

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 ¥5 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 Japan proper.

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

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 magnetite, 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 supplied about 85% of the country's needs in 1936, 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 bet-

ter 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 Miaoerhou. 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 6. Production & Demand of Pig Iron and Steel Materials
(In 1,000 Metric tons)

	Home production	Import from			Brought from colonies	Total Supply	Export	Total Demand	*Production against Demand
		Manchoukuo	British-India	Total incl. others					
1931	917.3	242.1	150.4	399.4	95.1	1,411.9	2.5	1,409.3	89%
1932	1,010.7	322.4	117.8	444.4	205.9	1,661.1	.0	1,660.4	39
1933	1,423.8	453.9	172.0	640.8	160.4	2,225.1	.4	2,224.7	92
1934	1,728.1	409.4	202.1	614.3	164.1	2,506.7	.8	2,505.8	92
1935	1,906.7	382.7	338.3	961.9	130.6	2,999.3	1.3	2,998.0	81
1936	2,007.5	271.2	375.4	971.9	122.9	3,102.4	.9	3,101.5	77
1937									
Jan.-July		120.5	171.6	515.7	67.5		.3		

Note: * Represents home production combined with imports from colonies and Manchoukuo.

(B) Steel Materials

	Home Production	Import	Brought from Colonies	Total Supply	Export	Sent to Colonies	Total	Total Demand	*Production against Demand
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	114
1936	4,538.5	296.0	48.9	4,883.5	447.8	440.6	887.9	3,995.6	115
1937									
Jan.-July		407.1	52.1		20.4	140.5	161.0		

Note: † Represents home production combined with colonies.

Table 7. Statistics of Steel Materials
(Unit: 1,000 Metric tons)

(A) Bars & Shapes

	Home production	Imports			Exports			Total Supply	*Production against Demand
		Foreign	Colonies	Total	Foreign	Colonies	Total		
1920	213	297	2.9	300	14	10	24	490	44%
1924	414	304	0.3	304	10	18	28	691	60
1929	939	191	0.1	191	8	56	64	1,067	88
1934	1,209	64	4.0	68	108	81	190	1,087	111
1935	1,494	58	7.4	65	111	122	233	1,315	113
1936	1,582	37	7.3	44	124	133	258	1,369	116

(B) Plates (ungalvanized)

1920	124	380	11.7	392	15	4	19	497	27
1924	189	393	1.3	394	10	6	16	567	34
1929	526	169	0.4	169	8	22	29	666	79
1934	928	69	15.8	85	32	21	54	959	98
1935	1,102	50	29.6	79	37	35	73	1,109	102
1936	1,398	31	30.8	62	88	43	131	1,328	108

(C) Plates (galvanized)

1920	..	49	..	49	1.4	1.1	2.5	47	..
1924	4.2	71	..	71	0.1	4.0	4.1	72	6
1929	17.9	82	..	82	..	2.4	2.4	97	18
1934	61.2	88	..	88	..	3.6	3.6	146	42
1935	94.9	54	..	54	0.3	4.4	4.7	144	66
1936	139.4	51	..	51	1.0	7.0	8.0	183	76

(Continued)

(D) Wirerods

	Home Production	Imports			Exports			Total Supply	*Production against Demand
		Foreign	Colonies	Total	Foreign	Colonies	Total		
1920	27	45	..	45	..	..	72	38
1924	32	88	..	88	..	..	120	26
1929	68	157	..	157	..	..	226	30
1934	348	32	..	32	..	..	380	91
1935	413	45	..	45	..	..	457	90
1936	487	38	..	38	..	..	525	93

(E) Rail & Fish-plates

	Home Production	Foreign	Colonies	Total	Foreign	Colonies	Total	Total Supply	*Production against Demand
1920	57	117	..	116	0.1	22	22	151	38
1924	83	107	..	107	2.6	9	12	179	46
1929	271	35	..	4	..	42	42	264	103
1934	268	7	..	7	95.5	61	156	219	168
1935	367	19	..	19	100.2	99	199	187	197
1936	289	49	..	49	30.0	94	124	213	135

(F) Pipes & Tubes

	Home Production	Foreign	Colonies	Total	Foreign	Colonies	Total	Total Supply	*Production against Demand
1920	19.2	42.8	..	42.8	4.9	2.5	7.4	54.6	35
1924	34.6	38.9	..	38.9	2.2	4.7	6.9	66.5	52
1929	78.5	63.0	..	63.0	3.2	5.9	9.1	132.5	59
1934	137.0	14.8	..	14.8	29.2	11.7	40.9	110.9	123
1935	166.7	17.0	..	17.0	32.5	22.7	55.2	129.5	130
1936	188.7	42.9	..	42.9	33.5	27.5	61.0	170.6	111

(G) Forge, Cast and Special Materials

	Home Production	Foreign	Colonies	Total	Foreign	Colonies	Total	Total Supply	*Production against Demand
1920	93	94	0	94	11.6	11.5	23	165	57
1924	85	149	1.1	150	2.7	2.3	24	210	41
1929	132	89	4.6	93	6.9	42.1	49	176	78
1934	272	96	36.3	132	79.4	70.3	150	255	121
1935	349	74	4.3	78	192.8	82.1	275	153	232
1936	455	48	10.8	59	170.5	135.8	306	207	224

Note: * Represents home production combined with imports from colonies.

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 in 1936 exceeded 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.

Of late there has been a tendency to replace scrap with ore in the manufacture of pig iron. Whereas scrap cost about ¥80 per metric ton in 1939, ore can be purchased at about ¥20. As less than two tons of ore are necessary to produce a ton of steel, price primarily caused the shift from scrap to ore. This change is being impeded somewhat by the lack of an adequate supply of good ore and by the greater supplies of coal which are required. In addition, the Japan Iron and Steel Manufacturing Company is about the only organization able to make this radical change to an ore policy, as the majority of other companies rely on open-hearth

furnaces, which must use scrap iron. But the tendency has been started, and it is one the industry is likely to continue in the future as the supplies of richer ores are tapped in China and Manchuria.

IRON AND STEEL MANUFACTURE

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 continuously 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 4.5% of the total production of manufacturing industries in the country. 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.

Recent Steel Demand and Supply

According to an estimate made recently by the economic magazine Kokusei Graph, the demand for steel materials in 1937 jumped to 5,000,000 metric tons from about 4,000,000 metric tons in 1936. In 1938 it is believed to have soared to 6,500,000 metric tons and the figure for 1939 is placed at 7,000,000 metric tons, which is an entirely unexpected flight from the 4,538,000 metric tons produced in 1936.

Assuming that the demand for steel in 1939 will total 7,000,000 metric tons, the demand for steel-making pig will be about 3,157,000 tons and that of scrap 4,312,000 tons. The demand for ore is estimated at 7,500,000 tons, which would be sufficient to produce about 3,160,000 tons of steel-making pig required for the production of 7,000,000 metric tons of steel after being mixed with about 4,312,000 metric tons of scrap. This would leave about 1,700,000 tons of foundry pig, making the total pig-iron demand for Japan and Chosen about 4,860,000 metric tons.

To meet these large demands, pig-iron production in Japan Proper and Chosen for 1937 is estimated at 2,500,000 metric tons. The 1938 production is believed to have gone up to 3,200,000 and the figure for 1939 further to 4,000,000 metric tons. If the figure for 1939 is realized, it will double the 1935 output. This leaves a difference of nearly 1,000,000 metric tons of pig iron, which may possibly be secured from Manchoukuo in view of the vast expansion of its pig-iron production supply.

In connection with the figures estimating the production of steel in 1939 at 7,000,000 metric tons and of pig iron at 4,000,000 metric tons with 1,000,000 or 20 per cent, coming from Manchoukuo, it is of interest to note that one of the latest German estimates puts Japan's and Manchoukuo's combined production of pig iron for 1937 at 6,251,000 metric tons and for 1938 at 6,587,000 metric tons, while the

output of steel for 1937 is given as 5,811,000 metric tons and for 1938 as 6,000,000 metric tons.

Composition of Japanese Steel.—According to figures released by the Ministry of Commerce and Industry in 1939, the following materials are consumed in the manufacture of a metric ton of steel: manganese ore 10 kilograms; limestone 105 kilograms; coal 204 kilograms; coke 3 kilograms; pig iron 451 kilograms; scrap iron 616 kilograms; ore 59 kilograms.

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 Wanishi 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 roll-

ing 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 8. Production of Steel Ingots Classified by Method
(In metric tons)

Year	Open Hearth	Bessemer	Electric	Crucible	Total
1930	2,225,451	35	62,140	1,711	2,289,337
1931	1,828,823	..	52,765	1,537	1,883,125
1932	2,325,306	940	69,740	2,296	2,398,282
1933	3,056,347	..	139,561	2,192	3,198,100
1934	3,633,610	..	208,790	1,120	3,843,520
1935	4,459,737	..	241,649	1,200	4,702,586
1936	4,900,555	4,504	316,475	1,488	5,223,017

Table 9. Consumption Ratio of Steel Materials Classified by Industries

Year	Total Consumption							Ratio of Supply against Total Demand
	Railways %	Civil Engineering %	Ship-bldg. %	Machinery %	Petroleum Gas & Water %	Mining %	Others %	
1931	11.6	32.7	7.4	23.0	3.3	2.6	19.4	91
1932	10.6	28.4	7.3	30.3	2.8	1.7	18.9	112
1933	7.9	27.2	10.2	37.5	4.9	2.4	9.9	101
1934	10.5	26.0	10.8	32.9	2.3	4.3	13.2	103
1935	8.1	26.9	10.2	34.7	2.6	2.2	15.3	97

Government Encouragement

The Government has 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 depression 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 effectively 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 subsidized 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.

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 formation 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 co-ordinated 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 enter-

prises 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.

Control During the China Incident.—As a result of a great increase in the demand for iron and steel following upon the outbreak of the Sino-Japanese hostilities in July, 1937 a shortage developed in these requirements so

that legal measures were invoked to restrict consumption and adjust the relative position of demand and supply. From May, 1938, the Government has imposed various regulations restricting the manufacture of cast iron and steel goods and the use of iron and steel for buildings and other structures, and it has also enforced strict economy in the private consumption of iron and steel for unnecessary and non-urgent purposes. At the same time steps have been taken to curtail the production of structural steel such as round bars, steel tubes, wire rods and sheets, in order to increase the supply of steel materials for the manufacture of arms and ammunition.

Eventually the only remaining means of coping with the increasing demand and limited supply was to fix consumption quotas, and this was adopted when the Commerce and Industry Ministry announced the iron and steel distribution control system. Early in 1938 the Ministry organized the Iron and Steel Control Council, consisting of officials of the Government Departments concerned, and representatives of the iron

manufacturers and the principal consumers. This Council determines in advance for each quarter of the year, the quantities of various kinds of iron and steel that are to be produced, imported, and distributed, and the amount of iron and steel manufactures for exportation.

5 Year Plan of Steel and Iron Production

The five-year iron and steel production increase plan embracing both Japan and Manchoukuo was announced in March, 1937, and the objective fixed was the production of 6,200,000 metric tons of steel materials for 1941. This aim was extended to 10,000,000 metric tons after the China Incident began, in anticipation of a still larger consumption, and under the leadership of the Nippon Iron Manufacturing Company, all of the iron and steel firms have since been bending their efforts to augmenting production in accordance with the revised plan. The following is a summary of Japan's iron and steel production increase program as enlarged following the outbreak of the China Incident.

Table 9A. Iron and Steel Production Expansion Program for the Japanese Empire

(In 1,000 metric tons)

Pig Iron	Capacity, end of 1936	Plans approved	Projected	Total	Other cos. . .	Capacity end of 1936	Plans approved	Projected	Total
Japan Iron .	2,150	2,600	1,300	6,050	2,060	730	900	3,700	9,200
Other cos. . .	270	720	700	1,700	2,030	2,030	2,000	9,200	9,200
Total	2,420	3,320	2,000	7,750	5,160	2,030	2,000	9,200	9,200
Steel Ingot									
Japan Iron .	3,100	1,300	1,100	5,500	2,220	1,300	1,030	4,550	8,320
Other cos. . .					2,790	410	570	3,770	8,320
Total	3,100	1,300	1,100	5,500	5,010	1,110	1,600	8,320	8,320

When the above plan is accomplished, Japan proper will have a capacity for producing 7,750,000 metric tons of pig iron, 9,200,000 metric tons of steel ingots and 8,320,000 metric tons of steel materials. It is essential, of course, to assure adequate supplies of iron ore and coking coal for the materialization of this plan, but it is believed that these raw materials can be acquired in sufficient volume by developing the resources in Manchoukuo and China. At present, however, the rate of pig iron output is somewhat lower than before, because, owing to the hostilities, the importation of iron ore from the Yangtze region has dwindled and the supply of coal for coke has become inadequate. Blast furnaces are being completed one after another, but they are not operating to capacity. In view of the restriction in the importation of scrap, the authorities concerned have been fostering an expansion in the production of iron ore to replace scrap in the manufacture of steel.

Price Structure

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 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.

Table 10. Imports of Iron Ore, Steel Materials, etc.
(Unit: Value in ¥1,000; Quantity in 1,000 metric tons)

	Iron Ore		Scrap		Pig Iron		Slab, grain, etc.		Steel Material	
	Qty.	Val.	Qty.	Val.	Qty.	Val.	Qty.	Val.	Qty.	Val.
1930	1,974	18,956	489	17,310	409	16,454	70	4,534	435	57,497
1931	1,550	12,780	296	7,322	401	11,522	26	1,260	263	29,386
1932	1,482	11,878	559	16,305	445	12,577	26	1,356	230	35,944
1933	1,524	12,840	1,013	38,645	641	27,024	105	7,064	400	64,719
1934	2,132	19,401	1,413	65,730	615	27,319	89	7,381	371	72,117
1935	3,404	34,547	1,692	84,231	962	41,806	228	18,330	316	63,804
1936	3,780	40,043	1,497	80,866	972	42,459	208	15,592	296	54,091
1937										
Jan.-July	1,857	22,874	1,356	121,166	516	37,970	189	23,770	407	81,909

Table 11. Imports of Iron Ore Classified by Countries of Origin
(Quantity in 1,000 metric tons; Value in ¥1,000)

	Manchoukuo		China		British Malaya & Strait Set'mt		Others		Total	
	Qty.	Val.	Qty.	Val.	Qty.	Val.	Qty.	Val.	Qty.	Val.
1930 . . . . .	..	..	791	6,723	998	10,401	185	1,831	1,974	18,956
1931 . . . . .	..	..	594	4,191	922	8,275	35	314	1,550	12,780
1932	6	45	557	3,727	878	7,639	41	467	1,482	11,878
1933	0	4	573	3,966	927	8,573	23	297	1,524	12,840
1934	3	35	825	6,390	873	8,506	430	4,490	2,132	19,421
1935	0	1	1,262	10,916	1,474	15,024	668	8,606	3,404	34,547
1936	0	1	1,252	11,607	1,681	18,132	837	10,303	3,780	40,043
1937 . . . . .	..	..	..	..	..	..	..	..	..	..
Jan.-July . . . . .	..	..	..	..	..	..	..	..	1,857	22,874

Table 12. Imports of Scrap and Old Iron by Countries of Origin
(Unit: 1,000 metric tons)

	Manchoukuo	China	British India	D.E.I.	England	Belgium	U.S.A.	Australia	Total incl. Others	
									Volume	Value (¥1,000)
1930	—	16	96	25	32	6	249	3	489	17,310
1931	—	15	109	25	47	9	34	2	296	7,322
1932	3	10	113	18	98	19	155	29	559	16,305
1933	7	20	195	28	124	20	455	35	1,013	38,645
1934	5	13	100	34	96	18	960	48	1,413	65,730
1935	4	6	97	37	40	24	1,326	49	1,692	84,231
1936	19	30	139	63	6	8	1,028	57	1,497	80,866
1937 . . . . .	..	..	..	..	..	..	..	..	..	..
Jan.-July . . . . .	..	..	..	..	..	..	..	..	1,356	121,166

Table 13. Imports of Pig Iron By Countries of Origin
(Unit: in Million Kins: one kin=0.6 kilogram)

	Manchoukuo	Kwan-tung	British India	Great Britain	Germany	Sweden	U.S.A.	Total incl. Others	
								(¥1,000)	(¥1,000)
1932	234.4	303.1	196.4	4.9	0.5	0.9	0.5	740.7	12,173
1933	756.7	2.3	580.3	4.6	0.5	16.7	0.4	1,068.1	25,252
1934	681.6	0.8	336.9	2.2	0.3	0.4	1.3	1,024.0	26,528
1935	637.9	0.4	563.9	4.2	0.7	1.0	1.4	1,603.2	41,180
1936	452.0	..	625.5	3.8	..	..	1.0	1,619.9	42,064
1937*	160.1	..	240.3	5.4	1.0	..	150.0	663.9	26,372

Note: * Represent imports for the periods January—June inclusive.

Table 14. Imports of Steel Materials by Countries of Origin

(Unit: Value in ¥1,000; Quantity in 1,000 metric tons)

	England		Germany		Belgium		U. S. A.		Total incl. Others	
	Qty.	Val.	Qty.	Val.	Qty.	Val.	Qty.	Val.	Qty.	Val.
1930	73	11,772	173	16,786	44	3,480	108	20,346	435	57,497
1931	43	6,568	103	8,842	30	1,774	56	8,756	263	29,386
1932	52	9,780	78	10,841	33	2,436	37	7,619	230	35,044
1933	51	12,523	145	20,399	97	8,720	49	11,249	400	64,719
1934	30	7,319	104	17,731	79	9,846	104	22,409	371	72,117
1935	26	8,562	56	11,526	93	10,904	100	20,744	316	63,804
1936	23	6,627	47	8,870	49	5,487	134	21,459	296	54,091
1937 Jan.-July	..	..	..	..	..	..	..	..	408	83,641

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.

Table 15. Production of Pig Iron, Ferro Alloys and Steels

Classified by Companies

(Unit: Metric Ton)

	Steel Materials								Total
	Pig Iron	Ferro Alloys	Steel	Bar. Round, Rail, etc.	Forge	Cast	Others		
Japan Proper	1930.. 1,161,894	25,597	2,289,337	1,837,081	26,895	38,661	18,429	1,921,066	
	1931.. 917,342	16,846	1,883,125	1,601,800	16,595	30,532	13,931	1,662,858	
	1932.. 1,010,761	25,916	2,398,282	2,010,058	31,927	42,684	27,929	2,112,598	
	1933.. 1,436,682	32,986	3,198,100	2,615,587	63,709	62,928	49,524	2,791,948	
	1934.. 1,728,158	44,217	3,843,520	3,113,781	71,145	79,819	57,912	3,322,657	
	1935.. 1,906,787	57,820	4,702,586	3,734,769	72,030	100,444	68,832	3,976,075	
	1936.. 2,007,571	64,868	5,223,017	4,264,253	82,039	116,481	75,813	4,538,586	
Grand Total incl. Msn-choukuo & Chosen	1930.. 1,661,833	25,597	2,289,337	1,837,081	26,895	38,661	18,429	1,921,066	
	1931.. 1,406,869	16,846	1,883,125	1,601,800	16,595	30,532	13,931	1,662,858	
	1932.. 1,540,882	25,916	2,398,282	2,010,058	31,927	42,684	27,929	2,112,598	
	1933.. 2,031,368	32,986	3,243,850	2,615,587	63,709	62,928	49,524	2,791,948	
	1934.. 2,414,791	44,217	3,903,217	3,135,400	71,145	79,819	57,912	3,344,276	
	1935.. 2,726,176	58,276	4,954,082	3,812,048	72,030	100,444	68,832	4,053,354	
	1936.. 2,857,754	66,974	5,654,082	4,456,020	82,039	116,633	75,813	4,730,504	

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, impregra-

tions, and in the three modes of deposits, viz., metasomatic, contact-metamorphic and mechanical detrital. 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, pyrargyrite, etc., but in Japan such minerals as galena, tetrahedrite, chalcopryrite, 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.

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.

Table 16. Output of Gold and Silver

(In Kilogrammes)

	Gold				Value (¥1,000)	Silver				Value (¥1,000)
	Japan proper	Chosen	Taiwan	Total		Japan proper	Chosen	Taiwan	Total	
1920	7,719	3,333	567	11,619	15,125	152,165	24	558	152,746	9,901
1925	8,463	4,692	242	13,398	21,098	126,194	1,503	360	128,057	6,105
1930	12,067	6,186	487	18,741	23,383	175,063	2,101	471	177,635	4,578
1931	12,275	9,031	553	21,859	26,839	167,583	11,404	552	179,539	3,700
1932	12,497	9,700	817	23,014	47,343	163,625	18,351	607	182,583	5,954
1933	13,728	11,508	652	25,888	64,916	185,610	21,864	231	207,705	8,766
1934	15,146	12,427	1,046	28,619	86,847	217,254	31,287	296	248,837	12,522
1935	18,321	14,710	1,157	34,188	105,322	256,007	39,345	329	295,681	20,496
1936	22,234	17,489	1,294	41,017	138,564	303,653	58,820	402	362,875	18,019
1937*	22,500	26,000	1,300	49,800	..	310,000	..	..	..	..

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

Table 17. Output of Leading Gold & Silver Mines

	Ashio		Copper (Metric tons)	Besshi		Copper (Metric tons)
	Gold (Kilogrammes)	Silver (Kilogrammes)		Gold (Kilogrammes)	Silver (Kilogrammes)	
Location: Tochigi						
1931	127	14,511	13,294	..	..	..
1932	147	16,099	14,779	..	..	..
1933	164	14,132	12,890	..	..	..
1934	164	12,510	10,854	..	..	..
1935	212	14,080	10,864	..	..	..
1936	227	16,454	12,762	..	..	..
Location: Ehime						
1931	1,202	29,620	12,631	..	..	..
1932	733	18,176	10,599	..	..	..
1933	827	16,194	10,702	..	..	..
1934	758	18,788	10,671	..	..	..
1935	805	18,852	10,548	..	..	..
1936	786	16,821	11,991	..	..	..
Chigirishima						
1935	66	2,106	1,271	..	..	..
1936	90	2,490	2,144	..	..	..
Arakawa						
Location: Akita						
1931	43	802	1,691	..	..	..
1932	64	858	1,537	..	..	..
1933	57	773	1,419	..	..	..

(Continued)

Fuke		Gold (Kilograms)	Silver (Kilograms)	Copper (Metric tons)
1935	22	—	—	—
1936	90	—	—	—
Hassei				
Location: Akita				
1931	21	1,833	41	—
1932	60	2,922	2,107	—
1933	149	3,144	2,131	—
1934	154	3,545	2,322	—
1935	230	11,263	2,839	—
1936	305	11,120	2,890	—
Hitachi				
Location: Ibaraki				
1931	2,611	29,007	7,737	—
1932	2,549	20,204	7,685	—
1933	2,737	21,073	9,036	—
1934	2,985	29,230	9,611	—
1935	3,549	37,864	10,261	—
1936	3,969	41,922	10,790	—
Hosokura				
Location: Miyagi				
1931	—	1,092	—	—
1932	—	1,372	—	—
1933	—	1,726	—	—
1934	—	1,525	—	—
1935	—	1,992	—	—
1936	—	3,623	—	—
Ikuno				
Location: Hyogo				
1931	1,123	22,789	3,796	—
1932	1,221	22,741	6,402	—
1933	1,302	21,977	5,756	—
1934	1,013	20,802	6,006	—
1935	1,551	29,376	7,503	—
1936	1,636	32,288	8,461	—
Kamioka				
Location: Gifu				
1931	48	10,519	—	—
1932	55	12,217	—	—
1933	55	15,193	—	—
1934	54	15,765	—	—
1935	63	14,979	—	—
1936	73	17,132	—	—
Kammi				
1935	51	—	—	—
1936	87	—	—	—
Kanai Hoshino				
1934	33	62	—	—
1935	231	621	—	—
1936	294	828	—	—
Komaki				
1936	277	5,261	—	—
Konomai				
Location: Hokkaido				
1931	898	5,646	—	—
1932	1,334	15,713	—	—

	Gold (Kilograms)	Silver (Kilograms)	Copper (Metric tons)
1933	1,523	25,939	—
1934	1,493	34,562	—
1935	1,500	30,525	—
1936	2,105	39,991	—
Kosaka			
Location: Akita			
1931	576	12,204	8,781
1932	540	19,019	9,407
1933	574	21,312	9,015
1934	924	22,495	8,695
1935	924	21,988	8,537
1936	1,231	28,118	8,679
Mitsui, Kushikino			
Location: Kagoshima			
1931	966	6,639	—
1932	962	6,856	—
1933	1,053	7,597	—
1934	1,015	8,049	—
1935	919	6,934	—
1936	1,004	8,821	—
Mitsui, Sanryu			
Location: Hokkaido			
1934	259	1,047	—
1935	329	1,836	—
1936	342	1,659	—
Mochikoshi			
Location: Shizuoka			
1934	128	2,988	—
1935	363	7,523	—
1936	546	13,879	—
Nagamatsu			
Location: Yamagata			
1932	—	656	—
1933	—	704	—
1934	—	812	—
1935	—	937	—
1936	—	898	—
Ogoya			
1932	—	—	1,393
1933	—	—	1,511
1934	—	—	1,559
1935	—	—	1,606
1936	—	—	1,698
Okayafu			
1935	95	—	—
1936	92	—	—
Osarizawa			
Location: Akita			
1931	36	3,316	3,238
1932	217	3,679	5,891
1933	194	4,166	5,452
1934	201	5,198	5,354
1935	349	5,886	5,721
1936	241	3,815	4,888

(Continued)

Sado		Gold (Kilograms)	Silver (Kilograms)	Copper (Metric tons)
Location: Niigata				
1931	290	4,230	—	—
1932	207	2,019	—	—
1933	208	1,572	—	—
1934	252	1,924	—	—
1935	294	2,330	—	—
1936	252	2,188	—	—
Saganoseki				
Location: Akita				
1931	2,718	15,466	8,066	—
1932	2,131	10,903	9,324	—
1933	2,263	18,625	8,488	—
1934	2,732	24,061	8,406	—
1935	3,184	28,009	8,964	—
1936	4,712	31,826	10,948	—
Sasagaya				
1935	—	757	—	—
1936	—	1,199	—	—
Shizukari				
Location: Hokkaido				
1931	76	—	—	—
1932	74	—	—	—
1933	72	—	—	—
1934	244	1,157	—	—
1935	543	2,564	—	—
1936	556	3,164	—	—

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 53,300 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.

Taio

Location: Oita

	Gold (Kilograms)	Silver (Kilograms)	Copper (Metric tons)
1931	1,080	3,674	—
1932	1,851	9,006	—
1933	1,938	10,313	—
1934	2,000	11,027	—
1935	2,050	11,420	—
1936	1,511	10,132	—

Tajima

Location: Hyogo

	Gold (Kilograms)	Silver (Kilograms)	Copper (Metric tons)
1934	—	145	—
1935	—	1,242	—
1936	—	1,389	—

Tenryu

	Gold (Kilograms)	Silver (Kilograms)	Copper (Metric tons)
1935	—	27	—
1936	685	4,250	—

Yamagano

Location: Kagoshima

	Gold (Kilograms)	Silver (Kilograms)	Copper (Metric tons)
1931	201	—	—
1932	167	—	—
1933	165	—	—
1934	200	—	—
1935	331	—	—
1936	358	—	—

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 activity 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.

Table 18. Demand and Supply of Principal Minerals

	Output (M. tons)	Import (M. tons)	Export (M. tons)	Demand (M. tons)	% of output Against Demand	
Copper	1932	71,877	1,967	23,122	50,722	141.7
	1933	69,033	17,618	8,512	78,138	88.3
	1934	67,002	51,368	12,622	105,749	63.4
	1935	70,914	69,627	17,816	122,725	57.8
	1936	77,973	53,330	12,427	118,876	65.6
	1937	49,500	57,106	6,275	100,331	49.3
Lead	1932	6,415	55,954	518	61,850	10.4
	1933	6,824	67,254	788	73,791	9.3
	1934	7,039	95,114	2,082	100,071	7.0
	1935	7,442	91,408	1,884	95,967	7.8
	1936	8,883	97,822	2,317	104,389	8.5
	1937	5,521	6,490	1,992	—	—
Tin	1932	1,002	3,807	—	4,451	21.6
	1933	965	3,807	—	4,772	21.6
	1934	1,218	4,063	—	5,281	23.1
	1935	2,069	4,370	—	6,439	32.1
	1936	1,870	4,624	—	6,494	28.8
	1937	949	4,674	—	—	—
Zinc	1932	27,043	26,572	—	53,615	50.4
	1933	30,658	32,526	—	63,183	48.5
	1934	32,145	33,208	—	65,354	49.2
	1935	34,191	45,843	—	80,034	42.7
	1936	39,066	61,774	—	100,840	38.7
	1937	26,835	38,159	—	—	—
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
	1937	1,101,100	—	—	—	—
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
	1937	140,502	—	55,845	—	—
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	—	—	—	—
	1937	—	—	5,652	—	—

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.

(Continued)	Output (M. tons)	Import (M. tons)	Export (M. tons)	Demand (M. tons)	% of Output Against Demand	
Nickel	1932	1,844	—	—	—	
	1933	3,258	—	—	—	
	1934	2,638	—	—	—	
	1935	3,417	—	—	—	
	1936	2,578	—	—	—	
	1937	3,573*	—	—	—	
Platinum (in kilograms)	1932	8.2	344.4	—	352.7	2.3
	1933	6.4	1,030.6	—	1,037.0	0.6
	1934	3.6	1,211.7	—	1,215.3	0.3
	1935	2.3	713.9	—	715.4	0.3
	1936	8.8	756.3	—	757.4	1.2
	1937	—	1,560.4*	—	—	—
Mercury	1932	2.4	340.8	—	343.2	0.7
	1933	8.0	369.1	—	377.1	2.1
	1934	6.7	498.0	—	504.7	1.3
	1935	5.0	816.3	—	821.3	0.6
	1936	14.7	512.4	—	527.1	2.8
	1937	—	383.8*	—	—	—
Antimony	1932	67	2,051.1	61.4	2,056.7	3.3
	1933	134	2,517.4	66.1	2,585.3	5.8
	1934	106	2,574.6	50.4	2,630.2	3.9
	1935	173	3,168.7	98.1	3,243.6	5.4
	1936	460	3,603.9	81.6	3,982.3	4.9
	1937	—	1,673.4*	54.0	—	—
1938	—	—	12.5	—	—	

Note: Figures for 1937 are estimates for the period January—July, inclusive, only.

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 Nichiman Magnesium Company with factories in Niigata and Yamaguchi prefectures and the Chosen Chisso Company with its plant in Kan-kyonando, 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.

Nickel

Efforts have been directed towards the production of nickel in Japan for several years past, and a number of companies have been actively engaged in this enterprise. Nickel ore is obtainable in certain districts of Japan and supplies are also imported from New Caledonia.

The Nippon Nickel Company, capitalized at ¥10,000,000 is one of the larger establishments in this field and has been producing this metal since November, 1937 in Gumma Prefecture. Other companies interested in this work include the Nippon Soda Company which has a plant operating in Hyogo Prefecture and the Kamogawa Nickel Company with its plant in Chiba Prefecture.

In spite of the development of this industry Japan is still dependent in large measure on foreign imports of nickel which are mostly obtained from Canada.

Table 19. Production and Imports of Aluminium
(In metric tons)

	Production	Imports			Value (¥1,000)
		Ingot, slab & grain	Others	Total	
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
1937 Jan.-July	....	4,092	1,202	5,294	7,168

Table 20. Imports of Aluminium by Countries of Origin
(In metric tons)

Ingot, Slab & Grain:	1934				1935				1936				1937*					
	1934	1935	1936	1937*	United Kingdom.	84	307	—	272	France	508	287	—	15	Germany	257	230	—
Canada	3,154	4,465	6,904	2,818	Total incl.				Others									
Switzerland	385	1,699	1,255	51	5,341	9,774	9,011	4,092	Note: * January to July only.									
Norway	497	1,828	492	903														
United States	0.1	0.1	356	10														
Italy	33	681	—	—														

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. 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.

Table 21. Coal Reserves in Japan Proper
(Investigation in 1932) (In Million metric tons)

Reserves	Anthracite natural coal			Bituminous coal			Low-grade lignite			Total	%
	Hokkaido	Honshu	Kyushu	Hokkaido	Honshu	Kyushu	Hokkaido	Honshu	Kyushu		
Proved	Hokkaido	2,303	2,033	36%
	Honshu	297	..	399	66	..	..	..	..	761
	Kyushu	157	..	3,008	..	..	..	..	..	3,166
	Total	455	..	5,440	66	..	..	..	..	5,960
Probable	Hokkaido	1,767	1,767	24%
	Honshu	38	..	452	133	..	..	..	..	623
	Kyushu	94	..	1,562	..	..	..	..	..	1,656
	Total	132	..	3,781	133	..	..	..	..	4,046
Possible	Hokkaido	4,210	4,210	40%
	Honshu	44	..	852	275	..	..	..	..	1,171
	Kyushu	88	..	1,217	..	..	..	..	..	1,305
	Total	132	..	6,287	275	..	..	..	..	6,885
Grand Total	Hokkaido	8,009	8,009	100%
	Honshu	378	..	1,704	473	..	..	..	..	2,556
	Kyushu	340	..	5,786	..	..	..	..	..	6,126
	Total	719	..	15,499	473	..	..	..	..	16,691
Coal already mined	Hokkaido	132	132	
	Honshu	9	..	139	7	..	..	..	..	155
	Kyushu	21	..	713	..	..	..	..	..	734
	Total	30	..	984	7	..	..	..	..	1,021
Coal impossible of mining	Hokkaido	178	178	
	Honshu	16	..	142	19	..	..	..	..	179
	Kyushu	23	..	671	..	..	..	..	..	694
	Total	39	..	992	19	..	..	..	..	1,050

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 22. Demand and Supply of Coal
(Unit: 1,000 metric tons)

Year	Production				Total	Import	Export	Domestic Supply	Stock
	Lump	Dust	Cut	Unscreened & Peat					
1932	7,252	13,911	2,487	4,402	28,053	2,716	1,338	29,783	1,848
1933	8,470	16,549	2,711	4,791	32,523	3,495	1,560	35,080	1,226
1934	8,671	18,978	2,570	5,704	35,924	4,060	1,087	39,445	678
1935	9,029	20,400	2,485	5,846	37,762	4,048	1,019	40,747	722
1936	9,677	22,558	2,554	7,014	41,803	4,201	1,088	44,218	698
1937	....	....	....	....	....	4,426	1,028	....	....
1938	....	....	....	....	....	3,741	759	....	....
1939	....	....	....	....	....	3,855	680	....	....

Table 23. Coal Consumption By Enterprises Classified
(Unit: 1,000 metric tons)

Year	Heavy Ind.	Textile Dyestuff	Ceramic	Chemical	Provision	Banker	Railways	Electric	Gas & Coke	Total incl. others
1935	6,359	3,530	3,592	4,293	2,090	4,500	3,742	2,878	2,278	30,649
1936	7,497	3,836	3,822	5,690	2,231	4,530	4,028	3,174	2,433	43,850
1937	8,726	4,006	3,921	6,335	2,226	3,945	4,320	3,582	2,243	44,605

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 roughly one-third of the total 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 Kajima 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 80 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., the Higashi-misome Coal-mine owned by Fujimoto-Kansaku and the Oki-Misome Coal-mine owned by the Okura Coal Mining Co.

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 1,847 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 24. Japan's Position in Production of Crude Petroleum and Shale Oil

(Unit: 1,000 metric tons)

	Japan	U.S.A.	Venezuela	D.E.I.	Iran	Germany†	Roumania	Great Britain	World Total
1931....	273	116,683	17,192	4,698	5,843	249	6,756	3,325	189,299
1935....	269	134,912	21,990	6,082	7,608	454	8,376	4,100	226,346
1936....	347	148,868	22,945	6,438	8,330	571	8,708	4,717	246,566
1937....	355	172,866	27,734	7,262	10,331	502	7,153	5,808	279,633
1938*... 356	164,153	28,071	7,398	10,359	634	6,603	6,771	272,044	

Note: * Estimate.

† Inclusive of Czecho and Austria.

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 in-

dicating 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 million litres in 1933. Among the colonies, Taiwan yields a small amount of crude oil.

Table 25. Demand and Supply of Crude Oil in Japan

	Production				Total		Imports (1) (1,000 U.S. gallons)	Total Supply (1,000 U.S. gallons)	Imports (2) (1,000 Gallons)
	Akita Pref. (1,000 koku)	Niigata Pref. (1,000 koku)	Hokkaido & Others (1,000 koku)	Taiwan (1,000 koku)	(1,000 koku)	(1,000 U.S. gallons)			
1932....	596.5	815.0	93.7	28.9	1,434.3	68,346	568,665	637,015	214,829
1933....	466.3	702.6	81.4	32.1	1,282.6	61,119	613,008	674,129	270,855
1934....	848.9	644.4	80.1	30.9	1,604.5	76,461	744,012	820,473	322,378
1935....	1,282.6	588.2	74.6	36.8	1,982.3	94,468	918,769	1,013,233	344,878
1936....	1,583.9	514.8	67.1	40.0	2,241.5	104,751	1,033,572	1,140,388	362,675
1937* ..	1,181.7			14.9	2,196.6	57,024	605,086	662,110	....

Note: * January to June only.

(1) Inclusive of heavy oil, based on Foreign Trade Return.

(2) Imports of crude oil only by private concerns as investigated by Nippon Oil Co.

Calculation—1 koku—47.654 U.S. gallons—1.136 barrels.

1 long ton—300 U.S. gallons.

1 box—2.5 U.S. gallons.

Table 26. Output of Petroleum By-Products

	Paraffin		Asphalt		Wax		Pitch	
	Volume (hecto- litre)	(¥1,000)	Volume (metric ton)	(¥1,000)	Volume (hecto- litre)	(¥1,000)	Volume (metric ton)	Value (¥1,000)
1923 .....	..	..	13,153	412	11,915	364	71,091	1,097
1932 .....	..	..	52,420	1,515	51,219	1,063	25,804	797
1933	25,110	716	75,714	3,854	18,392	518	34,634	343
1934	29,490	946	45,988	1,996	57,934	1,577	53,634	433
1935	28,530	916	84,992	2,295	61,374	1,295	49,768	545
1936	34,980	1,034	74,004	2,576	60,812	1,505	54,671	960

Table 27. Demand and Supply of Refined Oil (inclusive of colonies)

(In thousands of cases of 9.5 gallons each)

		Output from		Import	Export	Total supply	Increase or decrease over previous year
		domestic oil	Refined from imported oil				
Gasoline	1933	1,443	9,838	13,615	—	24,896	6.3%
	1934	1,636	1,291	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.-June.	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.-June.	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.-June.	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.-June.	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.-June.	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.-June.	7,348	21,103	35,185	744	62,892	..

