,274
For Foreign Countries						
Clearance:						
Steamships	1,337	1,379	1,310	1,549,217	1,670,505	1,753,559
Sailing crafts	20,930	17,497	13,841	115,890	120,914	116,604
For Japan Proper and Other Colonies						
Steamships	14,587	15,550	14,128	12,781,196	13,524,412	13,002,391
Sailing crafts	10,402	9,913	10,881	268,509	310,957	359,660

MONOPOLY

Ginseng.—Ginseng, a medical root highly valued by Chinese and Koreans, is famous for its quality throughout the world, and the greater part of the manufactured product is exported to China. Owing, however, to the spread of disease among ginseng and the ravages of thieves, this industry was almost ruined for a time. In 1908, therefore, a special Government office was established, where various curative and preventive measures were studied with great care and efforts, and strict control over them was exercised. On the other hand, cultivators' associations were organized with a view to promoting the common interest, and these associations, supported by Government measures, lent impetus to the improvement of this industry. The output of ginseng in 1936 was 1,124,747 kin, valued at ¥2,767,092.

Salt.—Korea is suitable for salt manufacture by natural process. In 1907, however, from the financial and economic point of view experiments were made in the manufacture of salt by spontaneous evaporation at Shuan in Keikido. The result turned out to be very successful and the quality of the products was as good as the first or second class salt produced in Japan proper. Thereupon the construction of salt fields at Koryo Bay and Tokudo in Heian-nando was commenced in 1908, the area being 1,205 cho or 1,195 hectares. The area of salt fields in 1936 was 6,168 hectares. Salt production in 1936 was 216,513,000 kilograms.

Table 18. Statistics on Salt

	Area of Salt fields (Hectares)	No. of producers	Production (M. tons)	Import (M. tons)
1928....	4,582	517,637	186,954	148,440
1929....	4,511	540,832	228,478	137,267
1930....	4,339	556,348	178,295	122,203
1931....	4,471	545,334	181,194	192,433
1932....	4,428	574,273	253,988	185,050
1933....	4,564	566,977	242,108	186,850
1934....	4,573	623,933	183,667	169,887
1935....	4,670	796,194	320,996	183,099
1936....	6,168	899,887	216,513	155,158

Tobacco.—The manufacture of tobacco was undertaken exclusively by the Government-General under Chosen Tobacco Monopoly Ordinance promulgated in April, 1921. Exceptions were made, however, with respect to the cultivation of tobacco for personal use, the private manufacture and sale of cut tobacco and the sale of leaf tobacco by the Government, etc.

The supply of the Government manufactured cut tobacco that was received in 1923 with favour by the consumer and the improvement in economic conditions of the people rendered the above exceptions unnecessary. Thus, the sale of leaf tobacco by the Government-General was discontinued in January, 1927, and the cultivation of tobacco for personal use and the private manufacture of cut tobacco were abolished at the end of 1929. The area under tobacco and the production in recent years are as follows:—

Table 19. Area Under Tobacco and Production

	Area under cultivation (Cho)	Production (Kgs.)
1928.....	21,870	20,859,908
1929.....	19,613	24,525,338
1930.....	14,229	15,100,927
1931.....	15,233	16,440,671
1932.....	13,637	19,912,211
1933.....	13,558	16,553,509
1934.....	14,693	15,404,374
1935.....	16,367	21,921,105
1936.....	17,533	20,626,349

Opium.—After the annexation of the peninsula the Government-General frequently issued ordinances regulating opium, setting limits to the area under poppies, receiving manufactured opium and selling it to pharmaceutists specially authorized by the Government. These measures resulted in the eradication of the evils of opium smoking, but there were many persons poisoned by morphine throughout the country. In order to root out the evils, the Government-General entered the names of smokers on a register and gave them medical treatment, while at the same time it gave an authority to control the receiving of opium and the manufacture and sale of morphine to the Monopoly Bureau which commenced the work from March, 1930. The output of opium for medical use in 1936 added 11,900 grams to the state and sales of morphine and opiums amounted to 68,625 grams.

VALUE OF OUTPUT FROM INDUSTRIES

Agriculture is still the principal industry of Chosen. About 75 per cent. of the population take their living from farming. The value of agricultural production in 1937 was over 1,492 million yen as contrasted with 959 million yen in the manufacturing industries which showed the largest rate of increase and roughly 188 million yen in aquatic enterprise. Great progress has been witnessed in mining and the value of output has increased from 21 million yen in 1931 to 150 million yen in 1937.

Table 19A. Principal Industrial Output
(In ¥1,000)

	Agriculture	Sericulture	Stock-Breeding	Forestry	Aquatic	Mining	Manufacturing Industries
1930.....	505,303	12,638	30,829	63,360	80,518	24,654	286,887
1931.....	493,955	9,031	29,738	59,413	74,947	21,742	257,513
1932.....	607,330	10,742	33,096	55,069	73,647	33,747	314,951
1933.....	647,260	21,865	38,033	94,330	86,967	48,301	372,841
1934.....	746,333	10,028	40,765	106,031	103,311	69,173	446,124
1935.....	925,264	16,038	46,488	114,005	145,344	88,039	614,809
1936.....	1,208,911	19,029	57,787	118,065	144,893	110,430	478,184
1937.....	1,491,969	....	69,955	138,710	187,954	150,000*	959,308

Note: * Estimate.