Note: Exclusive of 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 28. Petroleum Wholesale Price in Tokyo
(In Yen)

	Light (White Bat) per case	Gasoline (Red Shell) per case	Kerosene (No. 2) per case	Mach. ne (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
1938 (")	6.07	7.45	4.90	6.08
" June	6.10	7.40	5.10	6.10
" December	6.20	7.50	5.30	6.40

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 29. Import of Petroleum by Countries of Origin
(Unit: Quantity in Kilolitre; Value in ¥1,000)

	Crude & Heavy Oil		Gasoline (under 7.30 s.g.)		Others (under 0.8762 s.g.)		Total Incl. Others Value	
	Quantity	Value	Quantity	Value	Quantity	Value		
Manchoukuo	1934	49,217	1,355	...	...	...	1,355	
	1935	53,490	1,312	...	...	...	1,312	
	1936	72,520	1,692	...	...	...	1,692	
	1936*	38,099	858	...	...	...	858	
	1937*	25,956	632	...	...	...	632	
British Borneo	1934	146,906	4,446	...	5,553	288	4,734	
	1935	186,078	5,465	...	5,397	296	5,761	
	1936	318,679	9,491	...	199	33	9,527	
	1936*	150,223	4,254	...	199	33	4,287	
	1937*	133,592	5,567	...	...	...	5,567	
D.E.I.	1934	266,970	7,537	4,681	317	329,495	18,400	26,254
	1935	404,562	11,864	561	73	460,651	24,575	36,512
	1936	508,822	15,501	569	94	482,133	27,897	43,497
	1936*	317,580	9,641	401	67	262,074	15,260	24,968
	1937*	274,418	11,903	526	75	253,002	17,548	29,526
Soviet Russia	1934	268,878	8,079	...	...	109	7	8,086
	1935	2,317	68	...	...	17,530	820	888
	1936	...	...	...	...	25,849	1,367	1,367
	1936*	...	...	...	...	12,832	610	610
	1937*	...	...	...	...	...	...	...
U.S.A.	1934	1,856,160	54,475	161	8	213,935	10,099	79,582
	1935	2,610,706	81,336	182	13	110,284	6,267	87,616
	1936	2,878,746	99,348	17	5	164,740	9,987	109,340
	1936*	1,521,412	50,114	...	...	69,520	4,318	54,432
	1937*	1,586,323	61,166	181	16	78,244	5,553	86,735
Total incl. Other Countries	1930	1,613,658	44,756	10,938	986	419,444	37,867	89,567
	1931	1,716,725	44,064	8,662	794	454,681	35,993	85,788
	1932	2,152,170	54,887	5,391	370	504,803	36,533	98,585
	1933	2,319,993	68,347	277	47	519,960	34,778	108,859
	1934	2,816,304	82,483	4,842	325	833,465	33,359	124,027
	1935	3,477,815	106,826	633	86	695,996	37,185	152,646
	1936	3,912,377	129,688	586	99	729,854	42,705	182,769
	1936*	2,087,215	66,688	401	67	379,055	26,923	94,829
1937*	2,290,516	86,171	707	90	310,050	25,880	120,207	

Note: * Represents imports for the period January to June inclusive.

ARTIFICIAL PETROLEUM EXPANSION IN JAPAN

The manufacture of artificial petroleum in Japan has passed the experimental stage and bids fair to become definitely established as an industrial enterprise. Because of its meager petroleum resources coupled with an increased wartime demand, the country has had to create an artificial petroleum industry, and the Government's policy of activity fostering it is responsible for the comparatively rapid progress it has made. The figures for 1936 indicate that the total demand for mineral oil, not including that imported by the Navy Department and other Government Offices, amounted to 3,730,000 kiloliters of which only about 10% was produced at home. Exact figures on the present demand and supply are not available, but from the annual increase in demand, which approaches 500,000 kiloliters, it may be inferred that under the wartime conditions of today Japan requires far greater quantities of oil than in 1936, and that the tendency is certain to become more pronounced in the future. Even the most positive and strenuous efforts to develop national resources in Japan are unlikely to bring about an appreciable increase in the oil supply, and it is therefore obvious that the bulk of the present immense demand must be, and is being, met by imported petroleum. In order to minimize the imports and make shift with home-produced oils as far as possible, Japan has no choice but to promote the rapid and healthy growth of the artificial petroleum industry.

Imperial Fuel Industrial Company

The liquid fuel policy of Japan first took practical shape in July, 1934, with the enforcement of the Petroleum Industry Law. Subsequently several laws were successively passed. On September 18, 1937 the law governing the Imperial Fuel Industrial Company was promulgated. The company was founded in January, 1938 with a capital of ¥100,000,000, of which half was invested in by the Government. Its chief object for the time being is to make investments with a view to furthering artificial petroleum production, but it is also expected to carry on all the necessary related business such as the manufacture and sale of artificial petroleum.

Revision of Production Program

The Japanese Government undertook a seven-year program beginning in 1936 for the production of liquid fuel from coal mined in Japan and Manchoukuo. It was expected that the two countries would be able in 1943 to turn out

two million kiloliters of which one-half would be gasoline and the other half heavy oil. On the completion of the seven-year plan the combined domestic production of crude petroleum, artificial petroleum and petroleum mixed with alcohol would be sufficient to meet about half of the total demand. The capital required to carry out the seven-year plan was estimated at ¥770 million, the Imperial Fuel Industrial Company to provide about one-half, consisting of ¥100 million capital and debentures amounting to ¥300 million. This original program has been changed owing to the material mobilization system. Its tenure has been reduced from seven years to five years so that the plan is expected to be completed in 1941, and various details have been altered accordingly. Publication of figures concerning the altered program is not permitted, but as might be expected, owing to the actual conditions of the artificial petroleum industry considerable difficulty apparently is being encountered in translating the original plan into practice by 1941. Nevertheless it may be confidently expected that there will be no change in the Government's policy of attaining the greatest possible degree of self-sufficiency in petroleum through development of the artificial oil industry.

Coal Liquefaction Companies

All of the companies now concerned with coal liquefaction began making experiments in 1937 or thereabout but they have not yet reached the stage of operation on an industrial scale. However, thanks to the formation of the Imperial Fuel Industrial Company and to the protection and encouragement which the Government has extended, the industry has begun to make gradual progress. According to an announcement made by the Government authorities before the Imperial Diet on March 19, 1939, factories are either under construction or permission for their construction has been granted in accordance with the provision of the law governing the artificial petroleum manufacturing business. Only a few have started operations, one of these being the Wanshi works of the Japan Iron Manufacturing Company, where the low temperature carbonization process is employed, the Agochi factory in Chosen which is equipped for the hydrogenation process and the Omuta (Milke) works of the Mitau Mining Company. The plant of the Nippon Yuka Company Ltd., equipped for hydrogenation, and the Mitsubishi Coal Liquefaction Company's factory at Uchihoro, Saghalien, were expected

to be in operation in 1940.

Other plants in the process of construction are the Hokkaido Artificial Petroleum Company, the Amagasaki Petroleum Company, the Manchurian Synthetic Fuel Company, Saghalien Artificial Petroleum Company, and the Ube Yuka Kaisha.

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.

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 given on Page 384, 1939 issue.

Cost of Synthetic Petroleum

The cost of synthetic gasoline amounted to ¥0.80 per gallon as compared with the retail price of ¥0.64 for natural gasoline in 1939. An advance in the price of natural gasoline by eight sen per gallon, as well as a compensation plan for synthetic gasoline producers were effected in April, 1940.

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.

Mineral Production Law

The object of this Law, passed by the 73rd session of the Diet, 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 will be found on Page 384, 1939 issue.

Petroleum Resources Exploitation Law

The Law was passed by the 73rd session of the Diet in order to stimulate the expansion of petroleum production. The main terms of the Law will be found on Page 384, 1939 issue.

CHAPTER XXX MANUFACTURING INDUSTRY*

INTRODUCTORY REMARKS

The manufacturing industry is the largest enterprise of Japan from the standpoint of value of production. In 1938 this industry accounted for production of 19,667 million yen, representing about 71% of the value of output from all industries. The manufacturing enterprises have expanded with remarkable rapidity, the value of production having increased by 2.8 folds in the 11 years 1927-1937, inclusive. No less remarkable has been the gain in the relative importance of the manufacturing enterprises among all industries in production value, the share of the former having soared from 59% to 71% in the corresponding period.

The next largest industry in this respect is agriculture, but the value of output is roughly one-fifth that of the manufacturing business, while in point of workers it employs three times as many hands as the manufacturing industry.

Relative Position.—In point of relative importance of the enterprises embraced within the manufacturing industry the metallic industry comes first in the value of production. The returns of the Department of Commerce and Industry for 1938 show that the metallic industry accounted for 23.8% of total production of all

manufacturing pursuits, followed by the textile industry with 20.3%, the machine and tool industry with 19.4% and the chemical industry with 17.6%.

The relative position of the enterprises within the manufacturing pursuits discloses some significant changes. The textile industry which had led in production value up to 1937 was superseded, as mentioned above, by the metallic industry. It is interesting to note in this respect that while the absolute value of production to textiles increased from 2,872 million yen in 1926 to 3,985 million yen in 1938, the percentage of this item in the value of the total for manufacturing industries fell from 41.4% to 20.3% in the intervening years, indicating that the tempo of expansion of the textile enterprise has been slower than those of certain other industries.

Production by Prefectures.—Osaka continues to be the largest manufacturing city in Japan. In 1938 its share of total production was 3,228 million yen, followed by Tokyo with 3,167 million yen and Hyogo prefecture, wherein is situated the city of Kobe, with 1,771 million yen. These three regions accounted for about 42% of the total production for Japan Proper.

* Statistics of the manufacturing industries are obtained chiefly from data compiled by the Department of Commerce and Industry. The investigation is of factories employing 5 or more regular operatives. The results for any given year are released at the end of the following fiscal year.

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	82.7	99.6	85.9	91.9
1931	92.1	83.8	68.2	86.4	67.6	77.6
1932	97.8	83.5	52.7	72.2	53.3	66.9
1933	118.0	88.2	62.7	80.7	60.7	73.7
1934	127.4	98.8	68.2	75.2	79.8	80.0
1935	140.6	105.6	79.1	73.1	194.0	93.8
1936	150.2	115.8	93.6	78.3	106.3	87.5
1937	168.9	123.6	102.7	81.9	117.2	99.6
1938	174.7	115.5	80.0	76.1	126.2	98.5
1939	182.5	..	98.2	..	..	..

Note: † Since March, 1935, including Saar.

References:

Table Nos.: 1 a, 2 b, 3 c, 4-9 b, 10-14 d, 15 b, 16 b & c, 17-18 b, 19-20 d, 21 b, 22 e, 23 f, 24 g, 25-28 b, 29 d.

Key: a—Toyo Keizai-sha.
b—Department of Commerce & Industry.
c—League of Nations.
d—Department of Finance.

e—Coal Producers' Union.
f—Showa Coal Co.
g—A. P. I. Research.

Table 2. Trend of Industrial Production in Japan Proper

(Production value total of each industry is represented in Million Yen; Index—1936 taken as 100; %—against total industrial production)

	Textile			Metallic			Machinery & Tools			Wholesale Price Index
	Value	Index	%	Value	Index	%	Value	Index	%	
1926	2,872	85	41.4	447	21	6.4	539	33	7.8	—
1927	2,677	80	39.7	467	22	6.9	583	36	8.6	—
1928	2,848	85	39.5	545	25	7.6	630	39	8.7	—
1929	2,998	89	38.8	689	32	8.9	682	43	8.8	—
1930	2,028	61	34.2	526	25	8.8	616	38	10.3	—
1931	1,803	54	34.8	435	20	8.4	443	28	8.5	—
1932	2,028	60	34.0	591	28	9.9	544	34	9.1	—
1933	2,696	80	34.2	888	42	11.3	805	50	10.2	—
1934	2,918	86	31.0	1,464	68	15.5	1,082	67	11.5	—
1935	3,078	92	28.4	1,817	85	16.8	1,381	86	12.7	—
1936	3,372	100	27.5	2,131	100	17.3	1,609	100	13.1	—
1937	3,915	116	23.8	3,376	164	20.6	2,380	159	14.6	—
1938	3,985	119	20.3	4,687	220	23.8	3,822	253	19.4	—
1939	4,792	145	19.6	5,472	256	22.5	5,421	337	22.2	—

	Ceramic			Chemical			Lumbering & Woodworking		
	Value	Index	%	Value	Index	%	Value	Index	%
1926	121	39	3.0	810	37	11.6	185	68	2.7
1927	192	61	2.9	856	39	12.5	187	68	2.7
1928	203	65	2.8	936	43	12.9	194	71	2.7
1929	220	70	2.8	1,078	49	13.9	194	71	2.5
1930	159	51	2.6	924	42	15.5	158	58	3.6
1931	142	45	2.7	826	38	15.9	143	52	2.7
1932	160	51	2.6	957	43	15.9	153	56	2.6
1933	212	68	2.7	1,300	59	16.5	183	67	2.3
1934	251	80	2.7	1,515	69	16.1	219	80	2.3
1935	283	90	2.7	1,878	85	17.3	241	89	2.2
1936	314	100	2.5	2,202	100	17.9	272	100	2.2
1937	377	120	2.3	3,070	140	18.8	373	143	2.3
1938	404	133	2.1	3,461	159	17.6	457	168	2.3
1939	572	182	2.3	4,161	189	17.1	720	264	2.9

	Printing & Bookbinding			Provisions			Total incl. Others		
	Value	Index	%	Value	Index	%	Value	Index	%
1926	158	70	2.3	1,184	95	16.0	6,936	57	100
1927	193	85	2.9	1,073	86	15.8	6,746	53	100
1928	184	81	2.5	1,137	85	15.7	7,206	59	100
1929	186	83	2.4	1,125	76	14.5	7,717	63	100
1930	183	77	3.1	950	66	15.9	5,963	49	100
1931	167	74	3.2	835	71	16.1	5,175	43	100
1932	168	74	2.7	886	81	14.8	5,982	49	100
1933	170	75	2.2	1,018	83	12.7	7,871	64	100
1934	193	85	2.1	1,041	94	11.1	9,390	77	100
1935	211	93	2.0	1,154	94	10.6	10,837	89	100
1936	226	100	1.8	1,246	100	10.1	12,258	100	100
1937	259	114	1.6	1,468	116	9.0	16,356	134	100
1938	281	124	1.4	1,786	143	9.1	19,667	161	100
1939	297	131	1.2	2,332	187	9.6	24,460	198	100

Table 3. Volume Indices of Industrial Production by Principal Commodities (Prepared by the Department of Commerce & Industry) (Average of 1931-1932-1933 calculated as 100)

	Textiles			*Metallic & Machineries			Ceramics					
	Cotton Yarn	Raw Silk	Silk Textile	Rayon Textile	Woolen Textile	Pig Iron	Steel Materials	Machine & Tools	Cement	Sheet Glass	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

(Continued)	Textiles						*Metallic & Machineries			Ceramics			Average of Mfg. Ind.
	Cotton Yarn	Raw Silk	Cotton Textile	Silk Textile	Rayon Textile	Woolen Textile	Pig Iron	Steel Materials	Machine & Tools	Cement	Sheet Glass	Sulphate of Ammonium	
1927 June	145.0	65.7	135.9	111.4	345.9	53.7	199.4	255.4	259.0	156.6	201.5	210.1	—
" Dec.	116.3	103.9	130.7	103.8	212.6	55.5	—	—	—	136.8	187.5	213.8	—
1938	106.7	90.9	97.0	89.8	280.2	44.8	—	—	—	131.0	130.5	219.5	—
" June	108.4	68.4	91.8	85.8	237.7	74.4	—	293.7	—	133.6	126.6	220.7	—
" Dec.	95.4	96.4	92.9	93.4	270.2	89.3	—	334.3	—	134.4	87.6	232.8	—
1939	96.0	78.8	96.9	107.7	216.3	77.5	—	—	—	120.4	103.3	208.8	—
" June	96.6	56.5	106.1	105.4	206.1	73.8	—	292.0	—	126.4	127.5	213.1	—
" Dec.	101.8	96.9	92.6	105.3	170.6	63.4	—	314.4	—	99.1	116.6	201.1	—
1940 June	83.4	58.9	72.8	135.5	130.3	64.0	—	301.5	—	105.3	162.4	196.5	—

	Chemical						Provision		Gas and Elec.		Average of Mfg. Ind.	
	Nitro-lime	Super-phosphate of lime	Bleach-ink Powder	Soda Ash	Caustic Soda	Rayon Yarn	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	110.3	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
" June	247.7	155.6	197.5	246.7	472.1	497.6	168.8	74.9	81.9	163.1	108.0	171.9
" Dec.	221.4	185.0	241.4	252.0	517.2	413.4	142.0	122.2	134.1	179.5	126.8	178.9
1938	226.8	126.1	183.7	240.7	593.6	297.3	442.9	118.5	97.4	178.4	132.1	173.6
" June	253.5	119.3	163.4	245.7	604.4	262.4	140.8	123.6	76.0	197.7	118.8	170.2
" Dec.	233.4	109.7	196.2	217.8	596.2	238.3	149.2	126.8	82.6	—	160.9	171.7
1939	178.0	144.4	180.5	292.5	569.9	340.2	148.2	115.7	87.4	—	144.4	182.8
" June	213.5	191.6	—	318.6	—	370.9	152.2	99.3	93.2	—	137.4	182.0
" Dec.	73.9	181.2	—	317.6	—	350.5	145.7	119.4	46.5	—	150.8	188.6
1940 June	218.0	180.7	—	268.2	—	324.7	145.9	119.9	46.5	—	150.9	177.7

	*Mining Products							Average of Mining Industries
	Gold	Silver	Copper	Petroleum	Sulphur	Coal	Average	
1931	95.6	97.7	104.7	97.6	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	97.3	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	169.6
" June	—	—	—	—	—	—	153.3	169.6
" Dec.	—	—	—	—	—	—	161.6	176.8
1938	—	—	—	—	—	—	172.6	172.0
" June	—	—	—	—	—	—	158.0	168.7
" Dec.	—	—	—	—	—	—	177.4	184.6
1939	—	—	—	—	—	—	164.5	180.0
" June	—	—	—	—	—	—	164.7	179.8
" Dec.	—	—	—	—	—	—	182.5	187.9
1940 June	—	—	—	—	—	—	166.7	176.4

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

RECENT SITUATION

The rapid expansion in industrial production, a feature of recent years in Japan, showed indications of being checked in 1939 and a slight recession took place from about October of the same year. This lag continued into the middle of 1940. The causes for this recession are ascribable principally to the outbreak of the European war in the autumn of 1939 and to certain internal difficulties. The former created obstacles to the smooth importation of materials necessary for the manufacturing industries, and further imposed a brake on exports to the warring countries. The latter consisted chiefly in the sacrifice of time and efficiency entailed in the course of placing the country on a footing of planned economy.

MANUFACTURING INDUSTRY

	No. of Factories	No. of Operatives (1,000)	Production			Working Hours (Mill.)	Wages (¥Mill.)	Raw Material Consumed (¥Mill.)
			Total (¥Mill.)	per Factory (¥1,000)	per Operative (¥)			
Chemical:								
1936.....	4,998	273	2,111	422	7,740	817	106	1,228
1937.....	5,820	323	2,917	500	9,040	990	130	1,730
1938.....	6,146	322	3,461	564	10,760	1,041	149	2,008
1938:								
Medicine... ..	456	14.9	159	286	10,680	35.8	5.3	68.4
Ind. Chemical ...	486	11.1	605	1,245	5,460	131.2	21.4	264.4
Dyestuff	66	11.6	142	2,125	12,300	33.6	5.8	83.0
Paint, etc.	388	6.6	116	296	17,600	19.9	3.6	76.6
Soap, etc.	309	9.2	150	486	16,400	27.7	3.5	102.3
Explosives	73	2.8	44	595	15,500	17.4	2.3	26.0
Animal Fat	51	1.1	21	412	19,100	3.4	0.6	9.0
Rubber ware	842	31.0	189	214	6,100	107.4	14.8	108.0
Paper	795	41.4	420	530	10,150	124.7	17.9	263.4
Celluloid	371	8.9	41	110	4,600	41.3	5.3	34.2
Rayon	51	87.6	428	8,400	4,900	246.5	30.5	223.8
Fertiliser	502	15.9	387	770	2,440	63.3	10.0	294.4
Total incl. others.	6,146	322.2	3,461	564	10,760	1,041.0	149.0	2,008.0
Lumbering & Wood working:								
1936.....	7,788	93	280	36	3,020	272	35	209
1937.....	9,880	108	379	38	3,500	317	42	259
1938.....	10,629	114	457	43	4,000	336	50	319
1938:								
Saw-mill	4,877	55.1	271	55.6	4,920	159.5	23.9	199.2
Wood working ...	5,752	58.7	187	32.5	3,190	176.7	26.0	120.1
Total incl. others.	10,629	113.9	457	43.0	4,000	336.0	50.0	319.0
Printing & Bookbinding:								
1936.....	3,450	59	235	68	4,000	201	33	118
1937.....	3,857	65	273	71	4,200	215	36	143
1938.....	3,932	64	281	72	4,470	208	38	133
1938:								
Printing	3,510	58.5	271	77.3	4,625	190.3	35.1	129.7
Book-binding ...	422	5.0	10	23.7	2,000	17.4	2.6	3.5
Total incl. others.	3,932	63.6	281	72.0	4,470	208.0	38.0	133.0
Provision:								
1936.....	14,021	165	1,260	90	7,640	372	47	781
1937.....	16,518	186	1,525	92	8,200	420	53	897
1938.....	16,944	191	1,786	106	9,860	461	62	1,111
1938:								
Brewery	6,819	77.5	736	1,800	9,500	146.9	23.6	268.8
Flour Mill.	165	3.2	250	1,520	78,100	10.5	1.8	31.6
Sugar	82	175	2,140	48,600	104.9	11.8	97.7	151.3
Confectionery ...	2,241	34.2	221	987	6,500	59.1	5.6	34.7
Cannery	642	20.7	105	164	5,720	36.0	4.5	1,111.0
Aquatic products ...	2,008	17.4	55	27	3,160	461.0	62.0	
Total incl. others.	16,944	190.7	1,786	106	9,860			
Gas & Electric:								
(by-products only)								
1936.....	570	9	22	39	2,420	33	7.6	27
1937.....	656	9	28	43	3,120	36	8.5	30
1938.....	669	11	47	70	4,270	40	9.3	37
Other Industries:								
1936.....	9,178	160	441	48	2,760	468	46	299
1937.....	11,439	189	597	52	3,430	546	56	300
1938.....	12,399	194	737	60	3,800	606	68	455
GRAND TOTAL:								
1936.....	90,602	2,593	12,258	135	4,740	7,693	982	7,717
1937.....	106,005	2,937	16,356	154	5,590	8,750	1,152	10,592
1938.....	112,332	3,215	19,667	176	6,140	9,732	1,442	11,939

Note:—The above-mentioned total production value classified by principal industries is not identical with appearing in the table entitled "Trend of Industrial Production" in this chapter. The reason is to be found in the fact that present table includes industrial by-products, which are excluded in the other table.

MACHINERY & ENGINEERING

This process of unifying the industrial fabric under a totalitarian conception was being pushed forward steadily in 1940. In line this policy many idle enterprises with surplus equipment and labor power were transferred into more vital branches of work and a smoother operation of industry in general was being effected by revising certain measures which had been adopted too hastily. Among these were the measures relating to profit control which were

inclined towards obstructing private initiative. Aside from these problems the manufacturing industries were faced with a shortage of electric power and coal in the winter of 1939-1940, due to long dry spells and poor transportation facilities. These setbacks were completely solved in the spring of 1940 and, it is believed the restoration should assist materially in bringing back production on its course of expansion.

Table 4. Production and Number of Factories and Operatives Classified

By Principal Industries

	No. of Factories	No. of Operatives (1,000)	Production			Working Hours (Mill.)	Wages (¥Mill.)	Raw Material Consumed (¥Mill.)
			Total (¥Mill.)	per Factory (¥1,000)	per Operative (¥)			
Textile:								
1936.....	26,358	1,028	3,655	138	3,600	3,693	235	2,803
1937.....	28,133	1,303	4,242	151	3,260	3,100	257	2,326
1938.....	28,092	977	3,985	143	4,070	3,054	265	2,684
1938:								
Reeling	1,938	218.0	527	272	2,420	677	43.6	416
Spinning	817	340.6	1,372	1,680	5,700	717	68.4	900
Twisting	2,142	24.7	59	28	2,390	80	5.8	41
Weaving	15,871	370.5	1,546	97	4,170	1,187	98.2	1,047
Knitting	2,043	27.1	110	54	4,080	87	9.6	73
Dyeing, etc.	3,636	68.6	273	65	3,450	226	30.9	135
Total incl. others	28,092	977.0	3,985	143	4,070	3,054	264.6	2,684
Metallic:								
1936.....	8,251	247	2,029	146	3,600	760	151	1,423
1937.....	10,076	310	3,488	175	4,250	920	188	3,261
1938.....	11,135	377	4,687	218	4,470	1,142	252	3,205
1938:								
Refinery, etc.	1,118	168.6	3,430	3,300	20,200	495	130.8	2,423
Casting	2,797	87.0	493	1,764	5,670	263	53.0	269
Other than Casting.	6,356	108.6	620	970	5,060	341	59.7	396
Gilding	864	13.2	144	167	10,900	43	8.1	117
Total incl. others	11,135	377.4	4,687	218	4,470	1,142	251.6	3,205
Machinery:								
1936.....	11,766	457	1,716	146	3,600	1,425	268	725
1937.....	14,636	602	2,557	175	4,250	1,882	335	1,283
1938.....	17,570	860	3,822	218	4,470	2,535	499	1,852
1938:								
Motive Power								
Machineries	720	52.4	272	379	5,200	133	31.2	82
Electric Machine-								
ries	741	71.8	348	470	4,850	197	36.0	211
Radio, etc.	311	29.4	122	366	4,120	87	15.0	45
Agricultural								
Machineries	501	6.8	24	480	3,530	22	2.9	14
Mining m.	199	8.9	56	281	6,300	26	4.7	31
Spinning m.	972	33.9	135	139	3,900	115	21.5	56
Chemical m.	262	13.1	89	340	6,900	45	8.1	51
Cranes, etc.	167	18.0	81	485	4,500	49	10.9	2
Meters, etc.	197	3.8	47	239	12,750	59	7.9	12
Time pieces	147	13.1	31	211	2,570	46	7.2	9
*Rolling-stock	898	18.2	82	92	4,490	226	45.2	247
Total incl. others.	17,570	860.4	3,822	218	4,470	2,535	499.5	1,852
Ceramic:								
1936.....	4,222	102	329	78	3,210	295	43	104
1937.....	4,990	113	405	81	3,590	325	48	152
1938.....	4,816	105	404	84	3,850	310	50	133
1938:								
Pottery	1,694	33.4	76	45	2,280	98.7	13.0	18.9
Glass & Glassware	861	23.9	99	115	4,130	75.3	13.9	33.3
Brick, etc.	348	17.7	55	158	3,100	43.9	8.2	20.6
Roof Tiles, etc. ...	1,059	5.1	5	42	2,820	11.8	1.5	1.3
Cement	45	9.3	108	2,420	11,800	30.6	5.8	30.7
Total incl. others.	4,816	105.3	404	84	3,850	310.4	50.2	133.3

Note: * Exclusive of automobile ind.

Table 5. Consumption of Fuel & Motive Power By Industries

	Coal (1,000 m. tons)	Coke (1,000 m. tons)	Petroleum (1,000 kilolitres)	Charcoal (1,000 m. tons)	Gas (Million cft.)		Electricity (Million Kwh.)	
					Self-supplied	Other	Self-supplied	Other
1930	9,358.9	515.5	132.6	78.6	1,569.8	562.5	880.7	4,959.2
1931	8,705.1	538.9	187.3	79.7	1,259.2	661.7	1,377.4	4,936.7
1932	9,060.0	539.8	298.2	76.1	1,697.9	274.5	1,555.9	5,598.5
1933	10,513.8	784.1	384.6	86.1	2,049.9	208.9	1,445.6	7,198.2
1934	14,122.7	838.7	466.8	98.1	6,741.8	190.4	2,231.8	8,026.8
1935	15,864.5	1,054.0	620.0	107.4	9,346.5	238.0	2,717.8	9,518.1
1936	17,509.7	1,109.7	719.8	107.8	9,199.5	171.3	3,110.4	10,491.6
1937	20,890.3	2,991.1	687.3	136.4	9,211.0	188.9	3,401.0	12,265.0
1938	24,460.8	3,384.1	737.0	155.5	11,452.7	253.0	3,976.6	14,610.8
Of which								
Textile	3,263.3	8.2	15.8	21.8	15.0	12.5	76.6	2,168.3
Metallic	5,204.9	2,758.9	357.8	67.0	10,330.6	53.8	537.3	4,312.8
Machinery	760.5	273.6	141.1	28.2	12.6	121.4	139.0	1,188.4
Ceramic	3,529.7	29.8	41.2	1.6	691.5	23.1	731.9	345.9
Chemical	7,051.0	99.8	156.2	9.8	362.5	14.9	2,092.4	5,654.9
Lumbering & Wood-working	18.6	0.7	1.9	1.5	1.7	0.3	0.6	215.7
Printing & Bookbinding	33.6	0.4	2.4	2.2	0	9.1	2.8	50.9
Provision	1,365.3	23.8	14.2	20.0	0.7	13.5	10.6	461.3
Gas & Electricity	2,999.4	182.3	3.6	0.3	37.3	0	387.3	79.3
Miscellaneous	234.3	6.6	2.8	3.0	0.7	4.5	0.4	133.3

Note: Exclusive of factories with less than five workers.

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 96.6, 1939. 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 continues to be published. According to date available the average production index for the aggregate of gold, silver,

copper, petroleum, sulphur and coal was at 182.5 in December 1939, which shows an advance of 5.1 when compared with the same period a year before, for the whole year of 1938 and at 169.7 for 1937.

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	31.5	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

(Continued)

	Home production	Imports from colonies	Imports from foreign countries (incl. Manchoukuo)	Imports from Manchoukuo	Consumption
Pulp	70.2	0	29.8	0	100
Rayon	100.0	0.2	0	—	100
Silk cocoons	99.6	1.3	98.7	0	100
Raw Cotton	0	—	100.0	0	100
Raw Wool	0	0.7	87.5	0	100
Hemp, flax, etc.†	11.8	0	72.7	33.0	100
Oil materials†	27.2	3.9	37.8	0	100
Leather and hides*	58.3	—	89.3	—	100
Phosphorus ores*	10.7	—	66.2	2.0	100
Salt	29.0	4.8	21.6	9.2	100
Wheat and wheat flour	78.1	0.3	—	—	100

Note:—† In 1935.
* Value percentage.

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 1,173 (including 60 federations) at the end of 1937, as against 347 (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).

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 manufacturers 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 7. Number of Industrial Associations & Unions Classified

	1936		1937		1938	
	Assn.	Union	Assn.	Union	Assn.	Union
Cotton Yarn	109	7	102	6	122	7
Silk Fabric	99	5	51	6	48	6
Woolen Fabric	16	1	8	1	12	2
Rayon Fabric	102	1	47	1	101	4
Knitted Goods	20	1	28	2	90	5
Metal Casting	—	—	17	1	42	2
Gauge & Meter	6	1	6	1	10	1
Electric Bulb	6	1	5	1	6	1
Bicycle	6	1	5	1	6	1
Porcelain & Pottery	48	3	48	3	52	3
Glassware	10	—	7	—	10	1
Brick & Slate	40	—	45	—	48	—
Drug	5	—	7	—	8	—
Rubber goods	11	1	12	2	27	2
Celluloid goods	10	2	10	3	14	3
Leather goods	7	—	10	—	86	1
Lumbering	6	—	19	1	34	1
Wood & Bamboo ware	69	2	93	3	243	12
Printing	8	—	14	—	20	—
Non-alcoholic beverage	8	—	9	—	12	—
Tinned & Bottled Provision	8	1	8	1	14	1
Ice Manufacturing	27	2	23	2	28	2
Paper & Paperware	17	—	11	—	17	—
Button	3	—	5	—	16	—
Parasol & Umbrella	15	—	17	1	23	1
Toy	2	—	5	—	11	—
Total incl. others	833	38	1,113	60	2,836	150

Functions of Industrial Associations

Industrial control, as exercised by the industrial associations now extends to practically all industries of the country.

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.

Table 8. Production Curtailment of Principal Commodities

	1935 (%)										
	Spinning	Silk Thread	Ramie	Bleaching Powder	Nitro-line	Super-phosphate of lime	Sulphuric acid	Printing Paper	Yellow Card board	Cement	Rayon yarn
July	27.6	33.0	30.0	52.0	40.0	46.0	25.0	44.7	30.0	55.0	22.0
September	29.8	33.0	30.0	45.0	40.0	46.0	25.0	43.7	30.0	53.0	30.0
December	33.8	33.0	30.0	45.0	40.0	46.0	25.0	43.7	30.0	55.0	20.0

(Continued)

	Spinning	Silk Thread	Ramie	Bleaching Powder	Nitro-line	Super-phosphate of lime	Sulphuric acid	Printing Paper	Yellow Card board	Cement	Rayon yarn
1936											
March	33.8	33.0	30.0	60.0	40.0	46.0	25.0	43.7	30.0	57.0	30.0
June	33.8	33.0	30.0	60.0	40.0	46.0	25.0	43.7	30.0	58.5	30.0
September	33.8	45.1	30.0	50.0	40.0	46.0	25.0	28.0	30.0	63.0	35.0
December	32.8	45.1	30.0	60.0	40.0	46.0	25.0	28.0	25.0	61.0	35.0
1937											
March	32.6	45.1	30.0	50.0	40.0	46.0	25.0	10.0	30.0	56.0	35.0
June	35.0	45.1	30.0	45.0	40.0	46.0	25.0	10.0	30.0	60.0	33.0
September	32.6	45.1	30.0	45.0	40.0	46.0	25.0	45.0	30.0	65.0	59.0
December	50.4	45.1	30.0	45.0	40.0	46.0	25.0	45.0	30.0	63.0	59.0
1938											
March	54.1	41.3	30.0	50.0	40.0	46.0	25.0	50.0	50.0	59.0	70.0
June	58.4	41.3	30.0	50.0	40.0	46.0	25.0	50.0	50.0	64.0	70.0
September	61.9	41.3	30.0	50.0	40.0	46.0	25.0	50.0	50.0	69.0	70.0
December	..	41.3	30.0	50.0	40.0	46.0	25.0	50.0	50.0	69.0	70.0

Note:—† Estimates.

Table 9. Value of Stocked Commodities Classified by Industries
(In million yen)

Year Ending	Textile	Metallic	Machin- & Tool	Ceramic	Chemical	Lumbering & Wood-working	Printing & Book-binding	Provision	Total incl. Others
Mar. 31:									
1933	71.4	36.0	44.2	12.6	76.7	12.3	3.6	240.1	515.0
1934	101.2	53.6	40.3	14.4	92.9	14.3	2.1	165.0	507.1
1935	95.4	56.7	44.1	14.6	108.7	16.1	2.6	170.9	535.3
1936	110.0	98.6	76.5	20.6	136.5	17.5	2.5	192.0	682.7
1937	112.7	130.6	107.0	25.1	163.6	19.7	3.5	208.2	803.7
1938	165.1	156.6	125.4	26.9	237.0	28.0	4.1	212.9	995.9
1939	163.1	196.2	227.0	35.8	224.0	30.5	6.8	223.0	1,151.9

Production Curtailment

The trend in production curtailment of the various industries indicate that since the commencement of the China Incident in July, 1937 the so-called peace-time industries have been

placed in a disadvantageous position. The enterprises most adversely affected include the rayon, cement, paper and spinning business. It was believed in the autumn of 1939 that the war in Europe would be instrumental in resuscitating these industries.

THREE YEAR PLAN FOR EXPANSION OF PRODUCTIVE CAPACITY

The National General Mobilization Inquiry Committee proposed on December 26, 1938 a plan which was formally adopted by the Cabinet on January 17, 1939, to expand aggregate productive capacity of the country within three years to replete basic materials for national defence and future economic expansion in co-operation with Manchoukuo and China. The main objective of the plan is to strengthen national defence, but repletion of important consumers' goods will also be considered. The plan comprises the production of only those articles which especially need rapid expansion under a unified program. It will be applied to Japanese industries in close cooperation with Manchoukuo and China and their industrial programs. The aim is to establish self-sufficiency in important materials to obviate dependence on

third powers in case of emergency.

Partial disclosure of the production program was made by the Chairman of the Planning Board, Mr. Kazuo Aoki, on March 8, 1939 at the Diet. The revelation was vague and limited only to the expected capacity of production which may be attained when the plan will be completed.

By the end of 1941, self-sufficiency will be attained throughout Japan, Manchoukuo, and China in the following articles according to the program: iron and steel, coal, light metals, zinc, soda, sulphate, pulp, rolling stock, automobiles, and vessels. The expected productive capacity for individual products at the end of 1941 compared with 1938 is given in an accompanying table.

Table 10. Three Year Production Expansion Program

(1938—1941)
(1938=100%)

Steel	160	Absolute Alcohol	1,300
Special Steel	200	Soda-Ash	120
Steel Ingot	160	Caustic Soda	140
Pig Iron	200	Salt	650
Iron Ore	250	Ammonia Sulphate	140
Coal	130	Pulp for Rayon	320
Magnesium	1,000	Pulp for Paper	120
Copper	180	Gold	200
Lead	190	Machine Tools	250
Zinc	170	Locomotives	130
Tin	200	Passenger Cars	170
Gasoline (Natural)	130	Freight Cars	150
Gasoline (Synthetic)	3,000	Automobiles	500
Heavy Oil (Natural)	140	Wool	340
Heavy Oil (Synthetic)	900		

References:

Table Nos.: 1 a, 2-7 b, 8 d, 9-10 b.

Key: a—Statistical Bulletin of the League of Nations.
 b—Department of Commerce and Industry.
 c—Department of Finance.
 d—The Oriental Economist.

CHAPTER XXXI
TEXTILE INDUSTRY

GENERAL REMARKS

The textile industry commands a unique position in the manufacturing industries of Japan. From the viewpoint of 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 and propinquity to markets.

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.

The value of production from the textile industry of Japan which accounted for 41.4% of the total production of the manufacturing industries as a whole in 1926 was down in 1938 to 20.3%, although the absolute value of production showed an increase of 38% in the intervening years, expanding from 2,872 million yen to 3,985 million yen. In value of production the textile industry in 1938 relinquished the crown which it had enjoyed for so many years to the metallic industry which accounted for 4,687 million yen.

Indications have been visible for some years of an increasing tendency of Japanese spinners to establish or expand their spinning mills in China and Manchoukuo, taking advantage of the lower costs of production in those countries. While restrictions have been imposed in the rapid transference of idle Japanese spindles to Manchoukuo since the outbreak of the China Incident, it seems that such restrictions will be alleviated when materials can be obtained for the erection of new mills in those countries from such surplus materials as remains from the demand of the munitions industry of Japan. The China Incident inflicted an adverse

affect on the textile industry in general, and especially on the cotton spinning enterprise. This was due largely to the restriction of raw cotton imports with a view to reducing Japan's adverse balance of international payments. A subsequent result of this action was the rise in the cost of cotton manufactures which hindered exports. The spinning industry received a further setback by the sales restriction of cotton manufactures in the domestic market, the government's policy behind this measure being to divert such domestic sales to the foreign market with a view to increasing its fund of foreign exchange.

Factories.—According to the investigation of the Department of Commerce and Industry the total number of factories in 1938 was 28,002, of which 53% were weaving factories.

Operatives.—In the number of operatives the silk reeling enterprise headed the list accounting for over 21 per cent of the operatives in the entire textile industry. This was followed by cotton spinning with 16% and cotton weaving with 11% of the total operatives.

The textile industry of Japan is characterized by the large proportion of female operatives employed. In 1938 female workers accounted for 81% of the total employed. In the silk reeling enterprise as much as 92% were females, while cotton spinning and cotton weaving industries accounted for 90% and 84% respectively. Lowest in the number of female operatives was the processing enterprise, such as the dyeing business, with 23%.

Production Value per Operative. The production value per operative in the textile industry is largest in the cotton spinning enterprise. In 1938 the per-worker output value was ¥5,700 in cotton spinning and ¥4,170 in weaving, followed by knitting with ¥4,080. 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	Raw silk	Silk yarn	Woolen yarn	Rayon yarn	Staple fibre	Staple fibre yarn	Cotton fabric	Silk fabric	Rayon fabric	Woolen fabric
1931-33	100	100	100	100	100	100	100	100	100	100	100
1937	140	94	76	119	483	176	147	131	110	312	57
1938	107	91	92	98	297	342	530	97	93	247	75
1939	96	79	96	118	340	255	342	97	108	216	78
June	93	56	107	120	371	..	..	106	105	201	74
1940 June	83	59	67	96	325	..	..	73	136	130	64

Table 2. Japan's Position in Number of Spindles and Consumption of Raw Cotton at the end of January, 1939

	No. of Spindles			Raw Cotton Consumed (1,000 bales)*					Total incl. others
	Mule (1,000)	Ring (1,000)	Total (1,000)	American cotton	Indian cotton	Egyptian cotton	Others		
Japan	6	11,196	11,502	961	1,157	83		2,905	
U. K.	25,847	10,475	36,322	1,080	305	294		2,213	
Germany	3,499	9,468	12,967	344	148	159		1,375	
France	2,303	7,491	9,794	602	207	128		1,164	
British India	494	9,560	10,054	96	3,056	59		3,575	
U. S. A.	213	25,698	25,911	5,942	49	38		6,057	
World's Total	36,520	109,936	146,456	10,780	5,352	1,138		26,373	

Note: * Represents consumption for year ending January 31st.

Table 3. Comparison of British and Japanese Cotton Fabric Exports (Unit: Million Square Yards)

	Japan		British			Japan		British	
	Index	Index	Index	Index		Index	Index		
1913	320	12	7,075	369	1934	2,568	98	1,995	104
1928	1,419	52	3,867	202	1935	2,725	101	1,931	101
1929	1,791	66	3,672	191	1936	2,706	100	1,917	100
1930	1,572	28	2,406	125	1937	2,640	97	1,922	100
1931	1,414	52	1,716	89	1938	2,180	81	1,387	72
1932	2,032	79	2,198	114	1939	2,212	82	1,401	73
1933	2,089	77	2,031	106					

COTTON SPINNING

Cotton spinning claims the largest share in the value of output in the textile industry. In this phase of the enterprise Japan has come 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 eight folds, the figure rising from 72.8 million yen in 1912 to 659.9 million yen in 1939. The number of looms in that period has 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 248, while capital reserves show over 12 fold increase, advancing from 28.5 million yen to 343.0 million yen.

Operatives.—The number of operatives in the cotton spinning industry stood at 151,201 in 1938, representing about 14% per cent of

operatives in the entire textile industry.

Production Value.—The value of production from the cotton spinning industry was 764.9 million yen in 1938, accounting for about 3.9% of the output from the entire manufacturing industry and for about 20.9% of the output from the textile industry as a whole.

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. The China Incident has for the time being advanced production costs due mainly to appreciation in raw materials and wages.

TEXTILE INDUSTRY

Table 4. Equipment of Japanese Spinning Cos. in Japan, Manchoukuo & China

	Japan Proper & Chosen									
	No. of Cos.	Capital (Mill. ¥)		Reserves (Mill. ¥)	No. of Factories	Spindles			Looms	
Authorized		Paid up	Ring (1,000)			Mule (1,000)	Doublings (1,000)	Spindles (1,000)	Doublings (1,000)	Looms (1,000)
1933	69	543.8	403.9	255.4	268	8,609	35.3	844	86.3	
1934	72	567.2	438.6	273.3	275	9,495	35.3	468	91.1	
1935	74	609.2	459.0	282.6	281	10,614	35.3	913	96.0	
1936	74	678.7	484.0	292.4	282	12,131	7.9	1,170	100.5	
1937	82	782.3	595.9	310.0	291	12,559	7.9	1,371	108.1	
1938	82	872.3	642.8	326.2	294	11,747	10.5	1,485	114.1	
1939	79	885.9	659.9	343.0	248	11,637	10.0	1,620	104.1	

	Shanghai			Tsingtao			Tientsin		
	Spindles (1,000)	Doublings (1,000)	Looms (1,000)	Spindles (1,000)	Doublings (1,000)	Looms (1,000)	Spindles (1,000)	Doublings (1,000)	Looms (1,000)
1933	1,314	239	13.3	368	17.7	4.9	...	...	...
1934	1,337	284	14.0	404	17.7	5.5	...	...	...
1935	1,352	314	15.5	492	22.8	7.1	...	...	1.0
1936	1,350	325	17.3	523	38.8	8.7	219	4.9	2.0
1937	1,188	323	15.2	...	...	...	369	14.1	7.4
1938	1,295	330	18.1	106	5.4	0.6	476	31.2	8.4
1939	1,328	348	18.5	390	29.4	7.1	...	...	...

	All China			Kwantung & Manchoukuo*			Grand Total		
	Spindles (1,000)	Doublings (1,000)	Looms (1,000)	Spindles (1,000)	Doublings (1,000)	Looms (1,000)	Spindles (1,000)	Doublings (1,000)	Looms (1,000)
1933	1,707	301	4.4	121	2.8	0.5	10,471	1,147	91
1934	1,766	292	19.8	124	2.8	0.5	11,420	1,163	111
1935	1,869	337	22.4	136	3.2	0.7	12,654	1,253	119
1936	1,955	363	27.4	186	3.2	1.7	14,300	1,536	130
1937	1,408	329	17.2	272	13.0	3.3	14,247	1,713	129
1938	1,770	350	26.1	324	12.9	4.2	13,356	1,847	144
1939	2,193	408	33.9	481	33.4	9.5	14,321	2,062	147

Note: * Inclusive of Manchoukuoan concerns.

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 87 per cent. of the total being equipped with ten looms or less. 386,841 looms here in existence in 1938, consisting of the following: broad-cloth looms, 276,932; narrow-cloth looms, 73,597; hand-looms, 36,312. 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 but it decreased to 462 million yen or 13% of total imports in 1939.

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 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

Table 5. Japan's Import of Raw Cotton by Countries of Origin (Unit: Quantity in 1,000 piculs; Value in One Million Yen)

	China		Brit. India		D. E. I.		U. S. A.		Egypt		Total incl. others	
	Qty.	Val.	Qty.	Val.	Qty.	Val.	Qty.	Val.	Qty.	Val.	Qty.	Val.
1933	369	24	3,877	169	17	0.3	7,435	392	281	19	12,489	605
1934	331	16	5,792	252	22	0.6	6,487	400	550	40	13,555	731

(Continued)	China		* Brit. India		D. E. I.		U. S. A.		Egypt		Total incl. others	
	Qty.	Val.	Qty.	Val.	Qty.	Val.	Qty.	Val.	Qty.	Val.	Qty.	Val.
1935..	427	21	5,221	259	39	1.0	5,758	372	537	43	12,284	714
1936..	464	23	6,727	315	37	0.7	5,928	372	446	36	15,211	850
1937..	401	24	7,016	364	66	1.2	4,244	306	670	59	13,765	851
1938..	1,432	72	3,096	113	32	0.5	3,249	166	405	28	9,378	437
1939..	1,081	47	3,389	121	23	0.4	2,873	147	578	39	10,093	462

Table 6. Demand and Supply of Cotton Yarn

(Unit: 1,000 bales; one bale=400 lbs.)

	Production	Import	Export	Export of tissue calculated as yarn*	Domestic consumption	Stocked†	Consumption	
							By member Cos.	By others
1926	2,608	2.9	206	1,177	1,129	14.0	735.8	1,569
1935	3,561	17.9	97	2,267	1,215	14.0	982.1	2,500
1936	3,607	14.4	111	2,308	1,203	11.7	960.7	2,551
1937	3,966	11.5	130	2,294	1,554	21.0	1,017.5	2,830
1938	2,859	1.9	106	1,767	989	32.2	863.1	1,892
1939	2,673	0.8	209	1,762	703	32.7	855.9	1,609

Note: * 1,600 yards of textile calculated as 1 bale.

† Indicates stocked goods in Tokyo, Osaka, Kobe and Nagoya only.

Table 7. Cotton Yarn Production

(Unit: in 1,000 bales)

	Coarse yarn (under 19 counts)		Medium yarn (20 to 22 counts)		Fine yarn (23 to 44 counts)		Fine yarn (45 counts & over)		Total
1929	827.4	878.4	985.0	101.8	2,792.6				
1930	780.5	808.6	834.4	101.2	2,525.0				
1931	809.8	803.4	814.4	139.4	2,567.1				
1932	797.2	896.9	937.9	158.4	2,810.4				
1933	877.0	941.1	1,146.0	136.7	3,099.9				
1934	962.1	1,100.9	1,305.4	104.0	3,472.4				
1935	999.3	1,026.0	1,412.9	122.6	3,560.8				
1936	1,015.5	1,027.3	1,425.6	138.9	3,621.9				
1937	1,101.9	1,167.0	1,549.2	148.1	3,966.2				
1938	786.8	850.5	1,101.5	120.2	2,859.0				
1939	693.6	794.3	964.1	153.7	2,605.7				

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.

Cotton Yarn

Exports.—Cotton yarn exports have been ris-

ing at a rapid pace in recent years. In 1938 exports amounted to 626,249 kin representing an expansion of about 320% over 1934. The principal destination continues to be British India.

Table 8. Exports of Cotton Yarn By Destinations

(Unit: 100 kin)

	Manchou-kuo	Kwantung	China	Hongkong	Brit. India	D. E. I.	Australia	Total incl. others	
								(¥1,000)	(¥1,000)
1934	36,189	5,221	971	1,059	72,955	13,556	10,105	194,533	23,485
1935	50,826	6,111	1,257	10,555	134,641	39,564	4,369	289,749	35,873
1936	74,863	5,259	1,697	20,349	126,528	46,147	3,857	331,573	38,344
1937	82,272	12,772	5,977	31,259	110,657	92,138	1,736	389,192	54,906
1938	32,569	2,811	6,004	7,739	141,201	66,296	2,868	315,795	39,355
1939	48,832	27,925	6	73,501	214,935	144,191	3,317	626,249	71,090

Table 9. Output of Cotton Cloth Classified

(a) Broad Cloths (In 1,000 meters)

	Production of broad textiles						Exports	Consumption	Stock* (bale)
	Drills & jeans	Satins	Shirting	Sheeting	T-cloth	Crepe			
1927	394,121	158,249	613,416	192,953	164,771	85,570	2,090	1,522	124,874
1932	555,581	122,423	1,031,909	293,750	177,571	66,497	2,568	1,606	129,582
1933	627,621	122,046	1,156,124	307,177	221,425	71,853	2,711	1,401	146,358
1934	630,467	114,805	1,381,191	310,496	285,630	55,555	2,705	1,270	89,084
1935	613,532	103,198	1,488,751	345,192	276,961	49,178	2,633	1,577	165,172
1936	664,997	90,812	1,444,829	293,347	256,446	37,704	2,181	920	203,638
1937	730,341	84,858	1,573,542	258,619	233,003	34,893	2,446	583	565,150
1938:									
Pure Cotton	559,007	65,641	1,136,064	178,814	169,538	18,348			
Mixed	22,828	4,266	44,540	14,750	5,722	2,370			
Total	581,835	70,007	1,180,602	193,564	175,260	20,718			

Note: * Indicates stocked goods at Tokyo, Osaka, Kobe and Nagoya.

(Continued)	Kokura	Flannel	Ducks	Velvets	Striped, unfigured & coloured tissues	Total value incl. others (¥1,000)
1932	47,609	317,848	19,279	38,005	355,959	423,824
1933	64,466	298,389	22,338	59,453	447,765	610,887
1934	72,166	308,686	27,647	47,953	473,736	731,695
1935	76,982	308,583	29,918	57,746	405,680	711,781
1936	79,052	258,406	44,633	67,392	439,724	865,963
1937	77,037	259,625	36,272	38,733	247,966	626,514
1938:						
Pure Cotton	33,598	112,496	326	4,256	9,982	50,964
Mixed	4,752	17,860	36,598	42,989	257,948	677,478
Total	38,350	130,356				

(b) Narrow Cloths (In rolls)

	White	Striped	Figured	Coloured	Crepe	Total value incl. others (¥1,000)
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
1938:						
Pure Cotton	33,182	6,252	2,543	2,091	249	59,058
Mixed	4,804	2,044	652	890	78	13,574
Total	37,986	8,296	3,195	2,981	327	72,632

(c) Special Cloths

	Towels (1,000 dozens)	Sheets (1,000 dozens)	Blankets & shawls, etc. (1,000 pieces)	Belting (1,000 meters)	Tape (1,000 meters)	Total value incl. others (¥1,000)
1932	13,699	267	10,808	685	139,876	33,944
1933	17,843	313	11,897	3,635	147,749	44,700
1934	17,203	420	14,449	3,756	142,520	45,671
1935	19,833	515	13,456	4,975	153,718	55,783
1936	20,273	776	13,543	4,304	170,160	62,916
1937	21,499			4,579	178,633	76,352
1938:						
Pure Cotton	11,449	803	10,205	4,770	197,825	57,498
Mixed	5,349	65	4,975	42	29,386	15,993
Total	16,798	1,453	15,180	4,812	227,213	73,491

Table 10. Demand and Supply of Cotton Textiles

(Unit: One Million Yards)

	Production of broad textiles			Exports	Consumption	Stock* (bale)
	By Cos.	By Others	Total			
1933	1,714	1,897	3,611	2,090	1,522	124,874
1934	1,794	2,264	4,058	2,568	1,606	129,582
1935	1,843	2,269	4,112	2,711	1,401	146,358
1936	1,799	1,781	3,963	2,705	1,270	89,084
1937	1,891	2,322	4,213	2,633	1,577	165,172
1938	1,612	1,639	3,101	2,181	920	203,638
1939	1,605	1,423	3,028	2,446	583	565,150

Cotton Cloth

Exports.—The export trade in cotton cloth amounted in 1939 to roughly 404 million yen. Such countries as British India, and the Netherlands Indies are among Japan's best customers. However, Egypt's takings from Japan have been decreasing markedly, her share in 1934 being 223.7 million sq. yards as compared with 37.3 million sq. yards in 1939. Manchoukuo on the other hand rapidly forged ahead until 1937 but owing to the enforcement of the yen-bloc exchange control law it

declined sharply since 1939. While in 1934 China took only 59.4 million sq. yards, she doubled her takings from Japan to 110.6 million sq. yards in 1938, but in 1939 her purchases fell to 23 million sq. yards.

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

Of the Japanese exports of cotton cloths amounting to 404 million yen in 1939, gray accounted for 110.9 million yen, bleached for 79.5 million yen and "others" for 213.6 million yen.

Table 11. Exports of Cotton Cloth By Destinations
(Unit: in million sq. yards)

	Man-choukuo	Kwan-tung	China	Hong-kong	Brit. India	Aden	D.E.I.	Egypt	Total incl. others		
									(Million Yen)		
1934	Gray	49.5	31.5	7.4	8.4	219.0	33.2	78.0	61.8	772.5	123.6
	Bleached	11.5	9.8	26.7	8.4	59.2	4.8	98.9	39.2	509.8	88.9
	Others	109.4	42.4	25.3	19.5	132.4	7.5	264.0	132.7	1,295.0	273.9
	Total	170.4	83.6	59.4	36.3	410.6	45.5	440.9	233.7	2,577.3	492.4
1935	Gray	65.8	34.1	8.8	12.1	313.5	42.7	75.7	49.4	945.3	145.4
	Bleached	16.9	8.5	30.9	7.9	69.7	7.6	58.8	33.3	511.3	85.3
	Others	78.5	25.5	16.3	29.3	173.0	10.0	236.0	81.0	1,268.5	265.4
	Total	161.2	68.1	56.0	31.3	556.2	60.3	370.5	163.7	2,725.1	496.1
1936	Gray	112.8	29.0	16.9	22.1	274.8	42.3	94.8	24.1	963.4	143.6
	Bleached	21.0	33.6	13.3	12.2	54.2	8.3	64.9	16.0	529.0	85.3
	Others	99.0	64.6	7.1	50.4	150.7	8.9	192.1	66.0	1,217.5	254.7
	Total	232.8	127.2	37.3	84.7	479.7	59.5	351.8	102.1	2,709.9	483.6
1937	Gray	91.2	35.7	29.4	14.5	123.2	37.9	106.4	13.3	810.5	148.4
	Bleached	24.5	34.9	10.1	9.3	72.9	9.4	119.4	12.9	648.6	124.7
	Others	96.5	47.0	5.6	16.0	135.1	8.2	208.6	23.5	1,184.3	300.0
	Total	212.2	117.6	45.1	39.8	331.2	55.5	434.4	49.3	2,643.4	573.1
1938	Gray	58.1	14.7	45.0	7.7	274.3	30.4	66.2	10.1	829.0	126.3
	Bleached	23.5	13.2	45.2	6.7	81.8	5.2	65.4	5.0	510.4	88.9
	Others	53.6	30.4	20.4	8.7	113.8	5.7	74.8	6.2	841.4	189.1
	Total	135.2	58.3	110.6	23.1	469.9	41.3	206.4	21.3	2,180.8	404.3
1939	Gray	1.6	10.2	3.5	15.7	300.8	44.2	89.1	18.1	852.8	110.9
	Bleached	0.4	2.8	4.6	12.1	54.6	9.6	49.9	6.6	516.3	79.5
	Others	5.7	2.1	14.9	29.2	120.6	9.1	229.7	12.6	1,076.5	213.6
	Total	7.7	15.1	23.0	57.0	476.0	62.9	368.7	37.3	2,445.6	404.0

Note: The sharp decline in exports in 1939 to Manchoukuo, Kwantung and China is due to the imposition of export restrictions to the so-called yen-bloc countries.

Table 12. Capitalization of Cotton Spinning Companies in Japan Proper and Chosen
(Member Companies of Japan Cotton Spinners' Association)

Dec. End:	No. of Cos.	Capital			Spindles (1,000)				Looms (1,000)
		Authorized (¥1,000)	Paid-up (¥1,000)	Reserves (¥1,000)	Mills	Ring	Mule	Doubling	
1912	41	105,136	72,867	28,533	147	2,125	51.7	217	21.9
1917	43	162,830	115,623	70,037	170	3,009	52.0	383	36.2
1922	64	462,168	317,148	202,774	235	4,472	45.5	602	60.8
1927	64	535,078	391,551	238,367	257	6,079	37.0	788	78.4
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
1938	82	872,283	642,803	327,319	294	11,710	5.9	1,485	114.1
1939	79	885,883	659,914	343,034	248	11,602	5.9	1,620	104.1

No. of Companies.—The number of companies in 1939 showed a slight decrease owing to amalgamations. Over 11,393,000 spindles, representing about 60 per cent. of the aggregate spindles in Japan, are under the control of ten companies of a total of 79 companies at the end of 1939. Besides cotton spinning the larger companies play an important role in kindred enterprises such as bleaching, dyeing, silk spinning and rayon manufacturing.

Japanese Spinning Mills in China

A large number of Japanese cotton spinning companies have established mills in China to cater to the domestic trade of that country. The mills are chiefly located in Shanghai, Tsingtao and Tientsin, with the preponderant share centered in Shanghai. According to the report of the Japan Cotton Spinners' Association there were 2,193,448 spindles owned by Japanese spinning companies in Shanghai, Tsingtao and Tientsin at the end of 1939. Prior to the China Incident, which caused the destruction of large numbers of spindles in Shanghai and Tsingtao, it was estimated that the number was in the vicinity of 5,000,000. Further, of the total number under Japanese management in 1939, Shanghai accounted for 1,328,000 spindles, Tsingtao for 390,000 spindles and Tientsin for 476,000 spindles. The number of doubling

spindles were 418,600 and the number of looms 34,000 while the number of Japanese spinning companies was 15.

Equipment of Japanese spinning companies in Kwantung and Manchoukuo at the end of 1939, is estimated at 481,000 spindles, 33,400 doubling spindles and 9,500 looms including a small portion under Manchoukuo management.

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 of late to more than three hundred million yen, thereby constituting a major industry. 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 cotton mixed fabric combined amounted to 47.4

million yen in 1939 as compared to 72.3 million yen in 1937.

Recent Situation in Silk Fabrics Exports.

The export of silk fabrics showed a sharp decline from 1938 due to difficult 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 13. Number of Factories, Looms and Operatives of Silk and Silk Mixture Fabrics

Year	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
1937	65,552	305,744	73,470	50,477	243,815	294,292
1938	65,229	315,636	75,650	53,418	251,514	304,932

Table 14. Production of Silk Fabrics
(Quantity in Million Meters; Value in Million Yen)
(A) Broad Cloth Classified

	Crepe & Kabeori		Habutae, etc.		Fuji Silk		Pongee		Satin		Umbrella Cloth	
	Qty.	Val.	Qty.	Val.	Qty.	Val.	Qty.	Val.	Qty.	Val.	Qty.	Val.
1933	49.7	33.5	23.5	10.5	48.4	31.3	28.2	8.2	5.2	3.5	0.2	0.2
1934	55.3	32.4	35.0	11.9	46.9	28.4	25.4	7.0	3.8	3.0	0.3	0.2
1935	53.3	38.7	32.6	14.8	46.1	21.7	20.0	6.0	5.7	3.8	0.3	0.2
1936	46.7	32.4	28.1	13.4	39.5	18.2	9.3	3.1	2.6	2.2	0.4	0.2
1937	55.8	30.0	41.1	13.6	32.4	19.8	16.8	4.9	4.2	3.0	0.4	0.4
1938	46.9	36.7	52.3	25.6	28.4	16.7	12.0	4.5	13.8	12.8	2.9	2.6

(B) Output Value

	Pure Silk				Silk Mixed with Cotton				Grand Total
	Broad cloth	Narrow cloth	Special	Total Silk output Value	Broad	Narrow	Special	Total	
1933	93.8	95.5	3.4	192.7	4.7	2.1	1.1	9.4	202.4
1934	92.8	108.2	4.1	205.1	5.9	2.5	0.5	9.0	214.1
1935	95.5	123.4	5.2	224.1	4.4	2.8	0.4	7.6	231.7
1936	78.3	113.3	5.6	197.2	3.6	2.0	1.0	6.5	203.7
1937	87.0	109.5	4.9	201.5	3.8	2.3	0.6	6.7	208.2
1938	109.1	217.9	14.4	341.4	4.6	4.6	4.9	14.1	364.7

Note:—Figures for 1938 include production by factories employing less than five operatives.

Table 15. Exports of Silk Fabrics inclusive of Cotton Mixture
(A) By Kinds (Unit in 1,000 sq. yards)

	Habutae	Kabeori & crepe	Satin	Pongee	Fuji silk	Taffeta & poplin	Total value incl. others (¥1,000)
1932	* 708	23,815	3,322	24,220	30,333	649.1	50,288
1933	* 663	28,877	2,999	31,075	32,449	148.4	63,545
1934	* 911	42,999	7,215	22,011	32,267	205.1	77,488
1935	20,841	50,605	6,280	17,093	22,974	640.3	77,444
1936	26,664	42,319	5,790	9,191	23,426	1,478.0	68,027
1937	39,318	40,745	2,969	10,301	23,101	229.0	72,286
1938	* 39,597	26,470	2,705	6,121	9,834	129.3	49,352
1939	26,631	14,766	2,401	3,095	8,252	89.0	47,397

Note: * In 1,000 kin.

(B) By Destinations (Unit in Million sq. yards)

	Man-choukuo	Kwan-tung	Brit. India	Singapore	Great Britain	France	Germany	U.S.A.	Egypt	Fed. of S. Africa	Australia	Total incl. others
1935	0.7	3.7	29.2	4.8	18.2	3.7	1.6	17.1	5.2	6.4	10.2	131.0
1936	0.6	3.1	24.4	6.0	13.2	2.7	1.7	19.3	5.1	6.4	5.8	121.0
1937	0.3	1.9	25.7	7.2	13.5	2.6	2.6	27.4	5.8	5.9	3.2	122.0
1938	1.7	2.9	17.8	1.8	15.3	3.2	2.3	21.1	3.4	2.0	2.4	90.7
1939	4.8	3.8	8.6	0.8	10.6	4.6	1.3	13.2	2.2	1.2	1.6	69.7

RAYON

The development of the rayon industry in Japan has been phenomenal. According to the Rayon Organon, Japan produced in 1926 only 5 million lbs. representing 2.3% of world production. In 1939 Japan's output had risen to 238 million lbs. which is 21% of the world total.

production having been 26.3%.

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 16. Japan's Position in Rayon Yarn Production
(Prepared by Rayon Organon)
(In thousands of pounds)

	U.S.A.	Japan	Italy	Germany	U.K.	France	World's Total
1931	150,880	48,950	74,000	61,800	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	312,235	334,350	106,550	125,000	119,700	66,400	1,185,820
1938	257,625	209,600	101,425	141,000	106,450	61,570	990,245
1939	309,100	238,340	110,000	155,000	116,000	65,000	1,112,440

Note: * Estimates.

Table 17. Demand and Supply of Rayon Yarns in Japan Proper
(Unit: in case containing 100 lbs.)

	Yarn Production	Imports	Exports	Net Consumption in Japan
1929	263,684	6,200	1,526	187,689
1933	974,285	5,026	88,634	460,677
1936	2,765,051	238	443,371	1,448,901
1937	3,247,496	638	564,158	1,882,567
1938	1,991,661	99	219,847	1,211,724
1939	2,287,408	2	367,421	1,418,929

Note: * Export yarn: 1 kin=1.3228 lb.
Habutae: 1 kin=5 sq. yards=1.3228 lb.
Other tissues: 1 sq. yard=0.16545 lb.

Table 18. Production of Rayon Yarn By Member Cos. of the Japan Rayon Federation Classified by Deniers
(Unit: in case; containing 100 lbs. each)

Year	Below 100 d.	120 d.	150 d.	Above 200 d.	Total
1929	.....	.....	225,439	78,031	263,684
1933	17,803	583,011	363,076	246,673	904,285
1936	37,460	1,971,141	535,201	333,587	3,247,496
1937	64,914	2,313,794	227,291	115,480	1,991,671
1938	39,748	1,607,115	306,648	243,169	2,287,409
1939	38,502	1,668,226	.....	.....	.....

Exports.—The exports of rayon yarn and rayon fabrics increased markedly up to 1937. In 1937 rayon exports amounted to 426,622 cases. It fell to 277,760 cases in 1939, the principal markets being British India, Kwantung Province, Mexico and China. Foreign purchases of Japanese rayon fabrics in 1937 amounted to 485 million sq. yards valued at 154.8 million yen, but decreased to 309 million sq. yards or 137.3 million yen in 1939.

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 imports have steadily

Table 19. Rayon Yarn Exports By Destinations
(Unit: in 100 kin case)

	Kwantung Province	China	British India	Germany	Mexico	Australia	Others	Total	Total Value (¥1,000)
1934	61,885	7,126	63,865	658	11,585	350	22,456	167,925	22,400
1935	54,310	23,976	76,603	945	17,940	11,645	44,614	230,033	22,853
1936	98,558	22,230	106,868	1,933	28,400	12,331	64,754	334,892	29,173
1937	11,798	41,113	231,858	2,663	54,152	4,743	80,295	426,622	44,803
1938	5,759	64,305	46,013	635	13,074	5,478	34,552	166,605	17,888
1939	2,515	29,706	147,089	506	21,140	10,373	66,431	277,760	29,348

fallen. 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 for 1938 was about 65 per cent. of capacity. Of late rayon companies have confronted difficulties in obtaining sufficient supplies of pulp.

Table 19-B. Production of Rayon Fabrics
(Unit: Quantity in Million Meters; Value in Million Yen)
(A) Rayon Fabric and Rayon-silk mixture

	Broad Cloth					Narrow Cloth				Grand Total incl. Others Val.
	Crepe		Figured Crepe		Total incl. Others Val.	Crepe		Total incl. Others Val.	Special Cloth Val.	
	Qty.	Val.	Qty.	Val.		Qty.	Val.			
1933	47.7	21.0	87.0	14.8	82.9	1.6	5.0	11.2	4.5	98.6
1934	113.1	38.3	82.1	16.1	115.9	2.2	5.5	15.0	6.3	137.2
1935	118.9	32.3	145.3	22.4	118.6	4.1	8.1	19.4	8.4	146.4
1936	183.5	47.7	148.9	28.2	173.9	5.8	9.7	27.3	10.3	211.5
1937	218.6	53.5	138.0	26.6	201.2	6.3	10.9	32.9	14.5	249.6
1938	277.4	86.9	231.5	41.9	219.9	10.5	20.5	58.7	31.8	310.4

(B) Rayon Fabrics and its Mixture with Other Fibres

	Broad Cloth									
	Crepe		Figured Crepe		Velvet		Total incl. Other Val.	Narrow Cloth Val.	Special Cloth Val.	Total incl. Others Val.
	Qty.	Val.	Qty.	Val.	Qty.	Val.				
1933	0.47	0.14	3.29	0.81	0.20	0.25	3.86	2.36	1.63	7.85
1934	0.42	0.09	4.11	1.01	0.54	0.70	6.71	4.02	1.56	12.29
1935	0.18	0.04	4.49	0.79	0.54	0.79	4.89	5.26	2.04	12.18
1936	1.07	0.30	0.85	0.25	0.77	1.05	9.58	8.01	5.78	23.38
1937	3.93	1.20	5.81	1.22	0.86	1.46	17.77	8.94	9.77	36.48
1938	..	..	..	..	..	..	..	..	..	65.74

Note:—Figures for 1938 include production by factories employing less than five operatives.

Table 20. Exports of Principal Rayon Goods Classified

	Knitted Goods (Sq. yds.)	Shirts (Doz.)	Under-shirts (Doz.)	Socks & Stockings (Doz.)	Neck-ties (Doz.)	Total Amount (¥1,000)
1935	291,766	78,017	171,453	461,501	234,001	3,789
1936	414,751	249,170	565,423	896,473	213,623	7,674
1937	1,593,980	304,760	956,887	1,223,951	188,173	11,037
1938	363,369	151,169	309,930	400,639	83,315	4,321
1939	472,775	181,036	422,006	259,231	68,956	6,510

Table 21. Exports of Rayon Fabrics Classified

(Unit in 1,000 sq. yards)

	Habutae	Taffetas and Poplins	Satin	Crepes & Kabeori	Voile	Figured	Total incl. Others (¥1,000)	
							Quantity	Value
1935	79,774	9,853	63,696	124,213	43,273	75,701	424,141	128,260
1936	143,616	8,863	56,496	185,909	30,034	65,824	527,942	149,170
1937	123,885	3,849	47,045	197,464	27,451	44,927	485,098	154,860
1938	64,321	2,232	21,032	146,417	16,356	55,001	337,122	115,762
1939	68,860	2,481	22,997	129,673	17,473	26,081	309,971	137,358

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 13.6 million lbs. in 1935 the output in Japan soared to 45.9 million lbs. in 1936, to 174.8 million lbs. in 1937, and to 375 million lbs. in 1938 but fell to 262 million lbs. in 1939.

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. Staple fibre exports including yarn and tissue totalled ¥63,876,000 in 1939.

Restrictions in the importation in 1939 of wood pulp, which is the chief raw material for the production of staple fibre as well as rayon, was expected to affect the production of both of these items and difficulties were anticipated in the expansion of staple fibre exports.

Table 22-A. Japan's Position in Staple Fibre Production
(Prepared by Rayon Organon)

(In 1,000 lbs.)

	Japan	U.S.A.	Italy	Germany	U.K.	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	139,785
1936	45,850	12,400	109,900	90,000	26,200	12,000	298,865
1937	174,755	20,100	159,350	220,000	32,720	11,300	622,920
1938	375,000	29,860	166,885	330,000	31,745	10,800	957,800
1939	262,000	55,000	190,000	400,000	60,000	..	1,037,000

Table 22-B. Production of Staple Fibre and Staple Fibre Yarn
(Unit: 1,000 lbs.)

	Staple Fibre	Staple Fibre Yarn	Staple Fibre	Staple Fibre Yarn
1934	4,720	..	167,150	71,120
1935	13,625	..	327,209	273,589
1936	45,850	..	243,707	179,983

Table 23. Export of Staple Fibre and Tissue

	Staple Fibre		Yarn		Tissues (1,000 sq. meters)				Total value (¥1,000)
	(1,000 lbs.)	(¥1,000)	(1,000 lbs.)	(¥1,000)	Coarse	Dyed	Printed	Total (¥1,000)	
1937	14,770	7,917	8,177	7,408	580	12,563	2,621	6,872	22,247
1938	291	185	10,598	10,673	9,270	36,242	12,886	26,780	37,638
1939	32,793	22,923	12,505	11,802	2,553	28,102	15,986	29,151	63,876

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 pro-

duce 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 1937 raw wool imports amounted to roughly 200 million kin valued at ¥298,000,000. The incident brought down imports to 80 million kin valued at 72,590,000 in 1939.

Table 24. Import of Wool, Camel and Goat Hair, Etc.
(Quantity in 1,000 kins; Value in ¥1,000)

	Wool		Camel & Goat Hair		Wool		Camel & Goat Hair	
	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
1934	137,286	186,425	991	1,212	195,384	298,304	493	1,096
1935	184,098	191,761	1,359	1,331	88,189	94,426	337	1,886
1936	164,064	200,898	2,078	3,444	80,169	72,590	1,099	1,883

Table 25. Wool Imports By Countries of Origin
(Quantity in 1,000 kins; Value in ¥1,000)

	Manchoukuo		China		Great Britain		Chile		Argentina	
	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
1934	64	43	493	341	626	905	766	934	5,939	7,553
1935	19	15	173	95	571	756	1,075	875	711	612
1936	458	269	510	611	850	1,190	1,661	1,744	5,677	6,562
1937	297	527	298	382	625	1,073	2,039	2,376	12,655	17,613
1938	2,145	2,478	4,400	3,327	372	677	698	780	5,527	5,946
1939	1,741	1,640	18,545	11,163	418	618	..	..	817	686

(Continued)	Federation of S. Africa		Australia		New Zealand		Total incl. others	
	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
	1934	3,896	5,780	116,532	159,241	7,641	9,804	137,286	186,455
1935	1,940	1,872	172,702	182,007	5,457	4,007	184,098	191,761
1936	14,078	17,389	116,947	147,493	16,946	18,316	164,064	200,898
1937	55,902	82,763	73,720	118,196	29,605	42,822	195,384	298,104
1938	3,967	4,266	59,114	64,882	8,567	8,272	88,189	94,426
1939	1,437	1,599	51,215	51,428	4,886	4,351	80,169	72,599

Woolen and Worsted Yarns.—The production of woolen yarns has more than doubled since 1930. In 1935 it amounted to roughly 64 million lbs. The expansion is largely attributed to the increase in foreign demand. Technical improvements in the manufacture of woolen and worsted yarns have been spectacular in the last ten years and a high grade product is now produced. Production in 1939 was 147 million lbs.

inspite of the China Incident.

Woolen and Worsted Tissues.—The production value of woolen and worsted tissues in Japan has increased by leaps and in 1938 output was valued at roughly 347.5 million yen as contrasted with 220 million yen in 1928. The largest items are accounted for by serges for foreign style clothing and muslin.

Table 26. Demand and Supply of Woolen Yarn

(Unit: 1,000 lbs.)

	Supply			Exports			Domestic Consumption
	Production	Import	Total	Foreign	Colonies	Total	
1935	64,177	1,075	65,252	5,277	976	6,253	58,999
1936	67,401	897	68,298	7,084	1,014	8,098	60,200
1937	148,548	571	149,119	7,344	599	5,936	143,183
1938	122,389	84	122,473	7,653	847	8,500	113,973
1939	147,162	0	147,162	7,058	358	7,416	139,746

Table 27. Output of Woolen Fabric

(Unit: Quantity in million meters; Value in Million Yen)

	Muslin		Flannel		Serge				Woolen		Total incl. others Value
	Qty.	Val.	Qty.	Val.	Qty.	Val.	Qty.	Val.	Qty.	Val.	
	1928	151.7	89.1	3.0	4.9	27.0	33.4	15.9	45.9	7.6		24.0	220.4
1933	133.0	48.3	3.7	3.8	31.2	29.2	30.4	63.9	12.0	29.9	201.1
1934	121.6	50.8	2.4	3.1	29.0	29.6	53.8	114.4	14.8	36.7	264.1
1935	134.2	54.8	2.6	3.5	36.2	37.0	50.1	127.5	16.2	41.1	296.2
1936	100.0	47.1	2.5	4.0	22.9	23.3	63.8	180.5	15.3	43.5	339.9
1937	59.9	29.8	2.7	3.9	26.9	28.2	66.0	169.2	18.5	58.8	328.0
1938	26.3	15.9	2.7	5.1	27.8	28.4	56.5	162.9	21.1	78.0	347.5

Table 28. Export of Woolen Cloth

(Unit: 1,000 sq. yards)

(A) By kinds

	Muslin	Woolen-cloth	Serge	Cravenette	Poplin	Pola	Worsted	Total incl. others	
								Quantity	Value (¥1,000)
1933	2,560	7,654	..	..	..	..	..	..	12,377
1934	4,102	505	15,623	..	..	..	..	..	29,849
1935	2,397	1,212	17,676	..	..	..	..	28,370	32,401
1936	2,096	2,316	25,011	..	..	..	..	37,004	45,956
1937	1,573	1,562	26,649	1,410	276	388	306	35,058	50,082
1938	1,122	3,258	17,554	1,019	99	259	124	28,071	46,845
1939	1,117	3,189	16,844	1,014	111	416	130	26,103	51,821

(B) By Destinations

	Manchoukuo	Kwantung	China	Brit. India	Egypt	Total incl. others	
						Quantity	Value (¥1,000)
1935	1,281	7,229	2,530	5,031	1,763	28,370	32,400
1936	991	9,999	2,915	5,569	3,167	37,004	45,082
1937	2,609	7,262	2,780	8,554	2,823	35,058	50,082
1938	6,115	5,530	5,547	3,479	950	28,071	46,845
1939	6,446	3,580	1,236	2,897	1,439	26,103	51,821

Table 29. Imports of Woolen Cloth By Country of Origin

(Unit: ¥1,000)

	Great Britain	France	Germany	Italy	U. S. A.	Total incl. Others
						Value
1932	8,598	157	1,542	8	18	10,488
1933	6,834	51	297	7	5	7,213
1934	6,042	28	105	2	8	5,199
1935	6,536	50	130	2	8	6,753
1936	9,389	42	195	3	3	9,675
1937	8,971	31	200	12	42	9,292
1938	2,613	0	81	26	0	2,724
1939	3	7	2	44	0	63

Note: The sudden decline in imports for 1939 is due to the restrictive measures imposed by the Exchange Control Law limiting supply for domestic use.

HEMP CLOTH

The production of hemp cloth has been increasing steadily, rising from ¥14,624,000 in 1930 to ¥36,259,000 in 1938. The broad varieties show the largest gains in production, having trebled between 1930 and 1938. The imports of hemp and flax are also increasing in value, and in 1938, 38 million yen.

Table 30. Production of Hemp Cloth, Etc.

	No. of Factories	No. of Looms	No. of Operatives	Production Value (in ¥1,000)			Total incl. others
				Broad	Narrow	Special	
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
1937	9,352	17,055	19,091	18,567	5,116	3,295	26,978
1938	8,229	17,382	18,006	26,795	6,217	3,247	36,259

Table 31. Crops of Hemps, Ramie, Flax, Etc. in Japan Proper

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

	Hemp		Ramie		Flax		Jute	
	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	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	1,325	300	209
1936	2,112	3,277	321	550	7,097	1,362	316	214
1937	2,053	3,898	439	892	6,109	1,337	312	244
1938	2,382	6,838	589	5,716	13,680	4,279	333	480

Table 32. Import of Hemp, Flax, Etc.

	Raw Materials				Tissues of Flax, Hemp, etc.		Total Value (¥1,000)
	Flax & Ramie (1,000 kin)	Hemp, Jute, etc. (1,000 in)	Total incl. others		Quantity (1,000 sq. yards)	Value (¥1,000)	
			(1,000 kin)	(¥1,000)			
1933	17,495	111,470	152,785	23,137	9,099	2,954	26,416
1934	25,560	133,473	184,760	27,761	1,404	952	28,414
1935	19,235	154,168	199,511	27,794	2,614	818	28,613
1936	22,950	164,451	215,822	37,301	996	560	37,861
1937	16,623	141,284	186,665	40,995	2,416	901	41,896
1938	6,898	102,233	126,160	27,306	946	315	27,621
1939	27,053	105,284	141,595	38,266	355	63	38,329

Table 33. Exports of Principal Hemp, Flax, Ramie Products

	Flax, Ramie & Waste		Threads of Flax, Hemp		Yarn		Rope of Hemp, Jute		Fishing Net		Gunny Bags	
	Qty. 1,000 kin	Val. ¥1,000	Qty. 1,000 kin	Val. ¥1,000	Qty. 1,000 kin	Val. ¥1,000	Qty. 1,000 kin	Val. ¥1,000	Qty. 1,000 kin	Val. ¥1,000	Qty. 1,000 kin	Val. ¥1,000
1933	1,120	272	1,696	661	0.1	0	5,402	1,388	..	..	8,847	1,911
1934	1,250	375	1,341	613	..	..	5,823	1,224	..	..	11,341	2,871
1935	2,402	848	2,119	857	0.5	0	12,456	2,972	1,528	609	8,757	2,888
1936	1,705	665	1,266	824	0.8	0	4,955	1,249	99	136	6,492	1,612
1937	2,033	1,222	1,176	840	48.8	160	5,284	1,691	210	237	7,568	1,521
1938	250	159	460	674	26.4	47	2,568	1,129	185	263	6,213	1,659
1939	40	44	826	1,595	0.4	2	3,439	2,232	105	121	24,036	14,849

References:

Table Nos.: 1 a, 2-4 b, 5 c, 6-7 b, 8 c, 9 d, 10 b, 11 c, 12 b, 13-14 d, 15 c, 16 e, 17 d, 18 f, 19 c, 19-B f, 20-21 c, 22 e, 22-B g, 23-25 c, 26 h, 27 d, 28-29 c, 30 d, 31 i, 32-33 c.

Key: a—Toyo Keizai-sha.

b—Dai-Nippon Cotton Spinners' Association.

c—Monthly Return of Foreign Trade of Japan.

d—Department of Commerce & Industry.

e—Rayon Organon.

f—Rayon Producers' Federation.

g—Japan Staple Fibre Producers' Union.

h—Woolen Industry Association.

i—Department of Agriculture & Forestry.

CHAPTER XXXII
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 in that year, the industry has developed into the enterprise commanding the largest capital outlay in industrial circles. This rapid development of the industry is due partly to the comparative abundance of water power, the mainland as a whole being liberally endowed with rivers and lakes that can be harnessed.

Table 1. Japan's Position in Production of Electricity
(Prepared by the League of Nations)
(Unit: In one Million Kwh.)

	Japan	U.S.A.	Germany	France	U.K.	Italy	U.S.S.R.
1930	Hydro 12,473	33,021	4,001	6,876	320	9,820	..
	Thermo 1,437	62,915	24,913	8,463	16,177	259	8,368
	Total 13,910	95,936	28,914	15,339	16,497	10,079	8,368
1935	Hydro 18,653	39,968	5,775	9,164	620	12,764	..
	Thermo 3,690	59,430	30,922	7,654	22,550*	354	25,900
	Total 22,348	99,398	36,697	15,818	23,170*	13,118	25,900
1936	Hydro 19,651	40,937	6,835	..	..	13,176	..
	Thermo 4,461	72,665	35,652	..	..	387	32,700
	Total 24,312	113,602	42,487	16,300*	25,925	13,563	32,700
1937	Hydro 21,779	43,707	6,904	9,872	..	14,391	..
	Thermo 4,935	77,290	42,065	8,290	..	570	36,400
	Total 26,714	120,997	48,969	18,162*	28,760	14,961	36,400
1938	Hydro	44,138	..	..	..	14,298	..
	Thermo	71,752	..	..	..	810	..
	Total	115,890	55,238	19,300	30,700	15,108	..

Note: * Estimate.

Japan: Production of establishments supplying energy to third parties.

U.S.A.: Estimated totals for all public-utility power plants, including central stations, railways and certain other plants.

Germany: Since 1935 including the Saar.

France: Production of establishments supplying energy to third parties and of industrial establishments whose plants are connected to supply system.

U.K.: Excluding Northern Ireland.

Italy & U.S.S.R.: The increase shown is partly due to the scope of the statistics having been extended.

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. By the end of 1937 the capacity of hydro-plants had increased to 3,978,000 k.w. and that of thermal plants to 3,299,000 k.w., aggregating 7,277,000 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.

It is estimated that the total available hydro-electric power in Japan which can be economically harnessed is 10,800,000 kilowatts or 14,

400,000 h.p. A characteristic of the hydro-electric power situation in this country is the highly disbalanced volume of water which can be utilized due to seasonal conditions. As a result with increasing demand for electricity there has also been a steady growth of thermal electric power.

Rivers and Average Potential Amount of Kilowatts Per Annum

The following table gives the name of principal rivers in the various districts of Japan.

Table 2. Capacity of Hydro Power Generation Plants Classified

By Principal Rivers
(As in December, 1937)
(Unit: in Kilowatt)

Districts	Rivers	No. of Stations	Maximum Capacity	Normal Maximum Capacity	Normal Capacity	Special Capacity
Kwanto	Tone	69	327,026	258,601	174,648	99,774
	Sagami	22	97,274	85,027	63,940	11,307
	Sakoh	10	44,990	39,696	26,199	5,177
	Fuji	52	93,608	64,932	59,002	28,466
	Oi	6	127,830	73,667	41,576	24,247
Chubu	Tenryu	35	123,856	56,381	84,466	67,090
	Yahagi	31	73,440	33,719	44,389	36,201
	Kiso	80	398,008	156,865	216,425	200,113
Kinki	Kumano	12	28,633	16,375	9,625	19,008
	Hidaka	6	11,600	6,165	6,165	5,435
	Yodo	37	105,867	65,721	65,721	40,146
Shin-Etsu	Agano	37	282,515	246,945	135,745	83,530
	Shinano	90	333,401	238,381	158,633	149,258
	Seki	16	76,038	51,109	44,964	24,014
	Hime	9	55,849	29,829	25,999	28,990
Hokuroku	Kurobe	8	175,210	61,450	61,450	113,760
	Jyogonji	10	89,000	47,100	36,600	28,000
	Jintsu	35	116,212	49,387	48,207	67,245
	Sho	6	137,889	100,439	43,139	94,750
	Tedori	16	42,960	27,360	26,740	16,220
Chugoku	Yoshii	7	21,733	18,273	10,103	4,760
	Ota	6	33,415	27,215	20,125	6,600
Tohoku	Kitakami	24	26,162	17,496	17,496	8,666
	Abukuma	34	32,093	23,957	21,532	9,371
	Natsui	12	18,176	14,384	12,074	4,322
	Noshiro	14	15,411	10,928	10,928	4,483
	Mogami	20	32,209	19,725	16,085	15,094
Shikoku	Yoshino	18	53,233	26,410	21,760	30,313
	Niyodo	12	34,475	21,816	15,598	17,601
	Gokase	12	35,505	15,675	14,475	21,030
	Oita	10	17,730	15,042	15,042	2,688
	Oyodo	9	49,962	36,672	25,792	24,170
	Sennai	7	30,850	17,990	17,990	12,860
Kyushu	Tama	13	23,153	11,447	9,847	12,606
	Shira	4	25,200	18,800	18,800	6,400
	Chikugo	18	70,474	42,435	31,635	24,989

Districts	Rivers	No. of Stations	Maximum Capacity	Normal Maximum Capacity	Normal Capacity	Special Capacity
Hokkaido	Akan	4	15,620	11,380	11,380	4,240
	Shiribetsu	5	15,285	7,595	7,595	7,690
	Ishikari	21	88,299	59,937	42,870	34,229
Total including others		1,113	3,885,466	2,493,298	1,843,949	1,653,417

Note: Kwanto:—Tokyo, Kanagawa, Saitama, Gunma, Chiba, Ibaraki, Tochigi, Shizuoka & Yamanashi Prefectures.
Chubu:—Aichi, Miye & Gifu Prefectures.
Kinki:—Osaka, Kyoto, Hyogo, Nara, Shiga & Wakayama Prefectures.
Shin-etsu:—Nagano & Niigata Prefectures.
Hokuriku:—Fukui, Ishikawa & Toyama Prefectures.
Chugoku:—Hiroshima, Tottori, Shimane, Okayama & Yamaguchi Prefectures.
Tohoku:—Miyagi, Fukushima, Iwate, Aomori, Yamagata & Akita Prefectures.

Table 3. Power Generation Capacity Classified

(Unit: 1,000 kw.)

	Hydro			Thermal			Internal Combustion			Total		
	Working	Under Construction	Total	Working	Under Construction	Total	Working	Under Construction	Total	Working	Under Construction	Total
1925	1,814	1,077	2,890	923	396	1,319	32	2.0	34	2,786	1,474	4,261
1932	3,106	1,426	4,532	1,761	436	2,198	66	2.7	68	4,933	1,865	6,798
1933	3,169	1,504	4,673	1,862	414	2,275	50	4.9	55	5,081	1,923	7,003
1934	3,269	1,529	4,698	2,161	515	2,676	62	4.6	67	5,492	2,049	7,541
1935	3,408	1,693	5,101	2,557	435	2,991	82	3.1	85	6,047	2,130	8,177
1936	3,759	1,667	5,437	2,925	382	3,307	93	8.4	102	6,777	2,068	8,845
1937	3,978	1,943	5,920	3,195	650	3,845	104	19.3	123	7,277	2,612	9,889

Table 4. Power Stations Classified By Capacity

(Unit: in Kilowatt)

(A) Hydro Power

Capacity	No. of Stations	Capacity				
		Maximum	Normal Maximum	Normal	Special	Supplementary
Below 100	265	10,419	9,030	9,200	1,034	—
100- 499	300	47,491	59,161	61,076	17,558	—
500- 999	198	139,690	87,821	90,612	46,622	—
1,000- 2,999	318	540,498	332,765	310,960	207,512	1,830
3,000- 4,999	85	315,050	177,735	168,239	134,640	2,500
5,000- 6,999	67	393,091	246,954	205,410	164,687	—
7,000- 9,999	30	241,630	152,367	117,607	111,027	7,150
10,000-14,999	36	437,980	281,035	211,075	188,875	—
15,000-19,999	15	254,383	155,443	119,300	114,971	—
20,000-29,999	23	556,312	374,512	250,494	199,993	—
Above 30,000	21	995,350	627,200	355,743	498,030	—
Total	1,388	3,923,894	2,504,023	1,899,716	1,684,949	11,480

(B) Thermal Power

Capacity	No. of Stations	Capacity				
		Maximum	Normal	Supplementary	Reserve	
Below 100	93	3,711	1,840	619	1,252	
100- 499	76	16,609	5,444	3,666	7,509	
500- 999	33	21,398	8,938	3,870	9,590	
1,000- 2,999	98	163,995	93,825	38,635	31,535	
3,000- 4,999	48	179,375	111,930	26,420	40,025	
5,000- 6,999	24	129,560	111,400	5,000	13,160	
7,000- 9,999	26	212,020	139,650	31,250	41,120	
10,000-14,999	21	235,200	90,000	104,900	40,300	
15,000-19,999	8	136,450	97,900	16,650	21,900	
20,000-29,999	11	252,250	159,550	46,400	42,800	
Above 30,000	22	1,702,750	955,550	528,500	165,000	
Total	460	3,053,318	1,776,027	805,900	414,191	

Note: Based on the investigation made in December 1937.

Table 5. Per Capita Consumption Classified By Districts
(KWH)

	Kwanto	Chubu	Kinki	Shin-etsu	Hokuriku	Chugoku	Tohoku	Shikoku	Kyushu	Hokkaido	Average
1926	182	192	242	111	216	90	75	57	126	174	155
1930	234	258	351	250	387	140	97	100	152	203	218
1934	317	345	445	338	496	189	137	140	211	235	289
1935	331	377	478	423	618	207	154	158	244	256	320
1936	341	411	500	463	678	229	167	182	282	276	343
1937	356	458	523	498	836	234	179	226	316	294	373

Table 6. Volume of Power Generated Classified
(Unit: 1,000 kw.h.)

	Hydro	Thermal	Internal Combustion	Total
1914	1,257,949	180,695	18,626	1,457,271
1926	8,083,797	996,010	11,404	9,091,210
1930	10,778,301	1,366,385	15,397	12,160,083
1934	15,800,173	2,973,466	19,971	18,793,610
1935	18,215,777	3,315,813	17,110	21,548,700
1936	19,024,389	3,904,282	28,530	22,957,202
1937	21,729,400	.....	.....	21,729,400

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.

Table 8. Consumption of Electric Power by Industries

(Prepared by the Electric Board, Department of Communications)
(In 1,000 Kwh.)

	Self-supplied		Supplied by companies	Total
	Hydro-electric	Thermal Electric		
1926	722,052	740,205	2,218,533	3,680,790
1930	906,316	833,217	3,707,741	5,447,274
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

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 7. Demand for Electric Lights

Year	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
1925	9,652,058	27,320,740	2.8	45.4
1926	10,165,739	30,159,042	3.0	49.5
1927	10,547,235	32,322,991	3.1	52.4
1928	10,847,342	33,909,420	3.1	54.3
1929	11,170,618	35,893,352	3.2	56.7
1930	11,352,372	36,839,607	3.2	56.8
1931	11,446,539	37,413,988	3.3	56.9
1932	11,530,440	38,300,059	3.3	57.4
1933	11,383,235	38,382,771	3.4	57.1
1934	11,715,694	40,532,219	3.5	59.4
1935	11,948,953	42,477,828	3.6	61.3
1936	12,176,098	44,405,699	3.6	63.2
1937	12,568,725	46,969,219	3.8	66.2

1936:	Self-supplied		Supplied by companies	Total
	Hydro-electric	Thermal Electric		
Textile	146	134,574	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, which was prepared by the Dept. of Industry & Commerce, has been replaced as the latest statistics are not issued for publication.

Table 9. Consumption of Hydro-Electric and Thermal Electric Power
(In million Kwh.)

Year	Hydro-electric power	Thermal electric power	Ratio of thermal electric power (%)	Per capita consumption (kwh.)	Total	Hydro-electric power	Thermal electric power	Ratio of thermal electric power (%)	Per capita consumption (kwh.)
1927	9,290	1,221	13.1	10,612	172	14,195	1,533	11.0	15,740
1928	10,771	1,187	11.1	11,958	193	15,775	2,248	14.2	18,023
1929	11,562	1,780	15.1	13,312	212	16,233	3,470	21.4	19,703
1930	12,525	1,509	12.0	14,033	218	18,454	3,701	20.1	22,155
1931	12,978	1,318	10.2	14,296	219	19,554	4,579	23.4	24,133
						21,729	4,853	22.4	26,633

Table 10. Transmission Lines Classified By Voltages
(Unit: in Kilometers)

Year	(A) Distance						Total
	154,000 volts	110,000 volts	77,000 volts	66,000 volts	55,000 volts	44,000 volts	
1925	1,024	361	1,087	3,420	926	1,170	8,488
1930	2,687	416	2,356	5,771	1,461	1,817	14,508
1935	2,958	1,031	2,550	7,478	1,372	1,785	17,173
1936	3,009	1,030	2,722	7,953	1,440	1,802	17,956
1937	3,169	1,044	2,739	8,364	1,377	1,809	18,502
1937:							
{ Copper	57.5%	81.4%	93.7%	93.5%	99.0%	100.0%	87.8%
{ Aluminium	42.5%	18.6%	16.3%	6.5%	1.0%	0	12.2%
Year	(B) Extension Length						Total
	154,000 volts	110,000 volts	77,000 volts	66,000 volts	55,000 volts	44,000 volts	
1925	2,049	722	1,954	6,191	1,232	1,317	13,464
1930	5,374	832	4,197	9,299	2,024	2,132	23,858
1935	5,888	2,033	4,681	11,509	1,875	2,184	28,170
1936	5,990	2,062	5,029	12,166	2,005	2,216	29,437
1937	6,310	2,060	4,996	12,801	1,956	2,214	30,346
1937:							
{ Copper	57.3%	81.2%	93.6%	92.6%	97.8%	100.0%	85.5%
{ Aluminium	42.7%	18.8%	6.4%	7.4%	2.2%	0	14.5%

Note: Exclusive of transmission lines under 44,000 volts.

Table 11. Fuel Consumptions by Power Stations
(Quantity in Metric tons; Value in ¥1,000)

Year	Coal		Gas, Cokes, smokeless coal, charcoal, etc.		Heavy Oil, Light Oil, Petroleum, etc.		Total Value
	Quantity	Value	Quantity	Value	Quantity	Value	
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 1937 was ¥3,859,000,000. The fixed capital amounted to ¥6,186,000,000.

Table 12. Financial Condition of Electric Companies
(Unit: Million Yen)

	Paid up Capital	Fixed Capital	Profit	Profit rate against Paid up cap.	Dividend	Dividend rate against Paid up cap.
1918	578	676	62	10.7%	37	6.4%
1921	1,200	1,291	149	12.5	93	7.8
1925	2,218	2,769	252	11.4	218	9.9
1929	3,019	4,368	301	10.0	254	8.2
1933	3,494	5,194	183	5.2	113	3.9
1934	3,957	5,749	205	5.1	140	3.4
1935	3,485	5,895	226	6.4	179	5.3
1936	3,660	5,985	289	7.9	221	6.0
1937	3,859	6,186	307	8.0	236	6.1

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.—The Japan Electric Power Generation and Transmission Company was established in 1939 to take over all major new water and steam power equipment and all the main transmission systems.

The immediate mission of the company is to establish monopolistic management of the principal generation and transmission enterprise throughout the country.

The Company was actually brought into being through the absorption of 33 existing power concerns hitherto operated for private profit. The valuation of their plants was determined and announced by the Government as ¥653,100,000, or 1.5 per cent (¥9,800,000) above

their book value. With this investment in kind, the authorized capital of the new company was fixed at ¥739,315,300 with an additional ¥100 million to be paid in cash. Debentures and other outstanding liabilities amounted to ¥292 million, which brought the total capitalization to ¥956 million, rendering the new concern easily the largest in Japan Proper.

Power Shortage in 1939

An acute shortage of electric power was experienced in 1939 caused by increases in power demand and, on the other hand, by a marked decline in power generation. The reduction in supply was caused by the effects of an extensive drought which crippled hydraulic generating plants, and by the company's inability, due to the China Incident to offset this deficiency by supplying a corresponding amount of coal to its steam-generation plants. On the basis of statistics for the past 10 years, the company had estimated its coal requirements for the first year of operation at 5,300,000 metric tons at an average thermal capacity of 5,000-7,000 calories. Actually, the company's coal consumption during the first six months of the business year of 1939 was in the neighborhood of 2,100,000 tons, about 300,000 tons in excess of its provisions after subtracting the estimated margin of carry-over. The forced use of inferior coal must be listed as another cause for the unsatisfactory power situation. Against a normal standard of 6,300 calories required for coal for the company's thermal plants, it is estimated that the average caloric output was some were between 5,300 and 5,400 calories.

The situation had turned markedly to the better by the middle of August, 1940 when the water shortage was dispelled by heavy rains. Commerce Minister Ichizo Kobayashi in a statement issued during the same month declared that a sufficient supply of coal had been acquired for the winter 1940-41 for the electric industry.

gas producers, possessing a capacity of 1,105,531,000 cubic meters of gas. The output of gas has risen steadily and in March, 1937 stood at 1,104,531,000 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.

GAS

As at the end of March, 1939 there were 147

Table 13. Statistics of Gas Industry in Japan Proper

Year Ending March 31	No. of Plants	Volume of gas (million cubic meters)				Coal Consumed (1,000 m. tons)	By Products	
		Manufactures	Supplied		Cokes (1,000 m. tons)		Coal-tar (1,000 kilo-litres)	
			A	B				Total
1930	118	756.6	588.9	111.3	700.2	1,311	584	63
1935	136	830.2	648.2	123.7	771.9	1,522	1,013	84
1936	141	872.5	677.8	132.2	810.1	1,614	1,069	86
1937	145	944.5	710.9	148.5	859.4	1,720	1,134	90
1938	147	1,104.5	828.4	147.7	976.1	2,172	1,461	112

Year Ending March 31	No. of Consumers (1,000)			Consumption per day (1,000 cubic metres)			Consumption Per Consumer (cubic metres)		
	A	B	Total	A	B	Total	A	B	Total
1930	1,296.1	326.9	1,630	1,613	805	2,418	452	340	792
1935	1,626.0	370.0	1,966	1,776	339	2,115	398	334	732
1936	1,723.0	388.6	2,112	1,857	359	2,215	393	340	733
1937	1,827.1	406.0	2,233	1,948	407	2,355	389	365	754
1938	2,028.6	304.6	2,333	2,269	405	2,674	408	486	894

Note: A. Representing the six prefectures embracing the 6 premier cities of Tokyo, Yokohama, Nagoya, Kyoto, Osaka and Kobe.
B. Representing all other prefectures.

Table 14. Production of Gas By Kinds
(Unit: Million Cubic Metres)

	1937	1938	1937	1938
Coal Gas	908.5	1,088.6	Natural Gas	7.5
Water Gas	5.5	6.0	Total	944.8
Mixed Gas	23.3	4.6		1,104.5

References:

- Table Nos.: 1 a, 2-12 b, 13-14 c.
- Key: a—League of Nations.
- b—Department of Communications.
- c—Teikoku Gas Association.

CHAPTER XXXIII

CHEMICAL & CERAMIC INDUSTRIES

CHEMICAL INDUSTRY

The chemical industry has advanced with giant strides and between 1931 and 1938, inclusive, increased its value of production 4.2 folds. Available statistics, which are for factories employing or with equipment for five or more operatives, indicate that the chemical industry accounted in 1938 for 17.6 per cent of the value of production of the entire manufacturing industries, being preceded in this category only by the metallic, machine and tool, and textile industries. In 1938 the output from the chemical enterprise amounted to 3,461 million yen.

There are eight large branches in the chemical industry of Japan, these being the manufacturing of industrial chemical, rayon, paper, fertilizers, rubber-ware, medicine, soap, etc., and

dyestuffs. Combined they accounted in 1938 for 2,480 million yen, or 72 per cent of the output from the entire chemical industry.

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
(1931-1938 taken as 100)

	Cement	Glass	Sulphate of Ammonia	Nitro-Lime	Superphosphate of Lime	Bleaching Powder	Soda Ash	Caustic Soda	Paper
1934	118.5	128.6	120.3	117.4	105.5	140.9	163.8	222.0	116.9
1935	132.1	134.5	144.1	171.6	125.1	161.0	196.5	287.3	126.3
1936	129.4	145.9	190.4	170.2	141.6	169.8	213.2	354.6	134.1
1937	143.2	176.0	201.7	242.3	161.6	199.2	229.5	458.2	156.3
1938	142.0	83.0	221.0	196.0	99.0	209.0	285.0	591.0	142.0
1939	148.0	103.0	209.0	118.0	144.0	181.0	292.0	570.0	148.0

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.

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	Miscellaneous	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
1937	38,688	53,677	221,177	70,631	831	418,004
1938	34,525	63,729	239,261	105,895	1,112	492,522

CHEMICAL INDUSTRY

Table 3. Production of Chemical Fertilizers Classified
(Quantity in 1,000 Metric tons; Value in ¥1,000)

	Sulphate of Ammonia		Calcium Cyanamide		Superphosphate of Lime		Muriate of Potash		Total Value incl. Others
	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	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
1937	932	81,192	324	26,051	1,583	64,542	15.6	1,227	221,177
1938	1,108	102,541	307	24,908	1,234	64,152	8.1	763	239,262

Table 4. Demand & Supply of Fertilizer
(¥1,000)

	Output		Imports from		Exports to		Total Supply
	Commercial	Self Supplied	Foreign Countries	Colonies	Foreign Countries	Colonies	
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	354,200	105,061	36,311	15,179	49,759	679,145
1937	418,004	387,740	107,395	32,360	20,150	49,241	768,534
1938	492,522	441,530	122,442	32,433	9,709	63,319	873,309

Table 5. Imports of Commercial 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	757,080	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
1938	295,208	26,787	112,385	623,054	564,169	53,278
1939	82,339	27,069	90,291	849,385	...	72,258

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	2,432,576	135,298	367,205	284,999	423,652	1,907	4,489	33	48,651
1937	3,201,435	157,531	377,000	362,141	442,960	2,247	5,318	50	44,349
1938	2,752,378	145,473	443,521	440,316	417,082	2,211	5,881	44	68,978

(Continued)	Hydrogen	Carbonic Acid	Acetic Acid	Alcohol	Glycerine	Phosphor	Carbonic Magnesia
1930	2,628	1,054	5,385	1,121	4,963	426	13,616
1931	2,838	1,177	5,888	686	3,875	478	14,269
1932	2,613	1,569	4,515	1,156	6,312	469	14,440
1933	2,979	1,831	6,586	1,490	6,281	1,344	17,485
1934	2,258	2,180	8,248	1,562	6,921	1,245	16,280
1935	3,629	2,496	10,546	1,184	8,535	1,549	17,611
1936	2,855	2,747	12,841	5,558	8,342	1,622	18,940
1937	2,869	3,354	17,594	8,040	12,230	1,170	20,560
1938	3,631	3,447	18,816	16,502	10,206	1,139	12,963

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 and in recent years Japan is one of the largest producers of this chemical.

Price.—Wholesale prices of ammonium sul-

Table 7. Demand and Supply of Ammonium Sulphate

(Unit: Metric tons)

Year	Production	Imports from Abroad	Imports from Colonies	Exports Abroad	Exports to Colonies	Consumption
1930	265,826	302,905	18,065	14,924	83,872	488,000
1934	494,350	160,901	84,749	1,526	88,058	650,416
1935	611,751	238,598	71,551	5,997	103,289	812,614
1936	880,262	314,131	56,436	18,417	182,024	1,050,388
1937	931,821	224,208	17,318	7,202	180,840	934,995
1938	1,463,875*	295,823	76,504	24	262,398	1,573,804
1939	1,392,814	82,339	129,355	30	197,429	1,407,049

Note:—Inclusive of production in Chosen and Taiwan.

DYE-STUFF

Dye-stuff Production.—Dye-stuff production, which was only ¥7,891,555 in 1930, was up to ¥50,039,000 in 1938.

Sulphur dyes occupy the greater part of the production of the country. In 1938 it was produced to the extent of 18,900 metric tons.

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 reimposi-

tion of the gold embargo in 1931. The volume of dye-stuff exports, which stood at 2,011 metric tons in 1931, increased to 6,849 metric tons in 1938 and to 13,218 metric tons in 1939.

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

Table 8. Demand and Supply of Synthetic Dye-stuffs Classified (Unit: Quantity in 1,000 kin (one kin=0.6 kilogram); Value in ¥1,000)

Kind:	Year	Production		Imports		Exports	
		Qty.	Value	Qty.	Value	Qty.	Value
Indigo, Artificial	1935	4,659	5,761	94	168	3,340	2,150
	1936	2,900	4,715	593	604	2,606	1,827
	1937	3,714	6,265	305	471	2,040	1,467
	1938	2,707	4,170	27	30	2,490	2,381
	1939	.....	.....	0	1	3,451	3,946

phate 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 in Japan proper reached the figure of 1,392,814 metric tons in 1939. 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 is expected to reach more than 3,000,000 metric tons in the near future.

Kind:	Year	Production		Imports		Exports	
		Qty.	Value	Qty.	Value	Qty.	Value
Basic Colours	1935	1,109	3,552	189	829	.....	.....
	1936	1,658	4,562	181	796	.....	.....
	1937	1,765	5,541	292	1,246	351	618
	1938	1,490	4,908	17	145	555	704
	1939	.....	.....	23	217	669	1,163
Direct Cotton Colours	1935	4,501	7,727	566	2,252	.....	.....
	1936	4,997	8,808	994	3,013	.....	.....
	1937	6,355	13,584	1,188	4,708	1,105	1,466
	1938	7,650	18,985	131	835	1,490	1,714
	1939	.....	.....	202	1,308	3,019	4,381
Acid Colours	1935	1,261	2,783	472	1,939	.....	.....
	1936	1,629	3,985	420	1,776	.....	.....
	1937	1,393	3,831	551	2,537	223	366
	1938	765	4,509	80	643	62	105
	1939	.....	.....	103	803	208	319
Mordant and Acid Mordant Colours	1935	569	1,410	482	1,723	.....	.....
	1936	440	1,207	801	2,006	.....	.....
	1937	822	2,099	801	2,651	.....	.....
	1938	720	2,765	58	389	.....	.....
	1939	.....	.....	77	364	.....	.....
Sulphide Colours	1935	20,750	4,675	132	385	9,492	2,198
	1936	18,665	3,685	213	529	7,178	1,554
	1937	21,938	5,411	276	904	5,898	1,365
	1938	31,500	9,148	71	292	6,400	2,190
	1939	.....	.....	73	303	12,772	5,495
Total incl. Others	1935	.....	31,266	2,095	9,339	14,805	7,305
	1936	.....	33,721	3,409	11,404	11,667	5,990
	1937	.....	45,141	3,762	16,928	10,103	6,269
	1938	.....	50,039	422	2,838	11,249	7,768
	1939	.....	.....	510	3,507	22,029	18,532

Table 9. Imports of Synthetic Dyestuffs by Countries of Origin (Unit: Quantity in 1,000 kin; one kin=0.6 kilogram; Value in ¥1,000)

	England		France		Germany		Italy		Switzerland		U.S.A.		Total incl. others	
	Qty.	Val.	Qty.	Val.	Qty.	Val.	Qty.	Val.	Qty.	Val.	Qty.	Val.	Qty.	Val.
1935	8	32	65	364	1,049	5,717	9	40	261	1,790	343	1,391	2,095	9,339
1936	4	17	88	371	1,882	6,983	6	20	254	1,664	1,175	2,347	3,409	11,404
1937	3	14	126	418	2,701	12,313	7	20	334	2,227	590	1,932	3,762	16,928
1938	3	19	51	261	225	1,711	0	1	57	477	84	355	422	2,838
1939	1	7	65	353	265	1,873	10	42	17	77	91	538	510	3,507

Paint and Pigment

The paint industry in Japan has grown from a small undertaking into an important enterprise with annual production amounting in the tens of millions of yen. The largest item in point of value is varnish, followed by enamel and lacquer and ship paint. Total production amounted to ¥65,982,000 in 1938. Up until the outbreak of the China Incident Japan im-

ported roughly 6 million yen worth of paints and varnishes and allied basic materials. A fair amount of exports of paints, varnishes, writing ink, etc. are transacted, the total value of such items being approximately 6 million yen in 1938.

The production of the various kinds of pigments has also increased at a steady pace in recent years, the value of output in 1938 amounting to ¥44,744,000.

Table 10. Production of Paint and Pigment (Unit: Quantity in Metric ton; Value in ¥1,000)

	Lacquer		Varnish		Enamel		Ship Paint		Total incl. others Value
	Qty.	Val.	Qty.	Val.	Qty.	Val.	Qty.	Val.	
1933	231	965	8,891	6,004	3,904	2,645	1,773	1,666	23,869
1934	571	1,229	9,100	6,598	4,782	2,919	2,328	1,846	26,412
1935	272	1,090	11,476	7,522	5,085	3,055	2,607	1,963	31,415
1936	336	1,073	16,216	11,319	13,447	6,390	2,417	1,964	37,805
1937	744	2,387	13,364	11,064	9,340	5,941	2,766	2,179	46,106
1938	848	2,632	18,207	16,948	15,179	8,849	3,441	3,385	65,982

(B) Pigments

(Continued)	Zinc Oxide		Plumbic Oxide		Red Lead		Printing Ink		Total incl. others Value
	Qty.	Val.	Qty.	Val.	Qty.	Val.	Qty.	Val.	
1933	17,763	5,260	2,126	819	8,417	1,972	9,349	6,495	28,746
1934	16,423	5,664	3,660	966	10,004	2,366	9,623	7,421	27,568
1935	21,407	7,005	4,845	1,445	10,877	3,063	11,608	8,156	32,775
1936	22,459	6,698	3,500	1,392	11,420	3,850	12,036	8,673	36,715
1937	24,993	11,208	3,688	2,217	9,650	4,999	12,500	8,968	45,533
1938	19,030	11,622	2,933	1,682	4,869	2,853	12,367	9,349	44,774

Table 11. Imports of Paints, Pigments, etc. Classified
(Value in ¥1,000)

	Liquid Gold		Ultramarine blue		Carbon black		Lacquer		Varnish		Printing ink Value	Paint Value	Total Value
	(Kilo-gram)	Value	(1,000 kin)	Value	(1,000 kin)	Value	(1,000 kin)	Value	(1,000 kin)	Value			
1935	314	219	628	378	6,216	1,814	3,077	2,925	47	47	267	254	5,904
1936	196	148	472	295	7,731	2,207	3,490	3,154	62	62	300	244	6,410
1937	145	45	636	376	10,068	2,976	2,628	2,580	84	88	382	357	6,804
1938	21	16	144	81	6,360	1,769	2,389	1,796	10	9	153	93	3,917
1939	6	4	152	106	7,874	2,118	2,450	2,038	4	4	113	91	4,474

Table 12. Exports of Paints, Pigments, etc. Classified
(Unit: Quantity in 1,000 kin; Value in ¥1,000)

	Red Lead		Zinc Oxide		Lithophone		White Lead		Lacquer		Varnish		Total Value
	Qty.	Val.	Qty.	Val.	Qty.	Val.	Qty.	Val.	Qty.	Val.	Qty.	Val.	
1935	4,941	841	4,019	673	..	..	..	..	..	..	..	..	..
1936	4,181	824	2,414	405	..	..	..	..	..	..	..	..	..
1937	2,593	767	1,850	447	2,028	172	80	25	36	41	1,046	364	..
1938	1,023	297	993	314	1,117	137	35	11	75	101	2,129	479	..
1939	2,803	682	1,156	403	509	69	496	147	24	47	1,540	759	..

	Writing Inks		Printing Inks		Drawing Colours		Paints		Total Value
	Qty.	Val.	Qty.	Val.	Qty.	Val.	Qty.	Val.	
1935	1,215	373	2,079	867	..	..	9,681	2,685	5,439
1936	9,523	503	6,364	924	..	..	10,473	2,709	5,365
1937	2,155	609	2,263	1,072	178	145	11,714	3,440	7,082
1938	2,250	693	2,243	1,286	124	135	9,059	2,556	6,009
1939	3,517	896	3,236	1,947	190	220	11,150	3,115	8,285

BLEACHING POWDER

Production.—The production of bleaching powder was roughly 5,000 metric tons about twenty years ago, but it has since gradually increased amounting in 1939 to 83,258 metric tons. Production has always exceeded domestic requirements and the surplus is exported. The principal markets are China, Manchoukuo, British India, Hong-kong, Kwantung Province, the Dutch East Indies, the Philippines, the U.S.A., etc.

Table 13. Demand and Supply of Bleaching Powder
(In Metric tons)

Year	Production	Exports		Supply	Year	Production	Exports		Supply
		Qty.	%				Qty.	%	
1920	29,936	2,670	8.9	27,266	1934	66,155	4,247	6.5	60,733
1925	36,890	2,542	6.9	34,348	1935	77,080	6,489	8.7	67,765
1930	49,471	3,446	7.0	46,025	1936	78,321	8,505	10.9	69,816
1931	45,005	3,514	7.8	41,461	1937	91,903	6,990	7.6	84,913
1932	47,485	2,858	6.0	44,627	1938	84,712	2,950	3.5	81,762
1933	61,142	3,392	5.7	55,696	1939	83,258	6,481	12.8	76,777

CAUSTIC SODA

Due to the recent great development of the rayon industry the demand for caustic soda and its production have increased considerably. On the other hand, the import has greatly decreased, and since 1932 the domestic product 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 destination of caustic soda are China, the Dutch East Indies, Argentina, British India, Manchoukuo, Kwantung Province, Hong-Kong, Holland, the Philippines, etc.

Table 14. Demand and Supply of Caustic Soda & Soda Ash
(In Metric tons)

	Caustic Soda			Total Supply	Soda Ash			Total Supply
	Production	Imports	Exports		Production	Imports	Exports	
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	100,953	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	340,771	27,429	5,565	364,524	231,648	28,980	12,276	248,337
1938	440,760	266	11,615	429,411	242,885	19,515	5,053	257,347
1939 (Estimate)	423,182	0	24,283	398,899	294,931	19,232	1,488	312,675
1938 (Jan.-July)	224,972	261	3,793	221,440	133,217	11,475	594	144,098
1939 (")	213,577	—	8,418	205,159	128,197	4,767	225	132,739

Note: † Inclusive of natural soda.

Table 15. Estimated Consumption of Caustic Soda By Industries
(Unit: 1,000 Metric tons)

Year	Rayon	Staple Fibre	Soap	Dye-stuffs	Pharmaceutical and Others	Total	Year	Rayon	Staple Fibre	Soap	Dye-stuffs	Pharmaceutical and Others	Total
1937	148	76	25	55	58	262	1939	131	184	30	55	70	470
1938	91	169	25	55	65	405							

PAPER

Output.—The paper industry of Japan has made great progress in recent times. The output of paper produced by the members of the Japan Paper Association in 1939 was 2,017.7 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. Japan's per capita paper consumption, however, is still quite small, being 32 pounds as compared with 177 pounds in the United States, 146 pounds in Great Britain and 82 pounds in Germany.

Table 16. Japan's Position in Paper Production
(Prepared by the League of Nations)

Year	Japan	(Unit: 1,000 Metric tons)							World's Total
		U.S.A.	Canada	Germany	England	Sweden	U.S.S.R.	Finland	
1931	360	4,662	2,185	2,006	..	624	505	328	14,860
1932	264	3,993	1,888	1,803	..	614	479	340	13,750
1933	422	4,342	1,984	1,903	1,678	638	506	372	14,680
1934	457	4,341	2,530	2,100	1,900	694	566	413	16,130
1935	511	4,856	2,691	2,203	1,962	752	641	447	17,430
1936	549	5,417	3,126	2,521	..	779	764	528	19,240
1937	..	5,830	3,559	2,836	..	844	832	606	20,680

Paper Trust.—The Japanese paper industry is under the control of the Japan Paper Association. As in 1937 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 ¥224,994,000 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.

Recent Situation.—Strengthened control resulting in declining internal consumption but increased production was the outstanding de-

velopment in paper manufacture in 1939 and 1940. The stringency in supply became especially acute in the closing months of 1939 because of the general coal shortage. Taking into account, however, abnormalities of the wartime industrial system, supply and demand relations of paper remained in a more or less harmonious balance. This was largely attributable to the further strengthening of restrictions on consumption of newsprint and other paper, of which periodicals are the largest users.

Price quotations on paper have been fixed by the Government, and have officially been left unchanged in recent years.

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

Table 17. Demand and Supply of Paper

(In Million lbs.)

Year	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	103	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	28.7
1938	1,948	14	201	2,164	218	158	1,860	25.8
1939	2,018	3	158	2,178	230	174	1,774	24.3
1938 (Jan.-July)	1,112	13	201	1,326	99	202	1,025	.....
1939 (")	1,164	2	183	1,349	153	188	1,008	.....

Note:—Production, import and export based on the investigation of the Paper Producers Association; Stocks by the Japan Warehouse Association.

Paper Export.—The export of paper is only about 10 per cent. of the production. The paper industry has been essentially domestic in char-

acter. It has lately been extending its activity to foreign markets.

Table 18. Output of Paper Classified

(Unit: Million Pounds)

Year	Fine Printing Paper		Newsprint		Others		Total	
	Output	Sales	Output	Sales	Output	Sales	Output	Sales
1914	106.8	103.9	152.6	150.6	68.2	63.6	327.6	318.0
1922	215.0	212.6	304.3	313.0	110.1	111.9	629.3	637.6
1927	371.2	375.4	488.8	495.0	291.6	261.1	1,151.5	1,131.6
1932	382.8	429.4	543.6	567.2	384.9	418.2	1,331.3	1,414.8
1935	509.3	474.4	736.2	729.6	474.1	476.6	1,719.6	1,680.7
1936	544.2	570.1	768.1	766.5	513.5	536.0	1,825.8	1,872.6
1937	655.6	616.6	825.2	811.3	648.3	605.0	2,129.0	2,032.9
1938	400.8	483.4	857.5	852.9	690.2	694.1	1,948.5	2,030.4
1939	384.8	391.8	873.2	869.8	759.6	774.3	2,017.7	2,035.9

Table 19. Imports and Exports of Papers

(Unit: In 1,000 lbs.)

Year	Exports			Imports			Total incl. others
	Western style paper	Japanese style paper	Card board	Printing	Newspaper	Wrapping	
1926	81,195	2,957	16,394	37,576	9,828	72,935	140,677
1931	141,197	3,650	36,303	13,584	81,008	34,060	146,314
1936	126,559	17,152	46,333	5,413	61,546	12,991	93,664
1937	135,653	45,818	66,799	6,012	90,841	19,371	135,092
1938	146,101	59,140	96,348	241	7,210	3,851	14,358
1939	230,554	79,849	96,278	36	0	650	2,727

PULP INDUSTRY

Pulp.—The principal pulp supplying districts in the Empire are Karafuto and the Hokkaido, the former representing 48% and the latter 27%.

Although pulp production is pursuing an upward course, 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.

Raw Material Resources.—Due to the heavy increase in paper demand projects are being studied to assure the country of sufficient supplies of timber resources for the future. At the present rate of increase in paper consumption it is estimated that the needle-leaved timber resources of Karafuto, which was computed at 5,500 million cubic feet in 1927, will be spent entirely in twenty years. To supplement the timber resources enterprises have been launched to turn bagasse into pulp in Taiwan,

while the Oji and Kanegafuchi interests are actively engaged in manufacturing reed pulp in Chosen and Manchoukuo, which hold bright prospects of alleviating fears of domestic pulp shortage.

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 Japanese Empire and Manchoukuo will be increased to 1,800,000 tons.

Table 20. Japan's Position in Wood Pulp Output

(Prepared by the League of Nations)

(In 1,000 Metric tons, dry weight)

Year	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	5,166	4,029	701	2,367	1,976	992	3,180	21,505
1937	837	5,963	4,665	740	2,564	2,131	1,097	3,524	24,260
1938	—	5,383	3,328	—	2,544	2,110	887	3,061	21,500

Table 21. Demand and Supply of Pulp

(In tons)

Year	Production		Imports	Total supply*	Total consumption
	Japan	Manchoukuo			
1925	414,706	—	77,440	497,146	492,146
1931	566,709	8,718	100,636	676,063	674,439
1932	551,120	11,704	101,168	663,992	715,692
1933	620,039	17,361	159,974	797,374	794,143
1934	708,996	13,737	227,122	949,855	890,755
1935	757,477	13,718	272,082	1,043,277	1,004,339
1936	802,565	13,171	326,552	1,142,288	1,384,257
1937	886,978	15,011	466,729	1,368,718	.....
1938	1,001,228	44,000	144,724	1,190,952	.....
1939	1,007,000	44,400	168,745	1,220,145	.....

Note: * Including balance brought forward from previous year.

CHEMICAL INDUSTRY

Table 22. 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 1941
		Wood pulp	Other pulp	Total	
Karaiwo	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

RUBBER

Although Japanese rubber manufacturing has already grown into a comparatively large industry consuming about 44,000 tons or 4% of the world consumption of crude rubber in 1939, and ranking fifth in rubber consumption after the United States, the United Kingdom, Germany and France, the general scale of factory production is as yet small.

Table 24. World Consumption of Rubber
(Prepared by Nanyo Rubber Planters' Assn.)

(Unit: 1,000 long tons)

Year	Japan	U.S.A.	U.K.	Germany	France	U.S.S.R.	Canada	Italy	Total incl. others
1932	53.0	314.6	78.5	41.0	60.0	30.0	19.0	13.0	670.2
1933	62.0	416.0	79.4	50.0	62.0	31.0	18.0	17.0	818.3
1934	74.0	454.1	108.9	58.0	52.0	47.0	29.5	23.0	927.0
1935	52.0	496.6	95.4	63.0	57.0	35.0	26.0	20.0	937.0
1936	61.7	547.8	80.5	66.0	58.0	34.0	29.0	18.0	1,020.1
1937	60.7	543.1	112.0	96.0	61.0	28.0	34.0	23.0	1,083.2
1938	46.0	411.3	103.0	87.0	59.0	23.0	25.0	25.0	911.3
1939	44.0	577.4	125.4	72.0	62.0	25.0	32.0	22.0	1,078.7

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 200 million yen in 1937. 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 1938, amounted to 60 million yen and 40 million yen respectively. Belting, toys and tubes come next in importance.

Table 25. Production of Rubber Goods
(In ¥1,000)

Year	Shoes & other footwear		Toys	Tyres & accessories	For machinery	Belts	Rubber tubes	Hard rubber manufactures	Total incl. others
	No. of pairs (1,000)	Value							
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

Table 23. Pulp Consumption Classified
(Unit: Metric tons)

Year	Paper	Rayon	Staple Fibre	Cellophane	Total
1929	684,597	14,407	—	8	699,012
1932	676,256	38,794	315	527	715,892
1933	738,458	53,420	558	1,740	794,140
1934	786,399	82,276	2,739	2,184	873,598
1935	843,945	118,372	5,576	3,011	970,904
1936	900,576	152,263	29,410	4,299	1,086,548
1937	1,003,215	181,222	97,933	7,970	1,290,340
1938	881,580	113,241	175,186	6,912	1,176,919

CHEMICAL INDUSTRY

(Continued) Shoes & other footwear

Year	No. of pairs (1,000)	Value	Toys	Tyres & accessories	For machinery	Belts	Rubber tubes	Hard rubber manufactures	Total incl. others
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
1937	64,637	45,821	5,024	75,087	2,521	13,872	7,560	7,814	201,711
1938	55,396	36,988	4,864	60,459	8,588	17,083	10,553	7,843	184,764

Rubber Imports.—An attempt was once made to introduce rubber trees in the Bonin Islands and in Formosa, but it proved a failure. Japan derives the whole of her supply of crude rubber from abroad. The volume which reached 63,755 metric tons in 1937, fell to 43,032 metric

tons in 1939. The most important source is British Malaya, followed by the Netherlands East Indies.

The large producers of rubber tires in Japan are the Dunlop, the Yokohama Rubber and the Bridgestone Tyre Companies.

Table 26. Imports of Crude Rubber and Exports of Principal Rubber Goods
(In ¥1,000)

Year	Imports of crude rubber		Exports of Rubber Manufactures				
	Quantity (m. tons)	Value	Boots & shoes	Tires of vehicles	Toys	Others	Total
1930	—	17,930	6,592	5,273	2,049	1,279	15,194
1931	—	13,183	4,394	3,858	2,198	1,044	11,495
1932	—	15,988	4,889	3,725	5,506	1,479	15,600
1933	—	29,685	8,213	8,839	8,633	3,327	29,013
1934	71,823	57,337	3,332	9,994	6,406	5,215	24,948
1935	59,681	51,636	2,699	9,945	4,195	6,568	23,408
1936	63,886	72,956	1,832	9,939	4,641	7,423	23,575
1937	63,755	99,217	2,886	12,983	4,279	10,215	30,363
1938	47,061	51,374	1,568	7,799	2,197	10,323	21,776
1939	43,032	57,490	563	9,562	2,383	13,823	26,332

Rubber Plantations.—Japan's investments in rubber plantations abroad were estimated in 1937 at ¥85,000,000. The output of rubber from such plantations was estimated in 1937 at 12,555 tons.

Table 27. Japanese Rubber Plantations Abroad

District	Year	Leased area (acres)	Area under cultivation (acres)	Production area (acres)	Production Capacity (m. tons)	Actual Output (m. tons)
Malay	1933	96,272	63,999	53,040	10,056	8,926
	1937	104,076	75,939	58,383	—	—
British North Borneo	1933	31,925	13,222	11,931	2,067	1,585
	1937	23,565	13,487	12,765	—	—
Sarawak	1933	7,184	4,973	3,693	644	567
	1937	7,848	5,134	3,219	—	—
Dutch Sumatra	1933	290,738	22,411	16,555	2,705	2,048
	1937	147,019	22,886	17,539	—	—
Dutch Borneo	1933	45,390	12,633	8,221	1,816	1,515
	1937	40,806	13,657	11,731	—	—
Dutch Java	1933	42,946	4,602	3,539	757	638
	1937	4,539	4,193	3,038	—	—
Dutch Celebes	1933	—	—	—	—	—
	1937	1,489	131	123	—	—
Philippines	1933	50	50	50	13	13
	1937	123	123	123	—	—
Total	1933	514,505	121,890	97,029	18,059	15,292
	1937	329,465	135,544	106,921	—	*12,555

Note: * Estimate.

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 1938 it ranked as the seventh largest in the list of manufacturing industries, accounting for 2.2 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 1938 being as follows: Cement, ¥107,864,593; Glass & Glass Ware, ¥98,679,289; Pottery and Porcelain ¥75,709,315.

POTTERY AND PORCELAIN

The value of production of pottery and porcelain in Japan in 1938 amounted to over 75 million yen and if the factories employing less than 5 operatives are included, the total output value will advance to approximately 100 million yen. About 50 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.

Table 28. Chinaware Production

Year	No. of		Value (¥1,000)					Total incl. others
	Factories	Operatives	Kitchen utensils	Fixtures	Industrial materials	Insulators	Toys	
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
1937	6,566	62,231	58,791	16,161	8,860	15,155	4,015	115,191
1938	6,674	58,116	42,253	12,071	11,938	16,609	2,764	100,008

Note:—Inclusive of factories employing less than 5 workers each.

Table 29. Production of Tiles, Drainage Pipes and Bricks

Year	Value in ¥1,000									
	Tiles				Drainage Pipes			Bricks and Fireproof Materials		
	Number		Output Value		Factories	Operatives	Output Value	Factories	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	38,398	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	
1937	10,211	35,795	21,571	24,911	921	4,324	5,511	..	..
1938	9,107	31,704	22,151	25,351	838	3,846	6,324	..	..

Note:—Inclusive of factories employing less than 5 workers each.

Table 30. Exports of Potteries by Kinds
(Kin=0.6 kilogram)

Year	For Domestic Use				For Building		For Electrical Use		Total Value (¥1,000)
	Tea Sets (1,000 sets)	Other table-ware (1,000 doz.)	Flower Vase (1,000 doz.)	Others (¥1,000)	Tile (1,000 kin)	Others (1,000 kin)	Insulator (1,000 kin)	Others (¥1,000)	
1935	38,455*	1,497	1,770	2,668	378	472	330	42,735	
1936	39,673*	1,443	2,011	3,182	321	674	383	53,971	
1937	179,829	25,525	1,633	3,457	3,342	699	1,174	40,477	
1938	123,999	15,986	866	2,592	3,155	560	1,378	48,624	
1939	134,676	19,444	1,159	3,409	3,583	560	1,378	48,624	

Note:—* Indicates in 1,000 dozens.

CEMENT

Development of Cement Industry.—The cement industry was started in Japan in the closing decade of the 19th century. Began 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. 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 4,163,000 metric tons in 1939.

Recent Situation.—The Cement Association on July 18, 1940 lowered its production curtailment rate from the former 55% to 30%. This is the first broad increase of mill operation in eight years, and means output at near-capacity since some of the kilns now in suspension

cannot be employed on an economical basis. A large increase in demand has been noted of late consequent upon expansion plants in the heavy industries, but supply has been restricted to some extent by shortages in coal allocation. The allocation of coal to the cement industry for the period from April to September 1940 is fixed at 1,200,000 metric tons, which is 500,000 metric tons larger than the preceding period. Notwithstanding this, cement deliveries during April showed an increase of merely 40,000 metric tons over those in February. Based upon coal allocation, the cement deliveries should have been 560,000 tons, but the actual deliveries were short by 260,000 tons. This discrepancy between the coal supply and cement output in April was due to the fact that the actual supply of coal was not up to fixed allocation. In June, however, the coal supply which had not been up to schedule in February, was rather abundant, especially in the Kwansai districts, where mills could operate at 70% of capacity, and the output increased.

Table 31. Japan's Position in Cement Production
(Prepared by the League of Nations)

Year	(In 1,000 Metric tons)								World's Total
	Japan*	U.S.A.	Germany*	U.K.	U.S.S.R.	France	Italy		
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	12,605	7,300	5,837	4,275	4,258	79,900	
1938	5,469	18,300	15,600	7,900	5,696	..	4,587	84,000	

Note:—* Inclusive of colonies. † Inclusive of Saar.

Table 32. Demand and Supply of Cement
(Unit: Quantity in 1,000 m. tons)

Year	Production		In Stock at year end				Market price*		Curtailment rate %
	Cement	Clinker	Delivered	Exports	Cement	Clinker	Highest	Lowest	
1932	3,731	3,739	3,791	443	100	89	1.16	1.12	57.5-50
1933	4,791	4,773	4,749	390	132	72	1.18	1.16	55-40
1934	4,629	4,832	4,613	321	133	109	1.16	1.15	47-52
1935	4,500	4,491	4,436	433	211	85	1.15	1.09	57-53

Year	Production		Delivered	Exports	In Stock at year end		Market price*		Current month %
	Cement	Clinker			Cement	Clinker	Highest	Lowest	
1936	4,264	4,359	4,273	352	202	180	1.09	1.09	63 -55
1937	4,650	4,666	4,641	434	216	200	1.05	0.98	65 -56
1938	4,289	4,384	4,280	278	228	297	1.15	1.05	69 -59
1939	4,168	4,001	4,281	287	2,073	2,437	1.15	1.05	68 -60

Note: *Par 50 kilograms ex-godown.

Table 33. Cement Consumption Classified
(Unit: 1,000 Metric tons)

Year	Railways	Electric works	Harbor works	Roads and Bridges	Other Public works	Buildings	Mining	Retail	Cement ware	Total incl. others
1932	322	115	114	427	355	686	30	1,173	78	3,596
1933	365	159	202	488	446	927	47	1,227	101	3,981
1934	305	227	139	327	354	955	59	1,380	125	3,887
1935	235	301	109	285	376	1,073	80	1,255	115	3,844
1936	247	248	102	268	374	1,029	62	1,269	111	3,730
1937	285	421	109	240	375	1,149	102	1,301	162	4,163
1938	242	511	97	187	346	1,046	124	1,151	153	3,884
1939	188	387	81	158	393	1,018	125	1,083	211	3,655

Table 34. Export of Cement By Destinations
(Unit: 1,000 Kin: 1 kin=0.6 kilogram)

Year	Manchou-kuo	Kwantung	China	Hongkong	British India	Straits Settlement	D. E. I.	Total incl. others
1933	17,536	164,279	42,867	147,526	109,556	67,469	146,078	790,401
1934	15,028	411,963	37,755	103,725	57,072	108,733	87,607	899,842
1935	6,615	200,144	37,263	116,672	28,642	140,992	74,221	1,091,806
1936	6,619	178,665	37,585	91,518	22,495	150,499	81,630	1,070,275
1937	371	22,047	22,083	26,480	25,931	136,384	140,801	977,189
1938	57,258	76,319	126,100	0	8,967	56,917	148,028	819,053
1939	224,714	314,321	208,791	2,065	4,476	58,048	130,073	1,164,276

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 an exporter of this item. In 1939 the export of glass manufactures accounted for approximately ¥25,900,000. 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 35. Glass Manufactures Production by Kinds
(In ¥1,000)

Year	Kitchen utensil	For decorative purpose	For illuminating purpose	Bottle	Sheet glass	Total incl. others
1925	2,610	2,805	2,426	20,765	17,286	47,856
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
1937	7,023	2,384	2,104	31,326	40,690	96,375
1938	6,531	1,986	2,304	42,896	37,092	104,971

Table 36. Export of Glass & Glasswares Classified
(Value in ¥1,000)

Year	Window Glass		Thermos		Bottles		Drinking Glass		Tablewares		Total incl. others
	Qty. (1,000 sq. ft.)	Val.	Qty. (1,000 doz.)	Val.	Qty. (1,000 doz.)	Val.	Qty. (1,000 doz.)	Val.	Qty. (1,000 doz.)	Val.	
1935	25,373	1,219	301	2,284	25,286	5,741	6,776	3,891	1,369	1,242	23,337
1936	25,121	1,234	395	2,886	27,332	5,834	7,455	4,081	1,548	1,416	25,627
1937	27,867	1,561	410	3,131	36,225	8,030	8,942	5,065	2,238	2,542	33,572
1938	23,068	1,364	262	2,138	29,485	7,001	6,311	3,583	1,831	1,571	26,886
1939	40,397	2,403	242	2,607	26,556	4,818	7,489	4,567	1,241	1,351	27,055

Table 37. Imports of Glass By Kinds
(Quantity in 1,000 sq. meters: Value in ¥1,000)

Year	Uncoloured Sheet Glass				Others		Total		Grand Total incl. Glassware, etc.
	Under 2.2 mm.	Under 4 mm.	Total incl. others	Quantity	Val.	Quantity	Val.		
1933	1,410	1,090	35	255	1,611	2,968	166	1,623	2,071
1934	1,131	954	44	357	1,352	3,177	177	1,866	1,667
1935	477	337	42	288	695	2,435	176	1,810	877
1936	1,120	694	23	147	1,224	1,796	56	227	1,280
1937	591	584	19	107	656	1,301	73	293	728
1938	55	71	8	52	77	689	16	71	94
1939	0	0	1	4	2	101	0	28	2

VEGETABLE OIL

The value of output of vegetable oils reached over 78,952,000 in 1938, showing an increase of 2.8 fold since 1930. Production of soya bean oil was largest, accounting for ¥21,821,000 in 1938.

Table 38. Vegetable Oil Production
(Quantity in Metric tons; Value in ¥1,000)

Year	Rape Seed		Sesamum		Peanut		Camellia		Cotton Seed		Coronut		Total Value incl. others
	Qty.	Val.	Qty.	Val.	Qty.	Val.	Qty.	Val.	Qty.	Val.	Qty.	Val.	
1930	29,388	8,051	6,408	2,151	512	168	15	36	5,828	2,336	6,946	2,690	2,182
1931	23,091	5,547	7,415	2,365	1,464	347	26	38	6,077	1,234	9,892	2,183	3,182
1932	22,297	5,785	6,605	2,477	611	228	41	105	5,830	1,307	8,094	2,183	2,940
1933	21,185	7,074	6,129	2,580	995	363	47	37	9,632	2,581	12,053	3,182	4,828
1934	32,700	10,329	6,584	2,546	1,178	457	69	59	10,151	3,013	14,775	2,940	6,557
1935	45,354	16,780	5,616	2,877	1,140	569	81	58	19,423	6,589	17,598	4,828	6,557
1936	39,099	17,684	6,993	3,584	1,028	551	47	42	20,586	7,829	20,287	6,557	6,633
1937	28,893	10,928	6,653	3,693	7,643	4,228	752	369	23,154	10,880	16,112	6,633	9,565
1938	23,675	9,209	6,351	3,280	9,872	3,636	23	31	10,475	3,682	22,804	9,565	32,245

Table 39. Exports & Imports of Vegetable Oils
(In 1,000 kin: 1 kin=0.6 kilogram)

Year	(A) Exports								
	Linseed Oil	Perilla Oil	Soya Bean Oil	Colza Oil	Cotton Seed Oil	Sesame Oil	Castor Seed Oil	Camphor Oil (Incl. Saffrol)	Total incl. others (¥1,000)
1933	788	12,664	2,242	10,969	.....	2,900	1,370	29,755	7,161
1934	601	12,292	6,010	26,405	12,112	4,823	4,655	51,074	11,033
1935	1,175	35,461	8,238	20,711	20,711	154	709	126,909	31,607
1936	1,411	54,864	4,826	40,092	18,739	140	513	130,880	35,496
1937	1,613	21,649	7,876	12,363	33,948	393	322	85,546	27,746
1938	896	6,660	1,795	8,922	9,237	174	81	40,327	11,689
1939	1,227	19,270	15,682	18,271	684	342	7	69,356	21,849

Year	(B) Imports								
	Turpentine Oil (Kilolitres)	Castor Oil (1,000 kin)	Olive Oil (¥1,000)	Coconut Oil (1,000 kin)	Soya Bean Oil (1,000 kin)	Cotton Seed Oil (1,000 kin)	Paulownia Oil (1,000 kin)	Fragrant Volatile Oil	
1933	368	0	357	1,649	128	2,785	1,538	553	
1934	293	1.9	563	2,292	373	1,397	1,757	556	
1935	205	0.5	909	2,560	215	1,013	1,525	749	
1936	289	90	749	3,314	710	2,565	1,830	749	
1937	256	55	1,234	2,400	228	10,324	1,439	807	
1938	142	905	713	267	321	140	662	184	
1939	26	..	253	171	2,771	..	1,932	54	

Fish Oil and Animal Fat

Japan produces a significant amount of cod, herring, sardine and whale oil. The value of sardine oil showed a sudden spurt in 1937 and

rose to 26,596 metric tons as compared with 6,244 metric tons in 1935, but fell to 20,435 metric tons in 1938. The value and volume of output of fish oil is subjoined:

Table 40. Production of Fish Oil & Animal Fat
(Quantity in Metric tons; Value in ¥1,000)

Year	Cod		Herring		Sardine		Whale		Others Val.
	Qty.	Val.	Qty.	Val.	Qty.	Val.	Qty.	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	4,782	2,366	74	17	26,596	6,056	6,991	1,616	4,669
1937	998	1,715	160	42	16,026	3,549	7,883	1,956	12,792
1938	1,256	1,627	74	15	20,435	4,295	5,534	2,112	7,865

Year	Puna Oil (Cocoon)		Beef Tallow		Pork Tallow		Total Value incl. other
	Qty.	Val.	Qty.	Val.	Qty.	Val.	
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
1937	821	350	3,973	1,508	1,043	534	22,857
1938	3,188	1,175	2,422	1,178	1,187	409	20,056

Table 41. Export of Fish Oil, etc.

(Unit: in 1,000 kin: 1 kin=0.6 kilogram)

Year	Total incl. others (¥1,000)						
	Cod oil	Shark oil	Sardine oil	Whale oil	Beef tallow	Lard	Fatty acid
1933	.....	27,516	1,108	.....	.....	.....	28,624
1934	.....	33,389	1,194	.....	.....	.....	34,583
1935	9,003	6,283	25,131	5,278	.....	.....	60,212

Year	Total incl. others (¥1,000)						
	Cod oil	Shark oil	Sardine oil	Whale oil	Beef tallow	Lard	Fatty acid
1936	7,253	8,926	35,587	4,730	.....	.....	65,849
1937	6,306	8,887	62,602	3,855	142	277	91,990
1938	2,131	8,367	26,879	172	219	296	48,623
1939	2,844	5,062	33,234	1,062	199	23	16,673

Table 42. Demand & Supply of Glycerine and Hardened-oil

(Unit: Metric ton)

Year	Glycerine			Hardened-Oil			
	Production	Import	Total Supply	Production	Import	Export	Total Supply
1932	6,312	2,801	9,113	50,148	249	21,094	29,303
1933	6,281	1,127	7,408	61,460	141	23,422	38,179
1934	6,921	651	7,572	63,252	818	24,096	39,974
1935	8,535	159	8,694	82,087	2,590	35,178	49,499
1936	8,342	51	8,393	75,664	254	36,477	39,441
1937	.....	*31	.....	97,132	229	32,806	64,555
1938	.....	.....	.....	108,088	2,343	20,920	89,511
1939	.....	.....	.....	.....	3,043	21,856	.....

Note: * January to July.

Soap

A large increase in the production of soap has been noted in recent years. In 1938 the total value of output was ¥72,197,000 as com-

pared with ¥35,362,000 in 1930. Exports of soap have also shown a marked increase, advancing from ¥1,410,000 in 1930 to ¥17,413,000 in 1939.

Table 43. Production and Export of Soap

Year	Production				Export				
	Laundry (M. tons)	Sanitary (M. tons)	Industrial (M. tons)	Total (1,000 doz.)	Powder (M. tons)	Total output (¥1,000)	Toilet (1,000 doz.)	Laundry (1,000 kin)	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	1,170	.....	1,197
1933	46,442	98	6,612	18,027	12,240	37,692	3,132	.....	3,203
1934	61,761	230	6,324	20,303	15,364	42,934	3,652	.....	3,541
1935	70,833	578	10,426	19,701	15,539	50,258	4,017	.....	3,981
1936	91,132	338	28,330	20,732	14,682	51,909	3,984	.....	4,246
1937	104,645	329	12,854	27,660	17,171	55,088	4,021	21,227	5,531
1938	100,681	442	10,165	23,810	22,937	72,197	4,170	32,087	7,837
1939	.....	.....	.....	.....	.....	.....	7,166	56,790	17,413

Menthol

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

Table 44. Production and Export of Menthol

Year	Production				Export				
	Menthol Crystal		Peppermint Oil		Total Output Value (¥1,000)	Peppermint Oil		Menthol Crystal	
	Qty. (M. ton)	Value (¥1,000)	Qty. (M. ton)	Value (¥1,000)		Qty. (1,000 kin)	Value (¥1,000)	Qty. (1,000 kin)	Value (¥1,000)
1933	281	4,730	289	1,645	6,574	522	2,007	5,308	5,284
1934	298	5,469	329	2,162	7,631	541	1,838	5,097	4,557
1935	343	6,185	437	2,982	9,167	539	2,282	5,157	5,401
1936	340	6,182	373	3,099	9,280	578	2,963	4,923	4,986
1937	399	7,698	423	3,451	11,149	633	2,976	6,242	6,116
1938	361	6,899	468	3,321	10,220	486	2,168	389	4,381
1939	.....	.....	.....	.....	.....	553	2,584	448	5,313

Camphor

Japan produces a goodly amount of camphor. In 1938 the production of camphor including imports from Taiwan was almost 5,200 metric tons, while camphor oil accounted for 3,748 metric tons. Japan expected in 1939 camphor to the amount of 1,538 metric tons and camphor oil to 214 metric tons.

Table 45. Output and Export of Camphor and Camphor Oil

(Unit: Metric ton)

	Camphor			Camphor Oil			Production*		
	Production	Import from Taiwan	Export	Production	Import from Taiwan	Export	Crude Camphor	Camphor Oil	Refined Camphor
1933	3,699	606	1,656	2,004	2,424	822	1,844	1,592	1,075
1934	2,905	1,133	1,678	2,118	2,593	652	2,448	2,085	1,123
1935	4,419	1,096	1,700	2,308	2,584	622	2,934	2,564	1,124
1936	4,704	1,309	1,480	2,561	2,302	605	3,134	2,652	986
1937	4,851	1,199	1,390	1,660	2,397	770	2,688	2,211	986
1938	3,764	1,381	1,159	1,893	2,355	614	1,956	1,623	1,599
1939		1,778	1,538		2,192	214			

Note: *—Indicates production investigated by the Monopoly Bureau, others by the Dept. of Commerce and Industry.

Table 46. Statistics of Celluloid Industry

(a) Production

	Sheet & Bar Celluloid		Celluloid Manufactures (¥1,000)			Grand Total
	(Metric ton)	(¥1,000)	Toys	Combs	Total incl. others	
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
1937	14,227	25,391	3,408	2,486	12,880	38,271
1938	11,902	24,090	1,833	1,980	12,813	36,903

Celluloid

A remarkable expansion in production of celluloid and celluloid manufactures is noted in recent times. The output of sheet and bar celluloid amounted to 11,902 metric tons in 1938, while the value of celluloid manufactures were ¥12,813,000.

(b) Export

	Sheets & Bar		Manufactures (¥1,000)				Grand Total
	(M ton)	(¥1,000)	Toys	Combs	Armband	Total incl. others	
1932	511	876	2,527	1,467		5,490	6,366
1933	1,320	2,363	3,173	3,110		8,635	10,993
1934	1,804	3,303	3,708	4,260		11,191	14,494
1935	2,033	3,469	6,064	4,414	1,983	15,550	19,021
1936	2,424	3,717	6,838	3,857	1,815	16,280	19,997
1937	2,100	3,952	7,606	4,854	2,711	20,574	24,576
1938	1,225	2,730	4,841	2,841	1,664	13,400	16,130
1939	1,403	3,152	4,510	2,882	1,294	12,544	15,696

References:

Table Nos.: 1 d, 2-4 b, 5 c, 6 d, 7 b, 8 c & d, 9 c, 10 d, 11-12 c, 13-14 c & d, 15 a, 16 e, 17-18 f, 19 c, 20, e, 21-22 b, 23 g, 24 h, 25 d, 26 c, 27 i, 28-29 d, 30 c, 31 e, 32-33 j, 34 c, 35 d, 36-37 c, 38 d, 39 c, 40 d, 41 c, 42 d, 43-46 c & d.

Key: a—Toyo Keizai Shimpou-sha. f—Paper Producers' Assn.
 b—Dept. of Agriculture & Forestry. g—Lumber Year Book.
 c—Dept. of Finance. h—Nanyo Rubber Planters' Assn.
 d—Dept. of Commerce & Industry. i—Dept. of Overseas Affairs.
 e—League of Nations. j—Cement Manufacturers' Assn.

CHAPTER XXXIV
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 year 1939-40 the production of cane sugar and beet sugar was estimated at 22,145,000 piculs in Japan and her colonies. Of this amount about 97% 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 seven-folds since 1910.

Table 1. Japan's Position in Cane Sugar Production

(Prepared by Weekly Statistical Sugar Trade Journal)

(Unit: in 1,000 long tons)

	Japan & Taiwan	Hawaii	Cuba	Brazil	British India	Java	Philippines	Australia	World Total
1925-6	617	705	4,885	677	4,997	2,279	436	522	16,293
1932-3	798	925	1,995*	885	4,859	1,379*	1,145	538	16,629
1933-4	803	836	2,274*	638	5,242	636*	1,411	673	16,769
1934-5	1,175	860	2,537*	762	5,306	505*	620	646	16,419
1935-6	1,090	907	2,588	1,014	6,102	583	877	652	18,514
1936-7	1,193	822	3,013	884	4,537	1,392	998	787	19,866
1937-8	1,204	819	3,018	985	3,779	1,376	945	810	19,004
1938-9	1,664	855	2,759	1,081	2,889	1,543	877	823	18,437
1939-40†	1,482	850	2,793	1,112	3,800	1,566	990	825	19,018

Note: † Estimates.
 * Curtailment effected.

Table 2. Comparison of Per Capita Sugar Consumption

(Unit: Kilogram)

	Japan	Germany	France	Holland	England	Italy	U.S.A.	U.S.S.R.
1901-2	...	13.7	13.5	12.0	45.0	3.0	35.2	6.9
1912-13	...	21.3	19.7	19.5	41.7	5.3	43.0	6.9
1930-31	13.1	26.2	26.0	40.3	49.1	9.0	48.7	10.3
1931-32	13.8	23.1	24.2	40.5	47.1	8.1	47.5	9.2
1932-33	10.0	22.4	25.1	40.8	45.3	7.6	49.6	5.8
1933-34	10.1	23.1	24.9	36.9	48.0	7.7	45.1	6.9
1934-35	11.2	23.7	25.7	36.2	48.6	7.7	46.1	8.0
1935-36	11.1	24.9	25.3	28.8	49.6	8.4	48.1	12.9
1936-37	11.0	26.7	26.6	28.7	52.1	8.4	51.3	11.5
1937-38	11.1	26.8	24.8	29.2	27.1	9.1	43.4	13.2

Sugar Consumption.—Sugar consumption in Japan proper has yearly expanded until it now amounts to more than 12,949,000 piculs as compared with 5,245,000 piculs in 1914. Per capita yearly consumption has also risen from 9.76 kin in 1914 to 17.85 kin in 1938.

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.

Table 3-A. Demand and Supply of Sugar in Japan Proper

(Unit: in 1,000 piculs)

Year	Production*	Imports from		Exports to		Consumption	
		Abroad	Colonies	Abroad	Colonies	Total	Per capita† (Kin)
1914	1,411.7	3,313.4	2,273.5	1,313.2	440.4	5,245.0	9.76
1920	1,164.9	2,973.8	3,662.1	1,018.1	109.6	6,613.1	11.97
1926	1,607.3	7,585.3	7,448.9	3,063.0	249.4	13,329.2	18.84
1932	2,058.6	671.2	14,728.4	1,389.5	272.7	15,796.0	23.72
1933	2,118.7	2,210.1	10,541.1	2,172.3	162.8	12,535.3	18.56
1934	1,946.1	1,732.1	11,616.3	2,019.8	211.4	13,063.3	19.06
1935	2,316.8	2,341.8	15,152.5	2,669.2	227.9	16,914.0	24.30
1936	2,505.2	3,600.0	13,076.6	2,978.6	241.2	15,962.0	22.61
1937	2,237.4	2,845.0	13,043.4	2,482.1	236.5	15,641.2	21.85
1938	2,410.3	639.8	12,411.8	2,267.8	245.0	12,949.1	17.85

Note: * Represents year ending September 30.
† 1 kin=0.6 kilogram.

Table 3-B. Sugar Production of Japanese Empire

(1,000 piculs)

Year Ending Sept. 30:	Cane Sugar			Beet Sugar			Total
	Taiwan	South Seas	Japan Proper	Hokkaido	Chosen	Karafuto	
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	—	—	13,469
1935	16,098	1,135	1,715	587	—	—	19,532
1936	15,028	819	1,949	516	—	—	18,312
1937	16,789	961	1,557	678	—	49	20,035
1938	16,496	1,242	1,725	695	—	62	20,220
1939	23,644	1,172	2,390	681	—	65	27,951
1940	18,887	970	1,814	415	—	59	22,145

Table 4. Sugar Exports

Year	Refined Sugar				Other Sugar		
	Manchoukuo (M. tons)	Kwantung (M. tons)	China (M. tons)	Total including others (M. tons)	Rock (M. tons)	Cube (M. tons)	Total incl. others (M. tons)
1933	5,820	60,960	54,120	130,320	14,909	6,300	1,147
1934	9,650	42,900	62,520	121,200	13,532	4,800	990
1935	13,600	47,700	88,920	159,840	17,577	3,780	1,782
1936	11,800	107,400	54,300	178,740	20,977	3,840	1,540
1937	13,000	60,120	69,440	148,920	18,576	2,524	1,909
1938	17,600	76,320	42,120	136,080	23,654	3,391	3,354
1939	14,200	38,220	59,220	111,650	28,677	3,952	2,932

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. But as a result of the Sino-Japanese hostilities restrictive measures have been imposed upon sugar imports for the time being.

Table 5. Imports of Sugar Classified

Year	Under No. 11 standard (m. tons)	Under No. 18 standard (m. tons)	Under No. 22 standard (m. tons)	Total incl. others		Rock sugar, molasses, (¥1,000)
				(m. tons)	(¥1,000)	
1933	3,402	42,004	86,917	132,607	12,794	21,499
1934	724	14,943	85,548	103,931	9,679	60,803
1935	2,338	17,671	120,162	140,510	12,701	113,004
1936	0	50,404	163,616	216,005	20,928	80,973
1937	0	31,183	137,233	170,704	18,806	79,331
1938	0	9,047	22,405	38,391	5,241	0
1939	.....	11	108	831	140	24

Table 6. Statistics of Modern Process Sugar Companies (1938-39)

Company	Capital		Modern Process Factories		Area of Plantation (Ko)	Production Clude (1,000 piculs)	Extract (%)
	Authorized	Paid up	No.	Centrifugal (Tons)			
Taiwan Seito	63,000	43,080	13	10,548	31,300	5,479	12.23
Meiji	58,000	45,200	7	8,616	28,723	5,137	12.24
Ensuiko	60,000	36,928	7	6,450	22,696	3,295	11.39
Dai-Nippon	74,420	66,708	16	14,702	41,411	6,374	11.74
Teikoku	27,000	22,050	6	3,683	14,628	1,984	12.65
Shinko	1,200	1,200	1	850	2,052	301	12.15
Taito	1,750	1,750	1	350	1,946	222	12.42
Sango-Konsu	3,350	3,350	1	350	609	108	11.98
Okinawa	7,500	7,500	4	1,450	.....	422	12.48
Hokkaido	5,000	5,000	2*	1,300*	8,860*	388*	13.02*
Nanyo Kohatsu	40,000	25,000	4	4,350	11,652†	1,172	11.85

Note: Ko=0.97 hectare. * Beet sugar. † Represents chq or 2.45 acres.

FLOUR MILLING

Production.—Flour output has increased by roughly three-folds in the past twenty-five years. In 1939 total production amounted to 37,957,000 bags. The chief flour milling districts are the prefectures of Kanagawa, Aichi, Hyogo, Fukuoka and Gunma.

Table 7. Demand and Supply of Wheat Flour in Japan Proper

Year	Quantity (1,000 bags: bag=22.2 k.g.)				Value (¥1,000)			
	Production	Import	Export	Balance	Production	Import	Export	Balance
1926	38,349	328	4,568	34,125	134,895	1,274	19,750	116,419
1934	46,084	45	11,954	34,175	125,004	146	28,451	96,699
1935	49,700	93	13,026	36,767	153,177	326	33,699	119,804
1936	38,993	101	5,852	33,242	155,603	3,471	17,621	141,453
1937	38,335	410	7,251	31,158	.....	1,948	30,745	.....
1938	42,964	19	12,862	30,121	.....	103	60,715	.....
1939	37,957	122	9,328	28,751	.....	432	54,227	.....

Note: Imported wheat converted into flour at a processing loss of 25% in volume.

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. The import of wheat was valued in 1939 at 4 million yen as compared with 44 million yen in 1933.

Exports.—The exports of flour in recent years have been growing markedly. The factors leading up to this remarkable expansion are the establishment of new markets in Manchoukuo and China and government encouragement of the flour milling industry.

Table 8. Export of Wheat Flour

(Unit: in 1,000 Kin: 1 Kin=0.6 Kilogram)

Year	Manchou-kuo	Kwantung	China	Straits Sett'mt	Philippines	D.E.I.	Total incl. others	
							(in ¥1,000)	(in ¥1,000)
1933	142,704	331,869	42,270	273	3,325	1,039	530,425	34,955
1934	140,203	289,982	1,713	203	5,730	899	442,737	28,452
1935	203,505	236,635	2,912	738	15,928	1,032	481,963	33,700
1936	73,649	106,586	8,997	2,436	11,866	1,957	216,533	17,622
1937	23,190	104,758	128,338	106	8,019	980	268,307	30,746
1938	119,860	167,918	1880,078	—	7	24	475,887	60,715
1939	146,049	155,443	34,661	—	4	0	345,156	54,228

Table 9. Import of Wheat by Countries of Origin

(Unit: in 1,000 Kin: 1 Kin=0.6 Kilogram)

Year	China	U.S.A.	Canada	Argentina	Australia	Others	Total incl. others	
							(in ¥1,000)	(in ¥1,000)
1933	0	4,937	187,461	171	659,333	146	852,047	44,384
1934	1,782	222,081	132,555	13,483	445,503	103	815,506	40,749
1935	300	4,599	88,179	47,835	555,808	45,009	741,730	43,199
1936	32,195	6,182	160,066	—	281,025	37,641	517,108	33,651
1937	2,520	1,890	65,518	24,181	167,999	49,302	311,410	29,604
1938	5,367	—	—	4,363	51,024	49,689	110,442	9,557
1939	27,958	—	—	—	4,175	21,778	53,912	4,090

Table 10. Capacity and Production of Four Principal Companies

Year	Capacity (Barrels) (1 barrel=88.8 kgs.)					Total production incl. others (bags) (1 bag=22.2 kgs.)
	Nishin 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	17,000	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	20,800*	18,800	5,000	3,000	47,600	38,335
1938	21,100	19,500	5,500	3,000	49,100	42,964
1939	23,000	21,600	5,600	3,000	53,200	37,957

Note: * A section of the factories was transferred to Chosen and Manchoukuo in 1937.

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 in 1938 of refined saké amounted to 7.7 million hectolitres valued at 353.3 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 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 11. Production of Alcoholic Drinks

(Unit: Quantity in 1,000 Hectolitres: Value in Million Yen)

Year	Refined sake		Sweet sake		Distilled liquor		Beer		Wine		Total incl. others Value
	Qty.	Val.	Qty.	Val.	Qty.	Val.	Qty.	Val.	Qty.	Val.	
1931	5,988	233.1	107	5.4	672	25.7	1,234	67.8	36.5	3.4	337.8
1932	7,167	237.8	125	7.1	762	29.2	1,420	68.2	30.9	3.5	348.4
1933	6,589	263.3	139	8.1	867	35.7	1,738	84.8	32.7	3.7	399.1
1934	6,295	250.9	125	6.8	786	32.6	1,840	86.0	56.5	4.1	384.2
1935	6,595	260.8	152	8.6	827	34.1	1,970	91.8	43.6	3.9	404.1
1936	6,345	272.3	140	8.6	844	49.6	2,248	105.0	61.3	4.5	435.7
1937	5,180	316.8	150	9.3	922	41.0	2,122	115.4	65.7	4.8	492.8
1938	7,762	353.3	166	10.1	831	44.1	2,310	148.4	73.1	6.7	568.4

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 1938. Total output in 1939 was 1,472,408 koku (koku 47.65 U.S. gallons).

Exports.—Beer exports 492.8 amounted in value to ¥10,019,410 in 1938 and to ¥8,602,000 in 1939; the principal markets were China (60%), Kwantung and Manchoukuo combined (20%) and British India (9%).

Table 12. Production and Export of Beer

(Quantity in koku; Value in ¥1,000)

Year ending Feb.	No. of breweries	Production Quantity	(b) Export		
			Calendar year	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
1938	15	1,275,055	1938	240,844	10,019
1939	15	1,472,408	1939	179,192	8,602

Note: Koku=47.65 U.S. gallons.

Table 13. Export of Beer by Destinations

(Unit: Koku; 1 Koku=47.65 U.S. gallons)

Year	Manchou-kuo	Kwantung	China	British India	Thailand	D.E.I.	Hawaii	Total incl. others	
								(in ¥1,000)	(in ¥1,000)
1933	15,988	37,944	12,647	16,255	4,433	29,944	3,806	132,373	7,684
1934	21,937	48,874	11,670	11,176	6,591	4,209	280	118,009	5,535
1935	29,160	50,780	11,792	14,167	5,175	3,669	2,262	135,107	5,871
1936	28,497	41,466	12,679	13,926	5,945	3,108	5,194	132,503	5,912
1937	7,507	52,680	23,523	16,969	3,926	2,481	7,723	134,977	5,686
1938	12,246	41,481	149,811	12,986	500	1,338	6,842	240,844	10,019
1939	8,350	26,398	106,865	15,768	840	2,119	5,461	179,192	8,602

Table 14. Production of Principal Beer Cos.

(Volume of Beer as assessed by the Dept. of Finance)

(Unit: Koku; 1 Koku=U.S. gallon 47.65)

Year	Dai-Nippon Beer Brewery Co.	Kirin Brewery Co.	Sakura Beer Co.	Tokyo Beer Co.	Total
1935	655,269	301,571	84,637	8,378	1,049,855
1936	762,672	354,891	84,556	8,837	1,210,956
1937	801,478	364,745	87,776	7,175	1,261,174
1938	970,062	405,745	94,705	7,084	1,476,596
1939	1,155,457	461,089	110,540	7,341	1,784,427

Note: Brands of beer of each company are as follows:

Dai-Nippon Beer Brewery Co.	"Yabisu," "Union," "Sapporo" & "Asahi."
Kirin Brewery Co.	"Kirin."
Sakura Beer Co.	"Sakura."
Tokyo Beer Co.	"Oraga."

Soft Drinks

The manufacture of soft drinks as a whole has been steadily rising in the last few years, the total value of production for 1938 being almost 38 million yen. Soda water represents over one-half of the entire output value.

Table 15. Manufacture of Soft Drinks

(Unit: ¥1,000)

Year	Soda Water	Lemonade	Syrup	Others	Total	No. of Factories	No. of Operatives
1934	7,802	1,601	1,849	5,496	16,748	—	—
1935	10,366	1,612	1,616	4,023	17,616	—	—
1936	8,742	1,724	2,119	6,395	18,980	414	2,166
1937	10,703	2,109	2,625	6,367	21,804	430	2,855
1938	22,777	3,330	3,447	8,290	37,845	452	2,380

FOODSTUFF INDUSTRY

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 16. Production of Canned Goods Classified

(Unit: Quantity in Metric ton; Value in ¥1,000)

	Beef & other meat		Fish & shell fish		Fruit		Vegetable		Total incl. others Value
	Qty.	Value	Qty.	Value	Qty.	Value	Qty.	Value	
1933.....	3,237	2,730	22,696	12,557	3,576	2,103	7,496	2,810	34,259
1934.....	1,816	1,932	40,116	22,562	6,572	2,819	8,440	3,669	43,409
1935.....	2,577	2,273	41,303	19,291	8,387	3,821	9,609	3,709	46,129
1936.....	2,920	2,609	59,035	29,988	22,538	7,144	10,854	4,372	60,270
1937.....	5,671	5,607	73,214	38,385	28,698	9,663	20,210	7,693	82,697
1938.....	8,764	9,591	72,141	38,343	45,035	18,089	27,619	10,666	102,363

Table 17. Output of Dairy and Meat Products

(Unit: Quantity in 1,000 kin (1 Kin=0.6 kilogram); Value in ¥1,000)

	Condensed milk		Milk powder		Butter		Artificial Butter		Total incl. others
	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value	
1932.....	18,698	6,107	1,270	1,307	3,069	2,767	1,909	465	
1933.....	24,241	8,531	1,545	1,743	3,504	3,903	2,736	478	
1934.....	29,716	9,621	2,397	2,800	4,162	4,083	2,714	661	
1935.....	33,897	10,345	1,716	2,351	4,489	4,767	2,318	647	
1936.....	30,167	9,688	2,009	2,908	4,087	4,789	4,657	976	
1937.....	39,700	14,355	2,621	3,914	4,218	5,490	5,894	1,577	
1938.....	33,780	13,786	2,761	4,629	5,269	7,203	5,830	1,643	

	Cheese		Ham		Bacon		Other meat products		Total incl. others
	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value	
1932.....	26	18	1,760	970	171	72	1,781	487	13,511
1933.....	73	61	2,195	1,484	261	118	1,678	603	18,737
1934.....	151	102	2,179	1,553	272	141	1,532	713	20,889
1935.....	174	107	2,994	2,279	394	218	2,692	1,259	23,333
1936.....	298	257	3,340	2,208	592	324	2,713	1,261	25,030
1937.....	445	292	3,679	2,832	482	267	3,657	1,714	33,890
1938.....	407	501	3,430	2,997	577	377	2,858	1,793	39,966

VOLUME INDICES OF FOODSTUFF PRODUCTION

Black Tea, Coffee and Cocoa

A brisk increase in the imports of black tea, coffee and cocoa was noted in Japan up to the outbreak of the Sino-Japanese hostilities in 1937. Due to import restrictions which were later imposed the purchases of these items have fallen drastically. It is undisputable, however, that these beverages are growing in popularity

in Japan, and a resumption of the upward trend in imports is expected following the conclusion of the present war.

Ice Industry

Consumption of ice in Japan shows a smooth upward trend. The total value of ice production in 1938 amounted to 15 million yen, representing 2,111,000 metric tons.

FOODSTUFF INDUSTRY

Table 18. Imports of Black Tea, Coffee & Cocoa

(Unit: Quantity in 1,000 kin (1 Kin=0.6 kilogram); Value in ¥1,000)

	Black tea		Coffee		Cocoa Value	Black tea production in Taiwan	
	Quantity	Value	Quantity	Value		Quantity	Value
1934.....	658	948	4,871	2,226	783	6,021	4,250
1935.....	553	816	5,721	2,303	992	5,490	3,964
1936.....	725	1,160	9,465	3,553	1,265	6,508	4,518
1937.....	809	1,304	14,285	6,603	3,132	10,562	7,418
1938.....	68	207	7,448	2,763	1,217	9,835	6,844
1939.....	201	322	2,266	842	329	...	...

Note: Further statistics on tea refer to Chapter of Agriculture.

Table 19. Production of Ice

	No. of Factories	Production (1,000 metric tons)	Value (¥1,000)	No. of Factories	Production (1,000 metric tons)	Value (¥1,000)	
1933.....	417	1,823	11,855	1936.....	474	2,085	13,033
1934.....	439	1,930	12,287	1937.....	503	2,393	15,977
1935.....	451	1,901	11,989	1938.....	415	2,111	15,046

References:

- Table Nos.: 1 a, 2 B, 3-A d, 3-B b, 4-5 c, 6 d, 7 c, e & f, 8-9 c, 10 g, 11 f, 12 c & f, 13-14 c, 15-16 f, 17 h, 18 c, 19 f.
- Key: a—Weekly Statistical Sugar Trade Journal.
- b—Sugar Producers' Association.
- c—Department of Finance.
- d—Taiwan Government-General.
- e—Nisshin Flour Mills Co.
- f—Department of Commerce & Industry.
- g—Reports from each cos.
- h—Department of Agriculture & Forestry.

CHAPTER XXXV

MACHINERY & ENGINEERING

The machinery 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 rapid-

ly are aeroplane and automobile manufacturing. The machine tool enterprise also has shown a remarkable development in the last few years.

Domestic production of the such items as fall within the category of the machinery industry were valued at 5,421 million yen in 1938, representing a twelve-fold increase since 1931.

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

Table 1. Demand and Supply in the Machinery Industry
(¥1,000)

	Domestic Production	Imports	Exports	Import Excess	Domestic Requirements	Index
1914	110,906	34,404	5,260	29,144	140,050	100
1919	716,241	120,206	37,170	83,036	799,277	570
1928	629,926	167,310	28,975	138,335	768,261	550
1929	682,162	186,833	38,611	148,222	830,384	590
1930	615,683	125,058	35,266	89,792	705,475	500
1931	443,341	80,530	29,891	50,639	493,980	350
1932	543,842	93,937	34,700	59,237	603,079	450
1933	805,115	106,575	67,622	38,935	844,068	600
1934	1,082,078	143,590	124,982	18,603	1,100,361	790
1935	1,380,583	158,984	141,206	17,778	1,398,336	1,000
1936	1,609,254	153,087	174,541	21,458	1,630,712	1,130
1937	2,379,875	242,201	227,699	14,502	2,394,377	1,700
1938	3,588,650	313,825	297,312	16,513	3,605,163	2,573
1939	5,421,378	288,505	421,076	-132,570	5,288,808	3,777

Table 2. Output of Principal Machineries Classified
(Unit: Value in Million Yen)

	Boilers	Internal Combustion engines	Dynamo		Motors		Transformers		Insulated Wire & Cable	Communication Instruments	Batteries
			Qty. (1,000)	Val.	Qty. (1,000)	Val.	Qty.	Val.			
1931..	6.4	18.5	4.0	4.8	88.1	10.4	342	5.9	31.9	15.9	7.6
1932..	4.4	30.9	9.7	4.6	99.8	9.9	291	6.6	36.5	18.6	8.6
1933..	11.6	46.6	58.6	7.7	195.0	21.6	324	10.0	56.3	27.0	11.5
1934..	21.1	41.9	26.4	11.2	387.8	34.8	417	15.4	59.1	39.6	13.8
1935..	34.5	47.6	13.3	14.8	374.3	43.9	289	20.0	78.6	37.4	16.1
1936..	31.7	60.4	46.5	19.1	397.2	45.6	203	26.3	102.4	59.8	16.5
1937..	39.7	91.4	51.1	21.1	281.3	52.0	262	35.1	159.9	80.7	26.4
1938..	55.1	143.8	44.1	30.8	473.9	97.6	341.8	51.7	179.4	123.8	37.5

	Spinning Machines	Weaving Machines	Cranes	Pumps	Gas compressors	Weighing & Measuring Machines	Barometers, Electric Meters, etc.	Watches and Clocks	Electric Globes		Arms
									Qty. (Million)	Val.	
1931..	6.0	5.2	1.8	6.8	1.6	6.9	6.8	6.1	202	18.0	13.4
1932..	8.0	5.9	2.5	6.5	1.1	6.9	7.8	6.7	287	19.7	23.2
1933..	12.2	8.5	5.4	9.7	1.7	8.8	13.3	8.4	340	21.9	32.2
1934..	17.9	15.4	8.4	13.0	4.0	8.8	16.6	11.6	311	20.0	42.2
1935..	32.7	13.7	13.0	15.2	5.6	10.5	23.2	13.1	309	21.2	59.9
1936..	38.0	14.1	14.6	19.7	6.3	13.1	29.3	14.8	294	21.5	57.2
1937..	45.1	19.2	18.8	27.9	11.7	15.7	38.4	20.8	333	28.8	86.8
1938..	36.2	11.4	33.7	41.3	20.7	15.9	52.3	21.4	260	29.4	...

MACHINERY & ENGINEERING

(Continued)	Seam, Electric & Petroleum Locomotives †		Wagons & Cars		Tramcars		Bicycles	Bicycle Parts	Vessels †		Total incl. others
	Qty.	Val.	Qty. (1,000)	Val.	Qty.	Val.			Qty.	Val.	
1931..	319	8.2	1.5	3.8	180	2.0	2.0	13.7	2,085	38.2	443
1932..	330	5.1	1.1	4.0	178	1.3	1.3	20.7	2,496	46.1	544
1933..	484	9.7	1.5	8.1	127	1.7	2.2	26.6	2,913	40.0	805
1934..	499	16.8	2.6	15.1	189	1.5	2.5	34.5	2,865	56.5	1,082
1935..	734	25.7	4.8	19.0	237	2.8	2.3	38.9	2,562	86.8	1,381
1936..	970	36.7	6.2	21.5	199	2.4	5.2	44.0	3,129	110.9	1,609
1937..	1,210	40.1	8.9	20.2	383	6.0	3.0	50.9	4,578	225.3	2,380
1938..	..	..	..	..	..	..	4.5	48.5	..	..	3,589

Note: † Represents total amount of output including parts and accessories.

Principal Items of Export and Import

Exports.—The value of the principal items which come under the general head of the machinery industry has increased by almost five folds in six years, rising from 68 million

yen in 1933 to 370 million yen in 1939. Automobile and parts led the export in amount of value, followed by spinning and weaving machines, bicycle parts, and metal and wood working machines.

Table 3. Export of Principal Machineries
(Unit: ¥1,000)

	(A) Exports										
	Clock, Watch & parts	Surgical instruments	Motors	Microscopes	Telephonic instruments	Phonographs	Bicycles & parts	Automobiles & parts	Ry. Carriages, parts	Vessels	Steam boilers
1933..	2,092	811	2,123	2,835	..	16,422	..	1,724	577	2,652	..
1934..	3,221	1,440	2,495	5,241	..	24,603	613	..	1,112	..	..
1935..	3,400	2,204	271	946	5,067	..	22,676	10,999	16,180	1,289	1,901
1936..	3,500	2,516	1,542	233	5,562	..	25,001	12,633	12,663	8,175	1,731
1937..	4,615	3,390	2,270	202	6,663	2,764	28,478	20,728	8,126	23,158	3,580
1938..	2,556	3,330	3,097	91	10,043	2,105	16,344	20,619	15,330	16,856	4,405
1939..	3,003	3,757	4,980	120	14,630	1,583	20,302	53,412	20,791	13,211	5,514

	Motors, & Trans- dynamo formers		Switch board	Metal and Wood- working Machines	Spinning Machines	Weaving Machines	Printing Machines	Locomotives			Sewing machines
	Cranes							Internal Combustion engines			
1933..	2,724		566	4,879			900	15,301			..
1934..	10,055		1,189	6,281	2,096	1,128	8,422	24,381			..
1935..	2,812	1,243	653	1,941	8,978	3,569	1,105	13,777	1,122	1,910	365
1936..	58	2,018	908	4,907	10,154	4,967	1,000	15,087	1,417	4,058	575
1937..	5,943	3,544	1,420	6,233	17,581	7,859	1,448	9,314	1,740	4,685	1,037
1938..	10,356	6,117	2,477	10,334	21,658	8,326	2,197	16,338	3,868	4,995	651
1939..	14,805	8,128	3,270	25,531	17,450	6,963	2,521	24,468	4,948	5,755	916

Table 4. Imports of Principal Machineries
(Unit: ¥1,000)

	Watch, Clock & parts	Meters	Physical & Chemical instruments	Telephonic instruments	Automobile & parts	Internal combustion engines	Motors & dynamos	Sewing machines	Metal & Wood-working machines	Spinning & Weaving machines
1934..	2,796	1,607	1,003	1,358	28,945	20,779	1,224	5,623	21,433	6,395
1935..	4,213	2,382	1,530	966	39,387	15,559	2,257	6,216	18,286	4,613
1936..	3,912	2,711	1,265	1,141	37,036	14,409	1,669	7,618	18,834	2,278
1937..	5,933	3,263	2,698	1,815	..	..	1,670	10,232	..	3,103
1938..	3,085	1,694	1,414	1,884	..	..	2,589	386	..	1,635
1939..	628	2,129	3,008	1,258	..	..	2,089	153	..	143

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 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, Ishi-

kawajima, 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 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 everybody.

Table 5. Output of Machineries by Uses
(¥1,000)

	Agriculture	Building and civil engineering work	Farming implement	Mining	Spinning and textile	Ceramic and cement
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
1937	14,157	5,321	8,449	31,771	129,101	4,748
1938	19,585	8,486	8,678	53,436	110,726	3,069

(Continued)	Printing & bookbinding	Saw mill	Paper mill	Chemical industry	Foodstuff	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
1937	12,438	.....	5,558	48,236	14,828	3,640	40,713
1938	11,648	.....	4,289	80,193	16,197	5,046	92,147

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
1937	4,125	2,636	6,503	1,867	8,153	5,183
1938	5,455	4,711	13,126	3,548	10,341	7,943

Table 7. Production of Optical Instruments
(Value in ¥1,000)

	Lenses incl. Prisms (¥1,000)	Microscopes		Telescopes		Field-glasses		Spectacles	
		No.	(¥1,000)	No.	(¥1,000)	No.	(¥1,000)	No. (1,000)	(¥1,000)
1931	433	3,134	76	517	21	7,836	99	311	230
1932	573	2,760	55	85	182	16,361	227	405	360
1933	787	3,723	262	5,729	1,433	21,589	3,304	418	126
1934	955	64,397	329	8,790	2,160	72,668	5,539	106	62
1935	1,277	71,238	391	20,147	5,489	231,762	2,235	14	90
1936	1,537	66,314	553	61,139	4,329	79,720	2,110	11	53
1937	1,676	46,240	428	8,944	89	99,109	4,859	200	71
1938	1,814	33,717	549	6,917	625	45,500	1,727	188	510

Table 8. Production of Locomotives
(Value in ¥1,000)

	Steam Locomotives		Electric Locomotives		Gasoline Locomotives		Fittings, etc. Value	Total Value
	No.	Value	No.	Value	No.	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
1937	435	25,009	50	1,775	725	4,557	8,803	40,145
1938	(not released)							

Table 9. Production of Rolling Stock
(Value in ¥1,000)

	Coaches & Freight Cars			Electric Cars			Rikisha Value	Wagons Value
	No.	Value	Fittings Value	No.	Value	Fittings 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
1937	8,882	20,092	13,010	383	5,952	5,405	65	184
1938	..	..	..	..	..	..	56	97

DIESEL AND SEMI-DIESEL ENGINES

By Mr. Tokuzo Mase, Engineer, Mitsubishi Jukogyo Kabushiki Kaisha and Mr. Tatsunosuke Tajima, Engineer, Department of Agriculture and Forestry.

Judged from the world standpoint, and quite apart from the numerical point of view, Diesel engines of the largest units are found among land engines for electric generation purposes. In so far as Japan is concerned, the first home-made Diesel engine which was manufactured in 1916 at the Kobe Shipyard and Engine Works of the Mitsubishi Jukogyo Kabushiki Kaisha (then known as the Mitsubishi Zosen Kabushiki Kaisha) was for electric generation in the Company's own works.

However, it is rather engines for marine purposes that are now playing the most important rôle, and at the same time the biggest units of which are in use in Japan.

Marine Diesel Engines.—Now the first Diesel engine driven merchant vessels built in Japan was the "Ondo Maru" for the Osaka Shosen Kaisha, which was launched in 1923 at the Mitsubishi Kobe Shipyard and Engine Works. She has a gross tonnage of about 960 tons and a speed of over 12 knots. The main engine develops a normal output of 600 B.H.P. While this vessel was destined for the coastwise service, the "Akagisan Maru" was the pioneer ocean-going Diesel boat constructed in Japan. She is the product of the Mitsui Tama Shipyard, and was launched in March, 1924. She is a cargo boat of over 4,600 gross tons, and has a speed of over 12 knots, the propelling engine developing 1,100 B.H.P.

When this is compared with the "Selandia," which was put into commission in 1912 as the first Diesel ocean-going merchant vessel in the world, it can never be said that Diesel engineering in Japan got a very early start. However, the development it has shown since its introduction is truly remarkable.

In May, 1929, the "Chichibu Maru" of the Nippon Yusen Kaisha, a vessel of 17,500 tons gross with a speed of approximately 21 knots, was launched at the Yokohama Dock Company. The propelling machinery consists of 2 engines, each of 7,750 B.H.P., and when compared with the main engines of the "Ondo Maru" and the "Akagisan Maru" mentioned above a general idea of the progress achieved can be grasped.

Diesel engines, it may be mentioned in passing, can be classified roughly into four kinds, according to the system employed, namely, 4-cycle single-acting, 2-cycle single-acting, 4-cycle double-acting and 2-cycle double-acting. In Japan, not only are all these four types being manufactured and employed, but the construction of all world-famous types is being carried out under license. Further, as to engine capacity, it may be said that units of the highest capacity are being constructed with every type of engine and system.

It is worthy of special note that of all the licenses of Sulzer engines throughout the world, the Nagasaki Shipyard and Engine Works of the Mitsubishi Jukogyo Kabushiki Kaisha is the biggest producer of this type, and that the construction of the first double-acting engine of a large unit was accomplished in Japan, though the design itself emanated from Sulzers in Winterthur.

To turn to marine electric generating Diesel engines, the Osaka Shosen Kaisha was the first to take a decisive step in adopting home-made engines for this purpose in 1930 for a South America liner, and since then these engines have made rapid progress. It is at once most gratifying and encouraging that both main and auxiliary engines of home make are increasingly employed for marine electric generation, and bright hopes are entertained for a continued development in the future.

The leading constructors of these engines in Japan are the Mitsubishi Jukogyo Kabushiki Kaisha, Niigata Tekkoshō, etc.

It is without doubt common knowledge that Japan has one of the greatest fishery industries in the world. The development of internal combustion engines for fishing craft to suit the conditions of the country dates from early

times, and it was already in remote times that a state of self-sufficiency in these engines was achieved. The tendency nowadays is to adopt Diesel engines in fishing vessels requiring engines of over 75 B.H.P. per set.

The Niigata Tekkoshō, Hanshin Tekkoshō and the Mitsubishi Jukogyo Kabushiki Kaisha are among the leading suppliers of engines for fishing craft.

Internal Combustion Engines for Fishing Craft.—Since such an engine was adopted for the first time in a fishing vessel in Japan in 1906, great progress has been made in this line. The total number of vessels thus equipped is 75,000 and the total existing horse power given as about 1,300,000. This is an achievement for about thirty years since 1906, the average increase of the ships affected and of the horsepower being approximately 4,000 and 60,000, respectively. The engines with a total output of 1,300,000 B.H.P. can be classified into the three following kinds:—(1) Diesel-engines with an output of over 100 B.H.P., (2) heavy oil, hot-bulb engines of below 100 B.H.P., and (3) petroleum or gasoline fuel electrical ignition engines of 3 or 5 B.H.P. for small fishing vessels. The Diesel-engined fishing-crafts number 700. Diesel engines were first adopted for fishing-craft in Japan in 1920, whose total engine horse-power is 120,000, while airless-injection engines are now widely used in Japan. Most of the engines are of 4-cycle type, except the larger size engines for trawlers which are of 2-cycle type. The leading maker of these machines are the Niigata Tekkoshō, the Ikegai Tekkoshō, the Hanshin Tekkoshō, Akasaka Tekkoshō, Nippon Hatsudoki Kaisha, Kinoshita Tanko-shō, Ito Tekkoshō, Kobe Shipyards and Yokohama Dock of the Mitsubishi Jukogyo Kakushiki Kaisha, the Mitsui Tama Shipyard, the Kawasaki Shipyard, the Kobe Seikoshō.

The hot-bulb engine without water-injection are widely used in vessels of medium size. The fuel consumption of this kind of engine is 230 gramme per B.H.P.h. Such a splendid result has been achieved after special investigation in this country. The leading manufacturers in this line are the Niigata Tekkoshō, the Kobe Hatsudoki Seizoshō, the Nippon Hatsudoki Kaisha, the Hanshin Tekkoshō, the Ikegai Tekkoshō, the Kinoshita Tekkoshō, the Kishiro Hatsudoki K.K. the Sanyo Kosakushō, the Ito Tekkoshō, the Ishibashi Tekkoshō, the Hayashikane Tekkoshō, the Yoshimi Tekkoshō, the Taishō Tekkoshō, the Nakamura Tekkoshō, the Usuki Tekkoshō, the Matsubara Tekkoshō, the Fukushima Tekkoshō, the

Akasaka Tekkoshō, the Sakakibara Tekkoshō, and the Makita Tekkoshō. powers of such engines:

$$\text{B.H.P.} = \text{CND}^2$$

D=diameter of cylinders in cm.

N=Number of cylinders

C=a constant which should be selected from the following table:

0:1 for 2-cycle Diesel engines

0:068 for 4-cycle Diesel engines

0:042 for 2-cycle hot-bulb engines

0:044 for 4-cycle electrical ignition engines

Electrical ignition engines are used for small power and size, most of them being from 3 to 5 B.H.P. In view of the present state of the development of this kind of engine, all small fishing vessels will be equipped with these small engines, and the total number of vessels will become 100,000 in the near future. Noted makers in this line are the Tomono Iron Works, the Kubota Iron Works, and the Shimamoto Iron Works.

The engines for fishing vessels have the following equation for calculating brake horse-

The B.H.P. calculated by the above equation gives a value for 20 per cent. overload.

Table 10. Marine Diesel Engines; Makers & Dimensions of Largest Engines Built (1939)

Makers and Engine Types	Cycles		Acting		Cyl. No.	Bore mm.	Stroke mm.	R.P.M.	B.H.P.
	4	2	Single	Double					
Kawasaki Shipyard:									
M. A. N.	—	*	—	*	8	720	1,200	130	10,000
Mitsubishi Shipyard:									
Sulzer	—	*	—	*	11	720	1,250	140	8,250
M. S.	—	*	—	*	7	760	1,200	113	7,600
Kobe Shipyard:									
Vickers	—	*	—	*	7	720	1,250	125	4,500
Yokohama Dockyard:									
M. A. N.	—	*	—	*	8	720	1,200	110	8,000
Tama Shipyard:									
Bormeister & Wain	*	—	*	—	6	550	950	190	1,650
Kobe Seikoshō:									
Sulzer	*	*	*	—	6	425	600	230	700
	—	*	—	*	7	700	1,200	105	6,700
	*	—	*	—	10	740	1,500	115	6,000
	—	*	—	*	6	620	1,400	110	7,000
	—	*	—	*	6	680	1,200	110	3,200
	—	*	—	*	7	760	1,200	124	9,600

Note * Indicates that the engines are being manufactured by the respective licensee companies.

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 Tekkoshō 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 everybody, and the Ikegai Tekkoshō, Mitsubishi Jukogyo Kabushiki Kaisha and the Hitachi Seisakushō are now endeavouring to evolve their own special types for this purpose.

Table 14. Exports of Automobiles and Parts

(Unit: Value in ¥1,000)

	Cars		Tyres & Tubes		Chassis		Others Value	Total Value
	No.	Value	Qty. (picul)	Value	No.	Value		
1934	349	613	.....	.....	.....	.....	.....	613
1935	626	1,424	44,750	3,814	735	1,632	4,130	11,000
1936	1,731	3,710	50,367	4,531	2,267	4,294	4,998	17,533
1937	1,494	3,068	65,651	6,832	1,822	4,366	6,462	20,728
1938	1,311	2,866	44,965	4,459	807*	2,140	11,095	20,560
1939	5,684	19,580	75,461	6,418	1,380	3,141	24,273	53,412

Table 15. Imports of Automobiles and Parts

(Unit: Value in ¥1,000)

	Automobiles		Parts				Grand Total Value	
	No.	Value	Chassis		Tyres			Others Value
	No.	Value	No.	Value	Qty. in kin	Value	Total Value	
1932	997	2,894	708	893	529,005	423	10,611	11,927
1933	491	1,864	780	1,116	11,273	8	10,883	12,007
1934	896	3,357	950	1,167	10,508	9	27,769	28,945
1935	934	3,202	1,010	1,371	9,325	10	28,006	29,387
1936	1,117	3,577	1,061	1,578	13,237	14	31,867	33,459
1937*	895	3,009	3,069	3,697	10,367	13	23,963	27,673

Note: * January to July.

Table 16. Imports of Automobiles & Parts By Countries of Origin

(Unit: in ¥1,000)

	England	France	Germany	Italy	U.S.A.	Canada	Total incl. others
1929	527	468	75	73	31,047	1,312	33,608
1932	470	56	394	3	13,838	36	14,821
1933	453	27	93	1	13,288	..	13,871
1934	402	4	105	1	31,553	43	32,302
1935	406	27	270	2	31,255	38	32,589
1936	674	3	810	2	34,929	..	37,036
1937*	667	69	1,064	9	27,979	5	30,682

Note: * January to July only.

Table 17. Specification of Principal Domestic Made Automobiles

(1937)

(A) Chassis

Maker:	Model	Engine	Passenger Capacity	Weight (Kg.)	Length (m.m.)	Width (m.m.)	Shaft (m.m.)	Front axle (m.m.)
Kosokudo	Kikan	OC 36 K7*	4	650	3,190	1,200	2,000	1,045
Nissan	"Nissan"	A	5	1,410	4,390	1,720	2,794	1,441
Jidosha Kogyo	"Chiyoda"	HA	7	2,100	5,340	1,800	3,300	1,478
"	BX-40*	..	32	2,180	6,080	1,950	4,000	1,500
"	S*	..	25	3,250	6,628	2,190	4,600	1,829
"	"Sumida" R.U.	..	34	3,500	7,600	2,190	4,600	1,800
Nissan	"Nissan"	AT	..	..	..	2,032	2,641	1,664
Ikegai	BSC*	6HSD 10 D	40	3,350	7,410	2,190	4,600	1,829
Japan Diesel	ND1*	ND1	32	2,540	5,980	1,950	4,000	1,500
Ikegai	BSD*	6HSD 10 B	4,000 kg.	3,500	7,300	2,190	4,600	1,829
Hitachi	FE-30T*	430-RO	{2,000- 3,000 kg.}	2,550	{5,760- 6,400}	2,100	{3,960- 4,260}	1,640
Nissan	AT*	..	..	..	4,305	2,035	2,641	1,664
"	15 T†	"Datsun"	4.	..	3,020	1,197	2,005	1,038
Kyoho Jidosha	TB†	"Kyosan" 90°V	500	640	2,800	1,200	1,830	1,040

(B) Engine

(1) Gasoline

Maker:	Model	No. of Cylinders	Bore (m.m.)	Exhaust volume (c.c.)	Maximum RMN	Maximum h. p.	Cycle
Kosokudo	DC 36 K7	4	60.5×64	736	5,500	18	4
"	A	6	82×114	3,670	..	85	4
Nissan	AT	6	82×114	3,670	..	85	4
"	T	4	55×76	722	4,600	16	4
"	15	4	55×76	722	3,600	16	4
"	S	6	110×120	6,850	2,000	100	4
Jidosha Kogyo	HA	6	90×120	4,690	3,800	75	4
"	HA	6	90×120	4,690	3,800	75	4
Kyoho	Kyosan 90°	2	76.2×82	750	3,600	17	4

(2) Diesel Engine

Maker:	Model	No. of Cylinders	Bore (m.m.)	Exhaust volume (c.c.)	Maximum RMN	Maximum h. p.	Cycle
Hitachi	430-RO	4	110×140	5,320	2,200	88	4
Ikegai	6 HSD 10D	6	105×140	7,273	2,200	108	4
"	6 HSD 10B	6	100×140	6,600	2,200	90	4
"	"Sumida" R.U.	6	110×140	7,980	2,200	95	4
Jidosha Kogyo	ND 2	2	85×240	4,100	1,600	95	2
Japan Diesel	ND 3	2	85×240	5,400	1,600	128	2
"	NDA 5	4	100×130	4,100	2,400	58	4
"	LH 6 RA	6	90×130	4,960	2,200	76	4

Note: * Truck. † Small car.

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.

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 simi-

lar 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	
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; 1930-32 as at end of August; and since as of October 31.
* 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 buses. 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 60 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 40 per cent. are largely represented by Nissan and Toyoda cars.

The status and achievements of the General Motors and Ford plants in Japan, and their enormous influence are too well known to men-

tion. 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.

Since 1938 the importation of foreign-made motor cars have been practically stopped, due to the Government's policy of selective purchases of such commodities or raw materials as it deems more indispensable for the country in this wartime period. This ruling has been effective also for foreign cars assembled in Japan.

BICYCLES

It was in 1898 that bicycles were first imported into Japan. At that time the price ranged between ¥250 and ¥200 per vehicle. In the years just prior to the China Incident of 1937 bicycles cost less than thirty yen or so

on an average but since production costs have again risen. A large export trade is done in this industry. The production of bicycles in recent years is tabulated below:

Table 19. Production and Export of Bicycles, Parts & Accessories

	Production of Bicycles		Exports							Total
	No.	Value	Spare parts Value	Cycle & Frame	Saddle	Tyre & Tube	Rim, Fork, etc.	Other Parts and accessories		
									(In ¥1,000)	
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	138,895	2,978	50,889	5,222	1,854	5,027	3,251	13,123	28,478	
1938	92,084	4,528	48,535	3,321	551	2,654	1,689	8,088	16,303	
1939	...	...	...	4,385	1,315	2,239	2,374	9,989	20,372

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 of watches and clocks (exclusive of those of factories employing under five operatives) 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
1937	411.5	2,720	2,244	4,176	892	3,951	1,132	6,576	20,764
1938	170.2	2,065	1,458	3,895	610	3,739	1,448	7,655	21,436

Exports.—The export of clocks and watches for 1939 was ¥3,002,958 in value. It was over a half 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		Total incl. Watches (Yen)
	Piece	Value (Yen)	Piece	Value (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
1938	259,053	1,333,435	502,988	1,096,023	2,555,575
1939	299,656	2,064,371	383,033	679,338	3,002,958

Measuring & Weighing Instruments

Production exceeding 15 million yen was done in such instruments as rules, measures, scales, gas meters, water meters and accessories in

1938. Progress has been steady since 1932. Thermometers, clinical thermometers, electric meters were manufactured to the extent of over 52 million yen in 1938.

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
1937	1,365	900	5,457	4,865	1,941	1,162	15,690
1938	2,188	910	5,935	3,042	2,169	1,653	15,890

Table 23. Production of Various Meters (Unit: No. in 1,000; Value in ¥1,000)

	Thermometers		Clinical thermometers		Electric meters		Others	Total Value
	No.	Val.	No.	Val.	No.	Val.		
1929	732	426	912	795	184	2,129	2,891	6,240
1930	745	381	1,047	842	209	2,772	2,984	6,980
1931	677	311	1,237	777	213	2,657	3,066	6,812
1932	512	273	1,339	883	395	3,997	2,622	7,776
1933	751	431	1,519	839	439	7,321	4,696	13,279
1934	987	394	1,885	1,096	539	7,248	7,839	16,576
1935	1,025	389	1,886	1,089	518	8,902	12,852	23,230
1936	1,064	341	2,070	1,137	719	8,175	19,637	29,290
1937	1,326	271	2,338	1,449	929	12,583	24,114	38,417
1938	563	382	2,649	1,650	812	17,259	32,992	52,284

Recent Situation in Machine Tools

The supply and demand relations of machine-tools in Japan are not smooth and prices are tending to rise in spite of Government efforts to prevent it. As machine-tools are basic in all mechanical industrial equipment, high prices for them result in high production costs in industry in general, with consequent adverse effects on the program to expand productivity. Although machine-tool costs are considered to have more than doubled since the outbreak of the China Incident, they are difficult to estimate as no figures have been made public and they include a great variety of products and much hand labor.

The prices of lathes and grinders, for example, had increased from 100 to 300 per cent by July of 1939 over the same month in 1937. Japan's ratio of self-sufficiency in these machines was 64.8 per cent in 1935, rising to 72.8 per cent in 1936; but as the China Incident developed and demand increased, it fell off to 50 per cent in 1937. The army, which uses most of those machines, kept its costs down by distributing materials directly to manufacturers. Open market prices were frozen under a Commerce and Industry Ministry ordinance promulgated in July 1939, lathe costs, for example, being held to the July 4 level. Leading manufacturers, belonging to the Japan Machine Tool Industry Guild, simultaneously announced price cuts to the Government level in pursuance of a policy of self reform.

While machine-tools have lagged behind other forms of industry, partly as a result of being outside the main stream of Japanese industrial production, their rate of manufacture has gradually increased, particularly in recent years. As Japan used to attach more importance to light than to heavy industry, most of the machine-tools needed were imported. The latter process was made difficult by the critical international situation, and the China Incident furthermore stimulated demands on heavy in-

dustry to such an extent that machine-tools underwent a marked revival. The present situation of the industry, which is the most favorable in its 50-year history, promises to continue as long as there is no change in the Government's policy of encouraging heavy industry, with the welfare of which machine-tools are intimately connected.

The Government established the Machine-Tool Law for the protection of the industry and in September, 1937 set up the Machine-Tool Industry Council in the Resources Bureau of the Commerce and Industry Ministry. According to the latter's four-year plan, production is to be increased to ¥200,000,000 by 1941. Although fulfillment of the plan is comparatively satisfactory, the following four factors are interfering with its complete success:

1. Materials. The supply of cast iron has been insufficient, and its quality must be improved.

2. Labor. There has been a shortage of skilled workmen, partly due to the length of time needed for training.

3. Markets. Demand is still limited, though improving, as the export market is restricted to China and Manchoukuo.

4. Management. Factories hesitate to expand equipment, fearing a future reaction.

At present there are sixteen machine-tool manufacturing companies protected and licensed by the Government, whose production in a few years, according to estimates, will comprise 80 per cent of the total in Japan.

Building Industry

According to an investigation made by the Department of Commerce and Industry on 21 principal cities which account for more than 85% of all the applicants made for buildings in Japan, the construction of buildings showed a remarkable decline since the outbreak of the China Incident owing to control over distribution of materials and a rapid expansion of the munition industry on the other hand.

Table 24. Building Schedule at 21 Principal Cities
(Compiled by the Dept. of Commerce & Industry)

	Steel Framed Concrete			Ferro-Concrete			Steel Framed		
	No. of bldgs.	Floor space	Expense (¥1,000)	No. of bldgs.	Floor space	Expense (¥1,000)	No. of bldgs.	Floor space	Expense (¥1,000)
1937	505	1,186	109,734	1,559	1,043	71,172	2,154	1,358	73,274
1938	91	145	12,888	1,097	481	31,802	1,653	1,388	84,663
1939	50	69	6,181	337	233	19,537	700	963	64,675

	Wooden			Brick, Stone, or Concrete			Total incl. Others		
1937	127,682	12,376	230,903	157	23	562	132,165	15,991	485,815
1938	116,184	12,059	255,079	212	16	625	119,331	14,095	381,243
1939	121,168	13,726	372,113	364	59	3,332	122,713	15,055	466,119

References:

Table Nos.: 1 a & b, 2 a, 3-4 b, 5-9 a, 10 c, 11-13 a, 14-16 b, 17 d, 18 e, 19 a & b, 20 a, 21 b, 22-24 a.

Key: a—Department of Commerce & Industry.
b—Department of Finance.
c—Mitsubishi Heavy Industries.
d—Mechanical & Engineering Association.
e—Department of Home Affairs.

CHAPTER XXXVI

MISCELLANEOUS INDUSTRIES

KNITTED GOODS

A large trade is done in the manufacture of shirts and underwear, socks and stockings and gloves. In 1938 the total value of production of the foregoing items reached ¥118,891,000, of which more than one third were exported. The

value of such exports in 1937 aggregated ¥60,713,000, showing an increase of over two folds since 1932, but fell to the 40 million yen level since 1938.

Table 1. Production and Exports of Knitted Goods
(In 1,000 Dozens)

	Shirts & underwears			Socks & Stockings			Gloves			Value (¥1,000)		
	Cotton		Woolen & mixed	Cotton		Woolen & mixed	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	7,185	682	12,405	1,314	586	6,877	932	160	115,501	60,713		
1938	5,606	1,209	9,469	1,422	705	5,379	693	39	118,891	40,818		
1939	..	..	..	..	..	..	..	..	..	40,237

HATS

The hat manufacturing industry showed a record of smooth and steady progress. Including hat and hat bodies, exports in 1937 were valued at ¥26,337,000. The China Incident affected the business adversely and exports in 1939 slipped to ¥14,327,000.

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	9,513	28,845	907	1,169	200	671	21,106	26,337
1938	9,410	27,980	482	1,142	154	652	19,127	11,092
1939	..	..	..	..	..	..	..	14,327

Note: * Including hat bodies.

LACQUER WARE

The production of lacquer ware is increasing by slow stages. In 1938 total output was valued at ¥46,083,000 showing an expansion of about 70 per cent. since 1932. Exports amount to ¥1,562,000 in 1939.

Table 3. Production of Lacquer Ware
(In ¥1,000)

	No. of		Table-ware	Decoratives & Furnitures	Total incl. Others	Export Value
	Factories	Operatives				
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	26,533	1,195
1933	10,784	30,431	12,140	8,013	29,572	2,371
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	11,874	35,093	18,106	12,106	44,013	2,395
1938	11,670	34,813	16,452	12,450	46,083	1,444
1939	..	..	..	..	..	1,562

MISCELLANEOUS INDUSTRIES

LEATHER

Production.—Production of various kinds of leather goods in 1938 was valued at ¥44,835,000, representing a decrease of about ¥267,000 over the previous year. Of this amount shoes and boots accounted for 55%.

Exports, Imports.—Japan's imports of leather and leather manufactures were about three times larger than her exports of the same items. In 1937 imports of hides and leathers were valued at ¥52,091,000 which fell to ¥37,028,000 in 1939.

Table 4. Production of Leather & Hide, Manufactured Goods
(In ¥1,000)

	No. of		No. of skin (1,000)		Total value incl. others	Manufactured Goods			Total incl. others
	Factories	Operatives	Cow	Horse		Shoes & boots	Belts	Bags	
1932	8,207	19,443	1,486	281	19,976	19,328	4,344	2,109	29,185
1933	8,490	19,797	1,940	317	26,538	18,826	4,339	3,486	30,797
1934	9,305	21,936	2,847	362	33,863	21,887	4,910	4,406	34,978
1935	9,744	24,062	2,544	198	33,569	24,328	4,760	4,074	36,657
1936	10,159	25,335	3,248	354	45,945	27,475	5,233	4,682	41,784
1937	10,479	28,164	..	..	68,883	29,743	5,098	4,821	45,102
1938	10,153	26,946	..	..	..	25,216	6,363	3,343	44,835

Table 5. Imports of Hides & Leathers

	Hides & Skins of Buffalo & Cows		Leathers of Cows, Buffalos, Horses, sheep, etc.		Total (¥1,000)
	(M. Tons)	(¥1,000)	(M. Tons)	(¥1,000)	
1932	15,963	7,897	92,583	3,618	11,514
1933	20,832	13,545	78,644	3,933	17,478
1934	24,860	16,320	86,575	4,830	21,150
1935	30,421	21,356	88,940	4,944	26,300
1936	30,763	24,386	77,975	5,465	29,851
1937	41,251	44,571	81,996	7,332	52,091
1938	29,363	27,826	33,073	1,857	29,701
1939	30,448	30,573	24,240	1,658	37,028

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)

	No. of		Tooth brushes		Hair brushes		Total Value incl. others	Exports Value
	Factories	Operatives	Quantity	Value	Quantity	Value		
1932	928	3,214	3,226	1,720	77	228	4,338	2,928
1933	741	3,030	3,987	2,131	195	336	5,065	4,453
1934	887	3,842	5,399	2,574	287	345	6,810	5,246
1935	902	4,025	5,686	2,698	370	409	5,663	5,117
1936	891	3,902	6,284	3,245	502	625	6,512	5,633
1937	919	4,179	6,509	4,298	407	577	7,501	6,917
1938	929	4,100	12,451	4,947	233	428	3,119	4,078

Table 7. Production of Bamboo Manufactures
(In ¥1,000)

	Bags	Bamboo blinds	Total incl. others
1933	8,689	843	9,875
1934	8,954	1,028	10,278
1935	9,213	1,186	10,703
1936	9,575	1,328	11,297
1937	9,935	1,247	11,628
1938	10,280	1,311	12,039

Table 8. Production and Export of Straw, Chip and Hemp Braids
(In ¥1,000)

	Straw braids	Chip braids	Hemp braids	Total incl. others	Exports
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	1,535	263	6,136	7,936	7,876
1938	970	357	4,717	6,047	5,901

ELECTRIC BULBS

The electric bulb manufacturing enterprise allied manufactures has been also large, the accounts for a business of roughly ¥29,000,000 foreign trade returns for 1939 showing a to annually. The export of electric bulbs and be ¥7,739,000.

Table 9. Production and Export of Electric Bulbs

Electric bulbs					Electric bulbs						
Quantity (1,000)	Value	Search-lights	Total incl. others	Exports	Quantity (1,000)	Value	Search-lights	Total incl. others	Exports		
1932..	286,653	19,685	831	25,209	10,187	1936..	294,034	21,358	109	32,199	9,847
1933..	340,393	21,971	680	29,594	10,167	1937..	332,822	28,820	351	47,041	10,643
1934..	310,750	19,998	894	28,007	8,942	1938..	259,870	29,386	73	47,050	6,798
1935..	308,683	21,210	100	30,351	7,637	1939..	.....	.....	.....	.....	7,739

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	9,553	8,214	8,844	7,693
1938	9,561	12,054	4,622	6,109
1939 .....	..	..	3,823	7,149

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

	Production							Export
	Metallic	Porcelain	Paper	Celluloid	Rubber	Wood	Total	
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	2,029	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	1,487	492	1,990	4,984	1,390	14,054	36,459
1937	6,188	867	925	3,408	5,024	1,510	18,012	42,295
1938	3,763	1,004	758	1,833	4,864	1,510	13,732	24,991
1939 .....	..	..	..	..	..	..	..	22,020

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 1938 was ¥10,202,000, of which ¥3,087,000 represented shell buttons. The output of buttons for the last few years is tabulated below:—

Table 12. Output & Export of Buttons

	Output						Total	Export
	Metal	Shell	Ivory Nut	Bone	Others	(¥1,000)		
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	2,807	3,589	2,577	273	1,011	10,257	13,737	
1938	2,693	3,087	2,431	111	1,880	10,202	9,730	
1939 .....	..	..	..	..	..	..	11,701

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 have gained in importance in the export trade. The output of matches in recent years is shown in the following table:—

Table 13. Output and Export of Matches

	Match		Output		Exports	
	No. of cases (1,000 gross)	Value (¥1,000)	Match-Box (¥1,000)	Match-stick (¥1,000)	(1,000 kin)	Value (¥1,000)
1933	20,711	9,202	1,169	711	16,177	3,249
1934	20,598	10,034	551	617	17,809	2,929
1935	27,370	12,660	608	743	20,121	3,209
1936	21,875	11,824	832	1,572	13,838	2,174
1937	23,970	11,545	808	1,576	13,318	2,102
1938	22,870	13,302	850	2,294	17,561	3,304
1939 .....	..	..	..	..	20,844	4,616

FOUNTAIN PEN

Manufacturing of fountain pen in Japan is mostly undertaken by primitive small factories or by family labor. According to a report of the Department of Commerce and Industry on investigations made on factories with 5 or more operatives, a total of 23,559 gross valued at approximately ¥4,191,000 were manufactured in 1938, while 58,810 gross with a total value

of ¥1,611,000 were exported in the same period. The principal materials used such as gold and ebonite were replaced by chrome and celluloid since the outbreak of the China Incident. These cheap goods are usually exported to British India and other South Sea markets at a rate of ¥2.50 per dozen.

Table 14. Production and Exports of Pencils

	Output			Exports			
	Ordinary kind (1,000 Gross)	Other kind (1,000 Gross)	Total (¥1,000)	Pencil		Pencil Lead	
				(1,000 Gross)	(¥1,000)	(M. tons)	(¥1,000)
1933	4,681	214	3,281	1,799	1,468	..	1,468
1934	4,491	136	4,547	1,887	1,811	..	1,811
1935	4,355	350	4,866	1,759	1,909	..	1,909
1936	3,079	358	4,631	1,920	2,086	..	2,086
1937	3,545	191	5,431	1,848	2,564	62.9	53.3
1938	3,367	838	5,614	1,277	1,796	56.6	33.1
1939 .....	..	..	..	1,477	2,428	65.2	62.0

Table 15. Production and Exports of Fountain Pens

	Production*		Exports				Total (¥1,000)
	(Gross)	(¥1,000)	with gold parts		Others		
			(Gross)	(¥1,000)	(Gross)	(¥1,000)	
1935	13,048	2,137	1,315	220	50,942	997	1,217
1936	20,899	3,081	1,583	300	83,500	1,407	1,707
1937	20,671	2,925	1,504	261	106,619	1,879	2,140
1938	23,559	4,191	1,102	222	57,708	1,187	1,409
1939 .....	.....	.....	6,721	413	40,628	1,198	1,611

Note: exclusive of factories with less than 5 regular hands.

References:

Table Nos.: 1-4 a, 2 b, 6 a & b, 7 a, 8-15 a & b.
Key: a—Department of Commerce & Industry.
b—Department of Finance.

CHAPTER XXXVII

COMMERCE

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 and Mitsubishi concerns 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, manufacturing industries with ¥44,580,000, commerce ¥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 société 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 société, 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 kabushiki-kaisha corresponds to société 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 société en commandite par actions under the French, and Kommanditgesellschaft auf Aktien 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 increasing steadily since 1932. In 1938 the total value of production was 25,171 million yen, this being exclusive of mining output for which figures are not released, as contrasted with 11,515 million yen in 1927. The manufacturing industry led in the value of production of all industries in 1938, followed by agriculture and the fishery industries. The situation in recent years is as follows:

Business Results of Leading Compa

	Capital		Face Value or Paid-up per share (¥)	Reserves (¥1,000)	Profits		Dividend Rate (%)
	Authorized (¥1,000)	Paid-up (¥1,000)			Amount (¥1,000)	% against Paid-up cap.	
FIBER & TEXTILE INDUSTRY:							
Asahi Bemberg	46,000	37,000	50.0	2,874	3,014	16.3	10.0
Dainihon Spinning	113,000	69,500	50.0	44,140	12,704	36.6	12.0
Fuji Gas Spinning	55,250	40,000	50.0	14,111	4,496	22.5	8.0
Kanegafuchi Spinning	120,000	75,000	50.0	63,542	21,591	57.6	20.0
Katakura Filature	59,100	29,550	50.0	16,243	8,117	54.9	10.0
Kurashiki Spinning	35,000	27,500	50.0	5,398	4,337	31.5	10.0
Naigai Cotton	33,000	24,500	50.0	26,743	10,813	88.3	12.0
Nihon Woolen	50,000	35,000	50.0	33,317	6,523	37.3	12.0
Teikoku Rayon	36,000	32,250	50.0	10,544	5,206	32.3	15.0
Toyo Rayon	30,000	25,000	50.0	9,741	4,592	36.7	12.0
Toyo Spinning	72,725	72,725	50.0	70,050	13,642	37.5	18.0
ELECTRICITY:							
Nippon Hasso-den	730,315	664,315	50.0	7,113	20,847	5.7	4.0
Dainippon Elec. Power	108,080	87,613	50.0	9,839	7,687	17.8	8.0
Kinugawa Elec. Power	45,000	27,675	50.0	3,697	1,182	8.5	6.0
Kyushu Elec. Power	79,200	55,449	50.0	12,079	3,568	12.9	8.0
Nippon Elec. Power	222,800	164,617	50.0	15,094	8,033	9.8	7.0
Toho Elec. Power	261,000	261,000	50.0	14,241	17,118	13.1	8.0
Tokyo Elec. Light	429,562	429,562	50.0	56,749	31,434	14.6	8.0
Ujigawa Electric	200,000	123,928	50.0	8,763	4,860	7.8	4.0
SHIPPING:							
N. Y. K.	106,250	29,250	50.0	99,123	22,353	48.5	8.0
O. S. K.	100,000	75,000	50.0	62,605	18,601	49.7	8.0
MINING:							
Hokkaido Colliery & S.S. Co.	140,000	87,500	50.0	29,637	6,322	14.5	9.0
Iwaki Colliery & S.S. Co.	27,500	17,188	50.0	2,426	963	11.2	5.0
Japan Mining	240,150	200,125	50.0	16,142	20,380	20.4	12.0
Kyushu Colliery & S.S. Co.	200,000	149,853	50.0	79,698	12,063	16.1	12.0
Mitsubishi Mining	80,000	80,000	50.0	38,752	13,030	32.6	8.0
Nippon Oil	50,000	37,500	50.0	1,008	2,263	11.0	8.0
Nisso Mining	20,000	20,000	50.0	845	1,895	9.5	4.0
North Saghalien Petroleum	33,000	20,625	50.0	3,201	814	7.9	7.0
Toho Colliery	33,000	20,625	50.0	3,201	814	7.9	7.0
MACHINERY & SHIPBUILDING:							
Fuji Electric	25,000	17,500	50.0	4,764	2,185	25.0	10.0
Furukawa Elec. Indus.	50,000	42,035	50.0	20,692	4,095	19.5	10.0
Hitachi, Ltd.	204,500	167,083	50.0	34,800	27,176	32.5	12.0
Ikegai Iron Works	20,000	12,500	50.0	4,835	1,806	28.9	10.0
Japan Iron & Steel Mfg.	500,000	429,719	50.0	365,545	26,247	21.5	7.0
Japan Steel	30,000	30,000	50.0	8,105	4,407	29.4	8.0
Japan Steel Tube	100,000	84,355	50.0	46,935	14,444	34.2	10.0
Kawasaki Heavy Indus.	200,000	140,000	50.0	1,630	7,007	10.0	6.0
Kobe Steel Works	90,000	76,291	50.0	46,935	8,076	21.2	9.0
Manchuria Indus. Develop.	450,000	450,000	50.0	66,227	30,617	13.6	10.0
Mitsubishi Elec. Mfg.	30,000	30,000	50.0	19,424	3,811	25.4	10.0
Mitsubishi Heavy Indus.	240,000	160,000	50.0	68,127	11,810	14.8	7.0
Nakayama Steel Works	42,438	29,487	50.0	11,456	2,568	17.4	12.0
Niigata Iron Works	20,000	15,000	50.0	4,887	2,971	39.6	10.0
Showa Elec. Indus.	110,000	87,500	50.0	11,576	7,918	18.1	10.0
Nippon Vehicle Mfg.	20,000	12,500	50.0	14,144	5,083	81.3	10.0
Riken Heavy Indus.	30,600	30,400	50.0	2,266	1,905	12.5	10.0
Sumitomo Metal Indus.	200,000	120,765	50.0	30,178	10,564	17.5	9.0
Tokyo Shibaura Electric ..	87,000	82,125	50.0	25,487	8,613	21.0	10.0

nies (At End of 2nd Half, 1938)

Movement of Stock Forward Quotations (Unit: ¥)

	1937		1938		1939		1940 J ⁿ -Oc.	
	High	Low	High	Low	High	Low	High	Low
† 82.7	67.5	† 75.0	66.5	† 78.0	67.5	† 78.8	61.0	
125.2	86.5	107.2	93.3	118.0	92.5	† 57.7	30.5	
81.0	55.0	64.7	47.0	84.9	55.7	76.7	53.2	
331.4	208.4	290.0	134.1	128.7	66.6	187.1	135.1	
31.5	22.0	26.8	24.0	42.8	25.4	42.0	25.5	
107.6	56.1	71.1	53.3	88.8	64.7	87.0	58.0	
108.4	72.0	97.0	78.0	118.3	97.6	*119.3	87.5	
122.0	91.0	102.0	88.7	109.0	92.7	—	—	
164.4	115.0	144.7	103.5	140.0	102.0	102.3	92.1	
*121.8	77.6	107.8	68.1	104.9	77.1	101.9	65.2	
215.1	158.0	193.1	147.0	213.0	156.8	—	—	
—	—	—	—	† 48.5	44.0	—	—	
61.1	48.0	54.2	49.0	66.0	54.0	70.0	50.1	
52.5	40.0	46.0	40.1	52.6	49.0	54.4	40.5	
*55.5	45.4	52.2	49.5	58.6	51.2	71.0	65.8	
57.4	39.9	50.8	41.3	55.8	46.9	57.0	41.0	
64.9	46.1	55.7	51.0	64.4	54.4	66.2	50.7	
66.8	47.9	57.5	52.0	65.3	53.2	67.9	51.6	
51.0	43.0	44.3	39.7	49.5	40.5	—	—	
103.9	69.5	86.5	58.5	114.9	61.1	115.5	73.4	
91.3	58.1	77.3	56.8	104.9	63.3	113.4	72.1	
105.9	83.0	99.5	64.2	85.0	70.0	85.9	65.1	
61.0	33.6	82.8	52.7	69.4	50.6	63.2	33.0	
113.0	97.3	122.4	77.4	96.9	74.3	93.6	56.1	
133.9	07.0	121.9	103.0	112.0	93.0	—	—	
148.4	114.4	139.5	86.4	117.9	90.5	114.4	77.0	
110.1	74.5	88.0	64.5	85.8	67.2	86.5	64.2	
† 23.0	17.5	33.5	19.8	38.5	20.0	37.9	10.6	
61.6	33.0	46.4	29.6	58.9	29.8	55.0	37.0	
87.0	61.0	91.7	45.6	59.8	46.7	55.5	32.0	
† 89.5	65.5	74.4	66.5	89.4	73.8	92.0	74.0	
137.2	79.7	94.2	82.0	107.8	85.0	107.9	79.0	
† 148.8	88.8	115.5	79.5	101.2	71.5	100.0	63.7	
120.0	88.6	114.0	72.0	92.5	72.0	99.9	77.7	
80.6	64.0	77.8	57.1	69.9	59.5	69.0	52.1	
—	—	† 44.7	30.5	94.5	44.5	—	—	
139.9	88.7	114.4	80.0	95.9	82.0	97.4	59.5	
† 107.1	70.3	93.3	64.2	89.6	66.7	92.4	69.7	
91.9	62.0	91.3	64.0	84.9	66.5	84.2	56.6	
† 67.0	49.5	78.5	50.3	138.8	70.5	—	—	
98.1	74.8	88.3	68.1	110.8	70.6	88.5	72.5	
† 81.0	61.7	104.0	77.5	93.5	76.8	94.0	77.8	
110.7	81.5	109.7	68.3	95.4	68.5	103.0	79.9	
102.6	68.1	80.0	59.0	63.3	56.9	69.8	44.6	
† 99.7	80.5	104.0	75.9	101.8	78.0	104.8	83.5	
† 108.0	72.5	81.0	63.0	73.0	62.0	75.0	52.0	
† 125.0	81.5	91.6	82.0	115.0	82.6	112.5	77.3	
† 11.0	94.0	105.0	94.7	124.4	96.0	130.0	87.2	

	Capital		Face Value or Paid-up per share (¥)	Reserves (¥1,000)	Profits		Dividend Rate (%)
	Authorized (¥1,000)	Paid-up (¥1,000)			Amount (¥1,000)	% against Paid-up cap.	
FOODSTUFF INDUSTRY:							
Dainihon Beer	94,000	59,800	50.0	31,789	6,025	20.2	12.0
Dainihon Sugar	74,420	66,708	50.0	35,481	9,273	27.8	12.0
Ensuiko Sugar	60,000	36,938	50.0	5,909	3,991	21.6	9.0
Kirin Beer	10,800	10,800	50.0	16,008	1,539	28.5	10.0
Meiji Sugar	58,000	45,000	50.0	52,765	8,975	39.7	12.0
Nichiro Fishery	53,800	42,300	50.0	10,672	5,006	23.7	10.0
Nippon Flour	20,000	15,000	50.0	2,208	1,821	24.3	10.0
Nippon Marine Products ..	93,000	68,250	50.0	14,690	9,117	26.7	12.0
Nisshin Flour	25,930	16,885	50.0	6,630	1,946	23.1	10.0
Taiwan Sugar	63,000	43,080	50.0	65,184	10,195	47.3	12.0
CHEMICAL INDUSTRY:							
Dainihon Celluloid	20,000	20,000	50.0	11,026	2,227	22.3	8.0
Electro-Chemical Indus. ...	56,000	35,000	50.0	3,996	3,243	18.5	10.0
Japan Dyestuff	30,000	18,750	50.0	8,363	3,782	40.3	12.0
Nippon Nitrogen	200,000	154,167	50.0	15,266	10,965	14.2	10.0
Nippon Soda	104,000	95,793	50.0	6,210	8,317	17.4	8.0
Nissan Chemical Indus. ...	124,000	93,000	50.0	9,986	10,456	22.5	10.0
Oji Paper	300,000	224,994	50.0	87,058	22,763	20.0	10.0
Oriental High Pressure ...	65,000	39,875	50.0	2,525	3,895	19.5	10.0
Sumitomo Chemical Indus. .	40,000	40,000	50.0	7,880	2,175	10.9	9.0
Tokuyama Soda	20,000	20,000	50.0	2,496	2,167	21.7	10.0
Toyo Soda Industry	30,000	16,500	50.0	2,782	1,645	21.2	12.0
CERAMIC INDUSTRY:							
Asahi Glass	41,250	41,250	50.0	19,123	6,362	30.8	15.0
Asano Cement	116,310	70,063	50.0	7,638	3,312	14.2	6.0
Chichibu Cement	12,000	5,800	50.0	2,887	853	29.4	13.0
Iwaki Cement	23,000	13,775	50.0	2,698	1,123	16.3	8.0
Japan Sheet Glass	10,000	5,500	50.0	1,505	485	16.7	8.0
Onoda Cement	40,340	36,302	50.0	10,154	3,474	19.1	10.0
MISCELLANEOUS:							
Matsuya Depart. Store ...	5,000	5,000	50.0	1,810	1,095	43.8	10.0
Mitsukoshi Depart. Store ...	30,000	21,000	50.0	2,407	3,509	33.4	10.0
Oriental Development	50,000	41,250	50.0	7,645	3,161	15.3	7.0
Shirokiya Depart. Store ..	10,500	10,500	50.0	183	1,133	21.6	7.0
Shochiku Theatrical	37,401	37,401	50.0	1,560	4,107	22.0	7.0
South Seas Development ..	20,000	15,273	50.0	1,312	1,877	24.6	7.0
Takashimaya Depart. Store	14,000	12,600	50.0	2,536	1,934	30.7	9.0
Toho Theatrical	6,920	6,920	50.0	448	952	27.5	10.0
RAILWAYS:							
Hanshin Express	55,000	55,000	50.0	9,423	4,728	17.2	10.0
Hanshin Elec. Railway	95,000	61,750	50.0	6,262	3,982	12.9	9.0
Keihan Elec. Railway	93,850	58,994	50.0	5,849	2,826	9.6	5.0
Keio Electric Railway	19,350	14,513	50.0	2,365	1,395	19.2	10.0
Keisei Elec. Railway	40,500	26,325	50.0	2,608	2,200	16.7	10.0
Toyoko Elec. Railway	72,500	51,625	50.0	3,707	4,879	18.9	10.0
Nogoya Railway	75,582	42,220	50.0	1,473	2,514	11.9	6.0
Nankai Elec. Railway	70,000	48,000	50.0	7,929	3,040	12.7	10.0
Oji Elec. Railway	24,000	17,000	50.0	3,274	1,538	18.1	10.0
Osaka Elec. Railway	60,000	49,290	50.0	4,736	3,334	13.5	8.0
Tobu Elec. Railway	50,500	37,500	50.0	6,037	3,331	17.8	8.0
Tokyo Underground	58,519	40,105	50.0	732	1,806	9.0	6.0
EXCHANGE:							
Nippon Beikoku (Rice) ..	30,000	7,500	50.0	—	184	4.9	6.9
Osaka Sampin	5,000	2,750	50.0	2,002	118	8.6	5.0
Osaka Stock	45,000	29,500	50.0	2,307	1,243	8.4	6.0
Tokyo Stock	50,000	42,500	50.0	10,848	2,744	12.9	7.6
Yokohama Exchange	6,500	6,500	50.0	660	942	29.0	10.0

Note: * Represents new shares. † Represents spot quotations. ‡ Represents short term.

Movement of Stock Forward Quotations* (Unit: ¥)									
	1937		1938		1939		1940 Jan.—Oct.		
	High	Low	High	Low	High	Low	High	Low	
	123.0	99.1	115.0	96.0	114.5	103.0	—	—	
	120.4	89.9	104.4	87.2	115.0	92.3	114.8	79.0	
	101.6	57.7	70.4	55.5	86.5	61.8	88.0	57.5	
	152.8	127.8	132.3	112.4	125.0	106.1	125.0	98.0	
	133.5	103.5	109.0	103.5	123.5	111.9	—	—	
	77.5	55.4	71.0	55.1	84.4	54.7	81.6	54.6	
	105.0	61.4	107.5	79.6	100.0	80.5	99.0	70.0	
	94.0	72.0	87.0	76.0	91.3	71.0	—	—	
	100.6	69.2	94.3	77.5	103.0	82.7	92.9	73.1	
	131.9	109.4	124.4	105.0	129.0	111.0	—	—	
	82.0	60.0	71.0	59.0	87.2	63.5	90.0	72.0	
	95.5	63.6	87.9	50.9	74.4	54.6	76.2	55.1	
	150.5	106.5	140.5	85.5	111.0	83.3	109.3	80.0	
	125.9	71.4	90.0	75.3	105.0	79.4	108.8	69.0	
	128.2	65.9	89.7	51.9	78.0	55.3	74.7	40.5	
	—	—	25.5	15.3	38.3	16.0	38.9	24.0	
	108.9	89.6	99.8	88.9	97.8	88.5	100.5	80.0	
	97.0	68.5	110.2	66.5	86.9	69.2	87.0	65.8	
	138.0	76.0	93.8	79.9	113.0	77.8	115.0	75.5	
	78.5	51.0	64.6	49.0	71.0	50.2	72.0	46.0	
	106.0	62.0	80.0	50.5	70.5	51.5	74.0	54.5	
	—	—	116.4	77.0	163.5	105.0	160.4	119.5	
	45.7	34.0	46.9	36.0	57.2	38.4	60.1	48.9	
	75.3	66.0	70.5	68.1	71.9	68.1	72.5	64.0	
	73.9	49.9	63.7	49.0	65.1	49.7	65.4	52.1	
	125.0	108.5	109.5	83.5	91.0	79.0	98.0	87.5	
	94.5	70.0	80.5	68.1	84.3	67.7	84.5	71.0	
	87.7	63.0	77.5	69.2	79.3	70.0	81.5	60.0	
	103.5	83.5	96.0	89.0	94.1	90.0	—	—	
	63.6	43.1	58.4	45.7	68.9	49.4	72.2	53.8	
	44.8	36.8	45.0	36.0	62.0	37.9	69.1	39.7	
	46.0	33.1	39.0	28.3	62.0	31.1	67.2	45.5	
	149.0	77.0	91.5	84.5	55.0	26.6	61.3	28.0	
	67.0	52.0	57.5	50.3	69.6	53.6	73.0	53.2	
	40.3	32.8	37.5	28.8	40.8	30.4	45.0	32.7	
	100.1	79.6	91.0	85.1	100.6	88.3	105.5	80.0	
	82.5	70.4	77.5	69.0	89.3	74.6	92.2	70.0	
	—	—	37.8	31.4	64.0	37.2	66.2	40.0	
	62.0	53.4	60.8	53.3	77.0	61.0	85.5	74.7	
	62.0	47.4	57.0	50.2	76.8	54.7	85.0	62.5	
	68.8	58.0	67.5	61.5	85.8	72.0	89.7	73.2	
	53.5	45.0	50.0	45.5	67.0	48.5	67.3	58.3	
	91.7	73.5	87.7	81.3	98.8	85.1	102.8	79.2	
	74.5	64.0	66.8	62.1	79.2	62.3	87.2	69.5	
	74.0	61.0	74.7	67.4	92.6	73.5	95.0	67.0	
	70.9	61.0	66.5	61.8	75.9	64.4	81.0	76.1	
	36.6	27.7	36.7	31.2	58.9	40.5	62.0	46.5	
	—	—	—	—	—	—	—	—	
	109.5	66.8	72.0	62.0	58.0	52.9	—	—	
	112.5	79.4	101.0	71.2	94.4	60.6	80.7	52.3	
	180.5	127.1	173.7	116.6	170.3	111.8	153.0	101.6	
	45.3	33.5	38.0	33.8	51.0	35.0	47.7	29.8	

Table 1: Production Value of All Industries in Japan Proper

(Unit: Million Yen)

	(1)		(2)		(3)		(4)		(5)		(6)		Total	
	Agriculture		Stock-breeding		Forestry		Fishery		Mining		Mfg. Ind.			
1927....	3,258	28.4	252	2.2	336	2.9	555	4.8	368	3.2	6,746	58.5	11,515	100
1930....	2,172	23.2	230	2.5	218	2.3	440	4.8	308	3.3	5,963	63.9	9,331	100
1933....	3,743	29.0	223	1.8	248	1.9	453	3.5	354	2.8	7,871	61.0	12,892	100
1934....	2,412	18.2	238	1.8	291	2.2	497	3.8	432	3.3	9,390	70.2	13,260	100
1935....	2,851	18.8	250	1.6	298	1.9	515	3.4	504	3.3	10,837	71.0	15,255	100
1936....	3,280	19.0	271	1.6	339	2.0	616	3.5	589	3.4	12,258	70.5	17,253	100
1937....	3,688	...	401	...	532	...	642	...	...	...	16,356	...	†21,619	...
1938....	3,673	...	479	...	564	...	778	...	...	...	19,677	...	†25,171	...

Note: (1) Total output of rice, barley, oat, wheat, rye, & other crops, fruits, vegetables, industrial crops, sapling, tea, cocoons, green manure, etc.
 (2) Slaughter meat, milk, fowls, eggs, honey & bee wax, milk and meat products.
 (3) Timber, fagot, bamboo and other forestry products.
 (4) Coastwise fishery crops, fish-culture, various marine manufactures, isinglass, and other crops from deepsea, trawling, whaling, Kamchatka fishery, Soviet-water fishery and Antarctic results.
 (5) Total mineral output.
 (6) Total of all the manufacturing industries, exclusive of factories employing less than five workers.
 † This is exclusive of the value of production from mining, the figure for which has not been officially released.

RECENT CORPORATE SITUATION

No. of Companies.—The number of companies of all varieties increased steadily up to 1937, according to the returns of the Department of Commerce and Industry. In the thirteen years ending 1938 there was an increase of 2.3 folds in the number of companies, the figures being 36,068 in 1926 and 83,042 in 1938.

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 63% against the total number of 83,042.

Corporate Investments Classified.—The net total corporate investment in the various enterprises has been increasing in recent years by roughly one thousand million. In 1938 the total of such capital investments outstanding was approximately 22,391 million yen, showing an increase of 2,531 million yen compared with the previous year. The manufacturing industry accounts for the largest capital investments. In 1938 investments outstanding in this industry was 45% of the total corporate investments in all industries. It was followed by commerce with 33%, transport with 8.2%.

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 1938 the capitalization of the joint stock companies aggregated roughly 20,054 million yen, representing 66% of the total capitalization of all companies. This was followed by the unlimited partnerships with 1,375 million yen (4.5%) and the limited partnerships with 957 million yen (3.1%).

Reserves.—Total corporate reserves is on the increase in recent years. In 1938 the total amounted to 4,823 million yen, representing an increase of approximately 9.5% over the previous year. The amount in 1938 corresponded to 16% of authorized capitalization and 21% 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 2,323.9 million yen in 1938. This corresponds to ¥23,085 per company in 1926 and ¥27,985 per company in 1938. 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 of 11.8% in 1938 as compared with 9.6% in the aquatic industry, followed by commerce (9.4) and mining (9.0), and the lowest enterprise was represented by agriculture with 4.1%.

Table 2. General Statistics of Companies by Business

	No. of firms	Investment & authorized capital	(In ¥1,00)			Balance or Net Profit or loss	Profit % to paid capital
			Investment paid-up capital	Reserves	Dividends		
Agriculture							
1931	1,005	179,420	120,314	9,411	931	-3,692	—
1935	1,957	178,379	139,052	13,054	4,238	2,976	2.1
1936	1,987	184,423	144,768	13,116	4,471	5,346	3.7
1937	1,942	199,981	148,699	13,904	6,474	7,172	4.8
1938	1,763	216,175	159,547	14,060	5,564	6,552	4.1
Of which:							
Farming	648	55,361	—	7,293	1,934	2,639	—
Horticulture	156	5,925	—	365	89	14	—
Sericulture	389	10,707	—	197	52	-35	—
Reclamation	63	26,935	—	1,558	258	-200	—
Stockbreeding & Poultry	189	5,004	—	40	7	-111	—
Forestry	204	108,033	—	4,553	3,181	4,216	—
Total incl. others	1,763	216,175	—	14,060	5,554	6,552	—
Aquatic							
1931	294	127,246	83,780	10,535	1,180	-941	—
1935	332	151,090	126,863	13,911	10,136	14,961	11.8
1936	346	182,241	152,003	16,665	10,367	14,591	9.6
1937	353	253,678	176,656	24,633	10,776	14,609	8.3
1938	313	263,094	201,502	27,901	16,022	19,441	9.6
Of which:							
Fishing & Seaweeding ..	253	257,117	—	27,333	15,907	19,293	—
Fish-culture	60	5,977	—	568	115	147	—
Total	313	263,094	—	27,901	16,022	19,441	—
Mining							
1931	383	961,868	712,460	97,794	15,652	3,170	0.4
1935	611	1,269,098	978,661	141,984	63,863	94,839	9.7
1936	697	1,418,426	1,114,037	170,580	69,684	104,573	9.4
1937	836	1,758,504	1,494,996	210,738	85,222	124,430	8.4
1938	991	2,294,098	1,889,970	246,329	107,929	170,665	9.0
Of which:							
Metals	397	1,086,982	—	100,241	55,864	80,569	—
Coal	215	928,478	—	107,840	39,401	70,092	—
Petroleum	38	180,845	—	32,724	8,480	15,509	—
Total incl. others	991	2,294,098	—	246,329	107,929	170,665	—
Manufacturing Industries							
1931	19,969	7,673,519	5,604,244	827,873	268,877	247,626	4.4
1935	29,312	9,456,416	7,213,539	1,202,111	480,509	719,535	10.0
1936	30,986	10,701,376	7,942,512	1,371,321	542,066	798,918	10.1
1937	30,518	12,851,304	9,396,950	1,597,921	646,736	989,005	10.5
1938	30,565	14,972,279	10,904,511	1,965,666	783,384	1,282,266	11.8
Of which:							
Textile	4,282	1,705,015	—	443,545	107,217	162,494	—
Metallic	2,562	1,764,399	—	344,260	89,539	231,777	—
Machine & Tool ..	4,844	2,595,413	—	335,777	137,940	266,307	—
Ceramics	790	487,960	—	62,321	23,880	35,270	—
Chemical	3,192	3,320,576	—	299,293	156,738	240,253	—
Laubering & Woodworking ..	2,183	101,782	—	7,021	3,402	6,170	—
Printing & Bookbinding ..	1,159	65,031	—	6,214	1,933	3,200	—
Food & Drink ..	5,852	896,477	—	160,779	44,307	71,405	—
Gas, Electric & Waterworks ..	459	3,512,693	—	256,379	197,994	225,991	—
Total incl. others	30,565	14,972,279	—	1,965,666	783,384	1,282,266	—

Commerce

	No. of firms	Investment & authorized cap. tal	Investment & paid-up cap. tal	Reserves	D.v.denda	Balance Net Profit or loss	Profit % to paid-up capital
1931	30,794	8,292,846	5,937,028	1,783,832	210,506	186,840	3.1
1935	45,852	8,965,151	6,582,352	2,041,360	479,177	479,795	7.3
1936	47,090	9,105,441	6,105,305	2,205,008	319,615	549,319	8.1
1937	44,953	9,299,678	6,940,936	2,223,407	370,946	622,582	9.1
1938	43,040	9,830,539	7,289,465	2,285,799	382,965	683,500	9.4
Of which:							
Sale of Commodities	2,690	1,840,415	—	165,620	86,446	159,200	—
Imports & Exports Commission	880	520,952	—	135,137	41,249	62,496	—
Brokers	3,661	981,658	—	72,703	24,805	41,153	—
Stock Exchange	26	141,002	—	23,008	7,168	9,513	—
Publishers	568	108,684	—	18,801	2,992	4,378	—
Warehousing	456	182,737	—	20,994	3,541	5,924	—
Financing	2,404	2,561,864	—	1,256,241	103,484	194,565	—
Insurance	79	362,950	—	312,638	20,417	86,238	—
Real Estate	1,402	383,929	—	17,013	6,644	8,032	—
Hotel, Restaurant	2,234	130,962	—	4,313	2,233	2,848	—
Amusement	867	139,501	—	3,044	3,987	4,168	—
Total incl. others	43,040	9,830,539	—	2,285,799	382,965	683,500	—

Transportation

1931	4,781	2,316,645	1,502,560	162,685	46,168	37,696	2.5
1932	5,083	2,310,644	1,527,056	165,335	28,452	31,948	2.1
1933	5,338	2,308,643	1,557,718	168,090	38,186	37,134	2.4
1934	5,739	2,301,140	1,576,918	176,952	44,656	60,863	3.9
1935	6,082	2,332,262	1,619,710	196,799	58,090	88,801	5.5
1936	6,405	2,385,853	1,679,888	209,973	63,156	91,694	5.5
1937	6,440	2,549,008	1,802,612	235,415	80,694	139,684	7.7
1938	6,370	2,673,994	1,946,282	283,886	97,516	161,115	8.3

Of which:							
Railways & Trams	297	1,519,002	—	86,115	50,291	60,933	—
Steamship & Transportation	328	710,936	—	175,863	34,951	80,396	—
Automobile Transportation	2,192	142,176	—	6,072	3,401	6,211	—
Express	3,114	243,147	—	13,788	8,235	14,504	—
Total incl. others	6,370	2,673,994	—	283,886	97,516	161,115	—

Total

1931	57,226	19,551,544	13,960,385	2,892,130	549,314	470,697	4.4
1932	65,041	19,484,541	14,046,604	2,934,913	545,113	628,705	4.5
1933	71,196	19,960,318	14,546,789	2,992,992	638,799	953,427	6.6
1934	78,198	21,126,978	15,775,161	3,317,793	777,698	1,180,343	7.7
1935	84,146	22,352,402	16,660,177	3,609,218	903,013	1,400,905	8.4
1936	87,511	23,977,761	17,798,915	3,986,662	1,009,359	1,564,538	8.8
1937	85,042	26,912,153	19,960,849	4,305,417	1,200,849	1,897,482	9.5

Table 3. No. of Companies Classified By Corporate Organization
(Capital and Investment in Million Yen)

	Partnership		Limited Partnership		Joint Stock			Total incl. Others	
	No. of Cos.	Investment	No. of Cos.	Investment	No. of Cos.	Authorized capital	Paid up capital	No. of Cos.	Total Investment
1924	51,28	887	10,639	706	17,754	14,539	9,250	33,567	16,140
1928	6,458	1,119	16,971	836	18,238	17,005	11,200	41,702	18,968
1932	10,925	1,171	34,059	977	20,018	17,327	11,891	65,041	19,484
1933	12,344	1,167	38,038	1,033	20,771	17,751	12,339	71,196	19,960
1934	14,357	1,233	41,822	1,094	21,981	18,791	13,440	78,198	21,126
1935	16,449	1,306	44,388	1,150	23,268	19,888	14,198	84,146	22,352
1936	17,531	1,356	45,186	1,189	24,756	21,426	15,249	87,511	23,978
1937	16,387	1,356	42,354	945	26,270	24,606	17,655	85,042	26,912
1938	15,610	1,375	39,106	957	28,298	27,913	20,054	83,042	30,250

Table 4. (A) No. of Companies Classified by Capital

	Below ¥50,000	¥50,000 to ¥100,000	¥100,000 to ¥500,000	¥500,000 to ¥1 million	¥1-5 million	¥5-10 million	Over ¥10 million	Total No. of Cos.
1928	23,453	5,144	8,143	2,051	2,199	321	391	41,702
1932	45,252	6,262	8,690	1,931	2,190	312	404	65,041
1933	50,626	6,599	9,065	1,995	2,198	308	405	71,196
1934	56,264	7,196	9,654	2,066	2,269	328	421	78,198
1935	60,496	7,941	10,356	2,180	2,387	356	430	84,146
1936	62,146	8,548	11,171	2,292	2,512	385	457	87,511
1937	58,213	8,760	11,938	2,405	2,706	421	539	85,042
1938	53,712	9,185	13,894	2,369	2,847	447	588	83,042

Table 4. (B) Debentures Issued Classified by Enterprises
(Unit: Million Yen)

	Banking	Gas & Electric	Transportation	Mfg. Ind.	Mining	Others	Total
1932	215.5	102.8	126.2	90.3	1.5	62.1	598.5
1933	586.2	390.0	390.0	366.8	47.3	189.5	1,936.8
1934	267.7	533.6	533.6	495.6	72.3	111.5	2,300.0
1935	328.9	362.8	362.8	401.4	37.8	162.1	1,624.6
1936	368.4	397.1	397.1	444.3	73.7	177.6	1,916.8
1937	527.4	202.5	202.5	1,013.7	161.0	315.6	2,549.5
1938	727.2	249.5	249.5	1,159.4	291.7	410.9	3,002.7
1939	456.1	462.1	390.2	1,701.8	310.7	532.5	3,853.4

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 March, 1939 there were throughout the whole country 116 Chambers of Commerce and Industry with a total membership of 3,913.

Table 6. Number of Chambers of Commerce and Industry

Year Ending Mar. 31:	No. of Chambers	No. of Members	No. of Electorates	Annual expenses (Yen)
1929	77	2,305	115,485	2,683,618
1930	89	3,040	131,555	2,760,957
1931	90	3,141	165,559	2,909,288
1932	92	3,258	162,320	2,552,759
1933	94	3,328	133,545	2,312,390
1934	97	3,435	100,414	2,300,798
1935	101	3,558	100,695	2,498,769
1936	103	3,627	114,096	3,025,880
1937	108	3,816	156,414	3,341,627
1938	111	3,913	177,189	3,751,007
1939	116	3,913	200,092	....

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, 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.

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 increase. 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 the end of 1940 the authorized capital is ¥50,000,000, fully paid up.

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
1939 September	35,725	18,188	2,532	7,073	3,017	66,537
1940 October	35,258	24,359	2,579	9,017	2,560	73,773

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 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.

In May 1938 it fell to 88% and it was 87% in September 1940.

Table 8. Japan's Position in Market Value
Indices of Industrial Shares
(1929—100)

	Japan (Mitsubishi 50 shares)	U. K. (London Cambridge 92 shares)	U. S. A. (Standard Statistics 351 shares)	Germany (Government 213 shares)	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	1935....	122.0	100.7	48.0	69.6
1930....	65.9	80.6	74.2	80.1	1936....	131.7	115.7	67.3	77.8
1931....	62.2	62.6	45.9	60.5	1937....	147.6	108.3	69.0	87.3
1932....	79.3	60.4	24.4	40.3	1938....	132.9	88.5	52.6	84.8
1933....	115.9	74.1	35.0	51.7	1939....	134.6	81.8	55.4	—
1934....	132.9	89.9	42.9	61.8	1939 June	128.0	84.9	52.6	—
					1940 June	141.5	59.0	45.1	—

Quotation of National Bonds

Domestic Quotations.—The quotation of Japanese national bonds on the domestic market is as follows:—

Table 9. Value Indices of Shares in Japan
(Compiled by the Tokyo Stock Exchange)

	General Index		Public utilities	Finance & insurance	Mining	Textile	Manufacturing	Com-merce	Shipping & trans- portation	Ex- change
	Value index	Volume index								
1921 Jan.	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	146.8
1934 "	119.3	64.3	118.4	168.5	139.2	75.3	74.2	37.3	54.5	115.7
1935 "	127.2	55.4	156.9	173.9	122.5	72.6	74.3	38.9	59.1	130.6
1936 "	134.9	54.3	153.5	171.8	138.1	82.6	85.1	29.6	76.0	108.1
1937 Jan.	144.6	126.3	173.4	174.1	146.6	82.2	105.1	34.5	101.9	122.3
" July	166.2	103.1	176.9	177.7	163.5	90.5	127.4	34.2	114.7	121.9
1938 Jan.	*164.0	*73.9	167.3	172.4	167.0	85.9	122.8	32.4	107.3	130.8
" July	*139.6	*64.0	158.0	170.1	149.4	67.7	104.2	29.0	90.5	101.5
1939 Jan.	*139.8	*59.4	170.4	175.1	143.4	70.4	104.4	31.8	99.6	95.7
" July	*157.1	*74.7	197.5	183.9	150.1	79.1	116.7	54.0	119.1	97.9
1940 Jan.	*189.2	*114.7	208.2	201.0	169.1	100.6	141.5	75.4	146.8	119.0
" July	*167.3	*100.4	138.3	197.0	138.3	88.3	124.0	63.2	136.4	109.7

Note: * Indicates new indices published by the Tokyo Stock Exchange in May, 1938 according to the Fisher's Method of Calculation.

Table 10. Stocks and Bonds

Average	Average price of 50 industrial shares		Price of Tokyo Stock Exchange Cos. shares		Tokyo Stock Ex. long-term transactions (Daily Ave.)		Price of Government bonds	
	¥	Index	¥	Index	Shares	Index	5% "Ko"	4% "1st"
1921-25	72.15	100	128.60	100	122,875	100	86.44	75.56
1931	36.76	51	130.25	101	93,114	76	92.81	78.02
1932	46.66	75	163.05	126	148,641	121	92.50	79.73
1933	68.19	95	182.56	142	184,680	150	100.72	93.50
1934	78.60	109	146.78	114	176,923	144	104.08	99.03
1935	71.94	100	138.43	108	120,562	98	103.95	98.80
1936	77.71	108	130.74	102	158,906	129	101.76	101.31
1937	87.05	121	147.76	115	187,560	162	101.28	101.53
1938	78.91	109	138.11	107	103,724	84	103.29	102.53
1939 Jan.	72.64	101	118.33	92	91,353	74	103.51	103.01
" Sept.	84.98	118	151.57	118	207,603	169	105.11	103.49
" Mar.	74.94	104	117.92	92	68,980	56	103.77	103.03
" May	74.70	104	112.53	88	60,727	49	104.07	103.00
" July	78.34	109	120.97	94	118,735	97	104.70	103.33
" Nov.	88.54	123	155.34	121	257,040	209	105.30	103.37
1940 Jan.	89.90	125	146.08	114	225,472	184	105.99	103.54
" Mar.	88.07	122	141.26	110	134,476	109	106.13	103.72
" May	87.47	121	142.29	111	110,388	90	106.98	103.79
" July	79.51	110	134.43	105	133,188	107	106.96	103.83
" Sept.	75.52	105	111.61	87	159,601	129	104.76	103.19
" Nov.	72.06	99	116.33	91	120,688	98	103.89	102.36

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% \$ Bonds		6½% \$ Bonds		4% £ Bonds		5½% £ Bonds	
	High \$	Low \$	High \$	Low \$	High £	Low £	High £	Low £
1933	80.00	35.75	90.75	45.75	74.25	43.00	92.00	62.00
1934	87.75	74.13	96.75	86.00	70.00	58.75	88.50	77.00
1935	89.88	77.75	100.38	90.25	70.50	62.00	91.75	79.50
1936	89.25	78.75	101.00	91.50	66.00	58.75	87.75	80.00
1937	89.13	53.00	100.25	67.88	66.00	39.50	88.50	54.50
1938	71.25	44.63	86.25	61.75	43.50	25.00	60.00	39.00
1939	75.00	50.00	85.00	65.21	42.50	21.50	61.25	35.00
1990 (Oct.)	63.00		77.50		36.00		...	

WAREHOUSING

With the great advance witnessed in the development of harbour warehousing, the first various industries and in the foreign trade of modern system having been established in 1905 Japan, the warehousing business has grown into by the Mitsubishi Warehousing Company at a large enterprise. Especially noteworthy is the Kobe.

Table 12. Goods in Godowns in Japan Proper

	Average			End of June			End of December		
	No. of Warehouses	1,000 Parcels	Value (¥1,000)	No. of Warehouses	1,000 Parcels	Value (¥1,000)	No. of Warehouses	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
1938	187	33,329	740,748	187	35,691	762,675	188	30,967	718,821
1939	188	31,327	818,183	188	32,469	826,841	185	29,947	293,452
1940	..	..	..	188	36,527	1,225,731	..	..	..

Table 13. Volume of Warehoused Goods

(Unit: In 1,000 Parcels)

	Domestic Rice		Imported Rice		Wheat		Sugar, refined		Silk tissues		Cotton tissues	
	June	Dec.	June	Dec.	June	Dec.	June	Dec.	June	Dec.	June	Dec.
1936	6,427	4,248	14	107	53	585	1,024	285	54	92	160	122
1937	4,918	3,117	15	32	112	554	1,323	180	59	127	200	175
1938	3,576	3,244	24	15	44	468	1,228	256	163	132	118	200
1939	3,904	1,242	19	32	26	1,150	1,238	220	203	193	281	353
1940	994	..	..	..	395	..	1,196	..	159	..	769	..

	Woolen tissues		American Cotton		Indian Cotton		Silk tissues		Cotton yarn		Woolen yarn	
	June	Dec.	June	Dec.	June	Dec.	June	Dec.	June	Dec.	June	Dec.
1936	39	34	158	173	176	75	83	79	31	29	19	20
1937	47	43	308	31	235	465	62	80	36	66	46	41
1938	36	32	2	5	2	3	64	61	50	154	40	24
1939	38	27	7	4	6	6	16	20	160	141	17	15
1940	35	..	9	..	12	..	36	..	152	..	15	..

	Hemp		Leather goods		Paper		Metal & metalware		Timber		Drugs	
	June	Dec.	June	Dec.	June	Dec.	June	Dec.	June	Dec.	June	Dec.
1936	36	79	31	43	235	228	3,899	3,810	214	279	643	643
1937	51	16	42	42	248	402	2,675	4,983	127	519	555	587
1938	10	20	42	40	360	316	5,037	5,473	338	421	681	492
1939	11	51	53	35	297	348	4,477	5,272	339	409	367	410
1940	43	..	9	..	400	..	6,037	..	450	..	376	..

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.

HIGHER PRICE TENDENCY UNDER CONTROL

As a result of the European war which broke out in 1939, it was feared that commodity prices in Japan might register sharp advances. Accordingly, the Government promulgated a decree prohibiting all prices rising above the levels prevailing on September 18, 1939. This law, however, has had very little effect until quite recently. Prices in general continued on the up-grade up to July of 1940. But the month of August witnessed an important change in the price trend. For the first time since the outbreak of the China Affair, the Bank of Japan's index of retail commodity prices for the month in Tokyo fell, though slightly, from the level of the previous month. This decline was due to the suspension of sales by auction of green vegetables and to the adoption of a rational method of dealing in line with the Government's policy of checking a rise of commodity prices. Not long after, a similar arrangement was put into effect in dealing with fresh fish.

In reviewing the changes in the retail commodity prices since the start of the current China hostilities in July, 1937, it is noticeable that the Commerce and Industry Ministry's index in July, 1938, showed a rise of 21% and the Bank of Japan's of 16%. Subsequently, however, a series of price control measures,

including the system of fixing standard maximum prices and sales price regulations, have obtained favorable results, although rather slowly, and the Commerce and Industry Ministry's index for July, 1939, showed an advance of only 9% over the previous year, while the Bank of Japan's index rose only 11%. Then, in September, 1939, the Government issued a statement with respect to emergency measures for the control of commodity prices, etc., on the basis of the provisions of the National General Mobilization Law. Especially notable was the fact that the Government prohibited, all at one time, the raising of freight rates, charterage, property insurance premiums and labor wages, as well as general commodity prices. In view of these rigid restrictions, it was generally thought that there would be no room for a rise in commodity prices. Quite to the contrary, however, a rising tendency later became more and more accentuated. In July, 1940, the Commerce and Industry Ministry's index recorded a drastic advance of 24% over the same month of the previous year, while that prepared by the Bank of Japan showed a gain of 21%. In other words, the price advance following the outbreak of the China Affairs was most conspicuous during the past year.

Table 14. Index Number of Wholesale Prices by Countries

(1929=100)

	Japan			U. K.	U. S. A.	Germany	France	Italy	Canada
	General Goods	Export Goods	Import Goods						
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	123.8	111.8	151.8	89.3	90.6	77.2	92.7	93.6	88.4
1938	140.2	120.9	163.9	77.8	82.5	77.1	104.1	100.3	82.2
1939	153.7	145.4	164.4	80.3	80.9	77.7	..	..	78.8
1939 (June)	148.9	139.6	158.4	75.5	79.3	77.8	108.9	102.8	76.7
1940 (June)	165.9	132.7	172.5	108.2	81.3	80.5	..	..	85.5

Table 15. Index Number of Wholesale Prices

(Prepared by the Department of Commerce and Industry)

(Based on December, 1929—100)

Year	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		
1938 (")	140.2	116.9	118.7	235.2	120.4	120.4	128.9	126.7	159.1		
1939 (")	153.7	142.4	145.0	194.6	161.8	123.3	151.8	139.8	171.9		
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		
1939 "	148.9	138.7	140.3	184.8	148.0	126.0	147.3	139.1	172.4		
1940 "	165.9	172.6	139.9	194.2	175.1	128.3	184.3	149.3	181.7		

Table 16. Average Wholesale Prices of Staple Commodities in Tokyo

(Unit: Yen)

Average in December Each Year

Commodities	Rice	Barley	Wheat	Wheat Flour	Soya Beans	Sugar	Green Tea	Raw Cotton
Brand:	Fukagawa Standard		Domestic	"Tsuru"	"Manchu White"	Refined No. 2	"Yama-shiro"	Indian "Akola"
Unit:	Koku	Koku *100 kin	100 kin	59 kin	Koku *100 kin	100 kin	1 kwan	100 kin
1934	28.90	11.00	6.25	3.18	14.19	...	7.50	...
1935	29.40	10.50	8.45	3.97	16.34	...	7.30	...
1936	29.90	11.20	10.25	5.02	19.57	...	7.20	51.75
1937	33.10	8.10*	10.00	4.78	7.70	21.20	7.40	40.75
1938	35.30	9.00*	11.60	4.97	8.40	23.55	7.00	37.00
1939	43.30	10.30	13.20	...	13.90	24.45	8.00	63.50
1939 June	36.20	8.50	11.50	5.25	11.90	24.00	8.00	38.25
1940 June	44.10	10.30*	13.20	5.58	13.90	24.45	12.00	40.00
Commodities	Raw Cotton	Cotton Yarn	Raw Silk	Rayon Yarn	Silk Yarn	Woolen Yarn	Ramie Yarn	Fuji Silk
Brand:	American "Good Midling"	No. 40	"White 14 D"	120 D. No. 1	"Kobai 185"	Knitting Use	1st No. 30	"Flat 5,000"
Unit:	100 kin	bale	bale	100 kin	10 kwan	1 lb.	100 pcs.	yard
1934	68.70	...	630.00	93.00	330.00	1.61	51.00	0.505
1935	63.00	...	875.00	66.00	330.00	1.96	51.00	0.525
1936	73.25	430.00	910.00	90.00	325.00	3.15	50.00	0.500
1937	50.75	340.00	680.00	73.00	322.50	2.62	65.00	0.470
1938	52.25	301.50	842.50	90.00	415.00	3.05	80.00	0.620
1939	76.50	364.00	2,370.00	88.50	569.00	3.05	80.00	0.750
1939 June	54.00	324.00	1,175.00	90.00	630.00	3.25	80.00	0.760
1940 June	70.75	325.50	1,430.00	88.50	569.00	3.05	80.00	...
Commodities	Melton	Serge	Electrolytic Copper	Copper wire	Tin	Lead	Aluminium	Zinc
Brand:	"Yamato 10,000"	"Bishu 2/36"		Below g. 17	Singapore	Fine Australian	"Fine Imported"	No. 98
Unit:	meter	meter	100 Kg.	100 Km.	100 Kg.	100 Kg.	100 Kg.	100 Kg.
1934	...	...	72.00	...	406.00	20.50	...	31.00
1935	1.60	2.75	85.00	...	403.00	32.00	171.91	36.00
1936	1.95	3.50	110.50	119.60	430.00	51.00	209.55	41.00
1937	2.45	3.45	176.00	135.70	680.00	75.00	280.00	66.00
1938	3.35	5.00	...	134.00	387.00	36.00	211.30	47.00
1939	3.35	5.00	...	129.70	420.00	48.00	211.30	54.00
1939 June	3.35	5.00	107.00	129.70	410.00	36.00	211.30	47.00
1940 June	...	...	220.00	...	440.00	48.00	211.30	54.00

Commodities	Steel Rod	Pig Iron	Kerosene	Machine Oil	Gasoline	Coal	Charcoal
Brand:	Dia. 15 mm	"Kamaishi No. 3"	"White Bat"	No.-C	"Red Shell"	"Iwaki" fine	"Tohoku Nara"
Unit:	100 Kg.	Long ton	case	case	case	Metric ton	bale
1934	10.80	57.00	4.40	4.00	4.70	...	1.35
1935	8.00	54.50	4.00	3.90	5.20	15.00	1.25
1936	18.50	63.20	5.05	4.65	5.80	15.00	1.35
1937	24.00	88.50	5.90	6.00	7.30	24.00	1.35
1938	20.92	89.00	6.20	6.40	7.50	24.50	...
1939	20.60	89.00	7.10	7.20	7.50	24.50	...
1939 June	19.39	89.00	7.10	...	7.50	24.50	...
1940 June	19.0	89.00	7.10	7.20	7.50	24.50	...
Commodities	Brick	Glass Plate	Cement	Caustic Soda	Soda Ash	Rosin	Nitric Acid
Brand:	"1st"	Ordinary	"Asano"	Domestic	"Moon"	"1"	Domestic 40"
Unit:	10,000 pcs.	case	50 Kg.	100 Kg.	100 Kg.	100 Kin	66 Kg.
1934	280.00	8.35	1.25	17.64	10.58	9.80	9.30
1935	280.00	8.30	1.20	11.09	9.25	9.00	9.10
1936	300.00	7.50	1.20	13.00	7.00	17.00	7.50
1937	350.00	8.80	1.25	20.00	10.00	30.00	15.00
1938	...	9.10	1.30	23.50	12.80	15.00	12.70
1939	...	9.10	1.35	24.00	13.00	15.00	11.50
1939 June	...	9.10	1.35	24.00	13.50	15.00	1.00
1940 June	...	9.10	1.35	28.10	15.86	20.11	11.50
Commodities	Bleaching Powder	Potassium Chlorate	Sulphate of Ammonia	Sulphate of Ammonia	Superphosphate of lime	Soya Bean Cake	
Brand:	Domestic	Domestic	Domestic	Imported	Domestic	"Man-churian"	
Unit:	45 Kg.	112 lb.	10 Kwan	ton	straw bag	piece	
1934	4.80	24.00	3.49	94.00	1.11	1.72	
1935	3.80	23.50	4.68	121.00	1.25	1.95	
1936	2.60	19.00	3.35	85.00	1.17	2.39	
1937	4.50	25.00	4.00	100.00	1.90	2.45	
1938	4.80	29.00	3.81	97.00	1.93	2.75	
1939	5.40	31.00	3.86	...	1.83	4.05	
1939 June	5.0	30.00	3.86	...	1.83	3.21	
1940 June	5.40	31.00	3.84	...	1.83	4.40	

Note: The steep decline in prices of certain commodities since June, 1938 is due to the establishment of official price control.

Table 17. Yearly Movement of Forward Quotations of Principal Staple Commodities

(Unit: Yen)

Commodities	Year	Tokyo Exchange			Osaka Exchange		
		High	Low	Average	High	Low	Average
Rice (koku) ...	1935	31.79	28.88	30.41	31.66	28.99	30.45
	1936	34.64	28.44	31.64	34.59	28.37	31.69
	1937	35.61	30.07	33.11	36.00	29.81	33.07
	1938	36.77	34.23	35.38	36.40	33.95	35.29
	1939	39.44	36.33	37.12	39.89	36.13	37.37
Raw Cotton (100 kin).....	1935	...	...	...	69.65	54.05	62.23
	1936	...	...	...	74.30	57.70	62.38
	1937	...	...	...	84.70	50.00	70.83
	1938	...	...	...	59.85	51.95	55.21
	1939	...	...	...	92.45	49.15	67.88
Cotton Yarn (bale)	1935	222.90	183.20	203.10	222.30	181.70	204.80
	1936	257.50	187.10	203.30	255.70	185.70	200.20
	1937	281.90	209.90	247.70	283.00	207.00	227.00
	1938	240.90	187.50	210.50	238.30	183.90	210.19
	1939	206.50	203.00	204.75	208.00	204.50	206.01
Rayon (100 lbs.)	1935	81.90	54.90	66.76	80.90	50.00	64.39
	1936	88.00	52.00	59.17	89.90	51.70	59.11
	1937	96.90	62.70	77.81	94.70	61.10	76.85
	1938	98.80	72.10	85.03	98.90	71.20	82.59
	1939	95.00	94.90	95.00	90.00	89.60	89.92

Commodities	Year	Tokyo Exchange			Osaka Exchange		
		High	Low	Average	High	Low	Average
Sugar (100 kin)	1935	12.99	10.03	11.66	12.99	10.05	11.60
	1936	13.38	10.39	12.03	13.39	10.41	120.5
	1937	14.96	11.86	13.30	14.97	11.92	13.30
	1938	14.02	12.60	13.03	14.08	12.66	13.07
	1939	17.00	12.87	14.24	14.90	12.90	13.65

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 Museum, 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 STOCKS

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 18. Yields of Bonds and Stocks in Japan

(%)

Beginning of month	Bonds			Stocks			New Bonds	
	Government	Local	Debentures	Banks	Industries	Averages	High	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
1938 "	3.886	4.260	4.384	5.22	5.45	5.40	4.300	3.662
1939 Jan.	3.824	4.203	4.339	5.26	5.94	5.81	4.315	3.868
" June	3.816	4.197	4.339	5.04	5.65	5.53	4.300	4.150
1940 Jan.	3.798	4.168	4.332	4.69	4.97	4.91	4.300	4.087
" June	3.788	4.159	4.345	4.64	5.20	5.08	4.321	3.625

Foreign Investments in Japanese Companies the United States, Germany and Great Britain. A number of Japanese companies are invested in jointly by Japanese and foreign capital. The principal foreign investors are represented by Leading foreign investing companies are International General Electric, Westinghouse, Siemens Schuckers, Vickers Armstrong, etc.

Table 19 (A) Principal Foreign Investment in Japanese Enterprises

(1st half 1939)

Company	Total shares		Of which held by foreigners		Investor	% to total
	Total Shares	of which New	Total Shares	of which New		
Fuji Elec. Machinery	500	200	112.1	45.2	Siemens Schukert	29.2
			37.4	15.1	Siemens Halske	
Tokyo Shibaura Elec.	1,740	390	525.8	133.0	Int'l Gen. Elec.	31.3
			19.2	7.9	J. R. Geary	
Nihon Seikosho	600	..	73.8	..	Vickers Armstrong	12.3
Japan Musical Inst.	175	..	3.2	..	J. R. Geary	1.8
Japan Plate Glass	200	120	42.3	21.1	Libby-Owens-Ford Glass Co.	21.2
Toyo Linoleum	80	40	2.5	..	American Linoleum Co.	3.1
Asahi Bemberg Rayon	920	360	43.2	11.8	Allegemeine Kunstseide A.G.	9.8
			19.9	..	J. B. Bemberg A. G.	
			17.0	..	I. G. Farbeindustrie	
Mitsubishi Elec.	430	..	10.0	..	Koupprum A. G.	7.6
Sumitomo Elec. Cable	600	..	53.9	..	Westinghouse	8.9
					Int'l Standard Elec.	

(B) Electric Enterprise, Etc.

(In 1,000)

	Capital		Debentures issued abroad		Investors
	Authorized	Paid-up	Issued	*Out-standing	
Nippon Elec. Power	¥216,800	160,180	\$9,000 (¥18,054)	\$5,672 (¥1,378)	{ Chase, Harris Hobbs Co.
Nippon Hasso-Den	¥739,315	664,315	\$28,500 (¥57,171)	\$8,251 (¥56,552)	{ Dillon Reed Co.
Taiwan Electric Power	¥ 72,000	53,813	\$22,800 (¥45,737)	\$20,714 (¥41,552)	{ J. P. Morgan, Kuhn Loeb, Nat'l City Bk., First Nat'l Bk.
Toho Electric Power	¥261,000	261,000	\$15,000 (¥30,090)	\$1,683 (¥3,375)	{ Guaranty Trust Co., Lee Higginson, Harris Hobbs
			£300 (¥2,929)	£106 (¥1,034)	{ Lazard Bros.
Tokyo Electric Light	¥429,562	429,562	\$70,000 (¥140,420)	\$51,620 (¥103,450)	{ Guaranty Trust Co.
			£4,500 (¥43,934)	£3,431 (¥33,497)	{ Lazard Bros., Whitehall Trust Co.
			\$7,650 (¥15,346)	\$4,782 (¥9,593)	{ Dillon Reed Co.
Ujigawa Electric	¥200,000	146,250	\$14,000 (¥28,084)	\$4,379 (¥8,984)	{ Lee Higginson Co.
Oriental Development	¥ 50,000	42,500	\$39,800 (¥79,839)	\$24,190 (¥49,525)	{ National City Bk.
			£ 4,800	£ 3,537	
Total			\$206,750 (¥461,602)	\$121,390 (¥278,039)	

Note: † as at the end of 1 half, 1940.
* as in December, 1939.

References:

Table Nos.: 1 a & b, 2-4 a, 4-b & c, 5-6 a, 7 d, 8 h, 9 d, 10 h & d, 11 d, 12-13 e, 14 i, 15 a, 16 f, 17-18 d, 19-g.

Key: a—Department of Commerce & Industry.
b—Department of Agriculture & Forestry.
c—Hypothec Bank of Japan.
d—Tokyo Stock Exchange.
e—Japan Warehouse Association.
f—Toyo Keizai Shimpō-sha.
g—Japan-Manchoukuo Year Book Co.
h—Mitsubishi Keizai Kenkyūsho.

CHAPTER XXXVIII

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 1939 the combined value of exports and imports of Japan aggregated 6,494 million yen while the average corresponding figures for the years 1889-1893 was only 144 million yen.

From an international standpoint Japan's share in world trade was 3.7% as compared with 13.7% for the United Kingdom and 11.8% for the United States in 1937.

One of the basic changes of Japan's foreign trade in the last fifty years is the gradual trans-

formation of the country from an exporter of raw materials to finished products and the opposite as regards her position as an importer. In 1938 Japan's exports of finished products commanded 58.5 per cent of her total exports whereas in 1913 it was but 29 per cent. In imports, raw materials and semi-processed commodities claimed 74.9 per cent in 1938 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 unfavorable 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 and in 1935, 1938, 1939 and 1940 the balance was in Japan's favour.

FOREIGN TRADE IN 1940

Finance Minister Kawada disclosed in his address before the Diet on January 21, 1941 the returns for the foreign trade of Japan during the year 1940. According to his address, the total foreign trade for the year amounted to 7,681 million yen, of which exports accounted for 3,973 million yen and imports for 3,709 mil-

lion yen, resulting in an export excess of 263 million yen. An expansion in exports of 1% and in imports of 1.9% was noted in 1940 as compared with the previous year. The Finance Minister stated that the foreign trade with the so-called yen-bloc countries developed smoothly in 1940, while exports to third countries approximated the figures for 1939.

Table 1. Japan's Position in World Foreign Trade

(Unit: One Million U.S.A. (old) Gold Dollars)

	Japan Proper		U.K.		U.S.A.		Germany*		Italy		World Total
	Value	%	Value	%	Value	%	Value	%	Value	%	
1933	746	3.1	3,287	13.6	2,392	9.9	2,161	8.9	699	2.9	24,224
1934	774	3.3	3,233	13.9	2,229	9.6	2,025	8.7	659	2.8	23,288
1935	831	3.5	3,281	13.9	2,541	10.8	2,014	8.6	459	1.9	23,550
1936	916	3.7	3,614	14.5	2,857	11.5	2,141	8.6	481	1.9	24,931
1937	1,166	3.7	4,306	13.5	3,726	11.8	2,705	8.6	758	2.4	31,769
1938	891	3.2	3,840	13.8	2,957	10.7	2,546	9.2	669	2.4	27,736

Note: * Inclusive of the Great War reparations.
% Indicates percentage against the world total.

Table 2. Foreign Trade of Japanese Empire Since 1889

(In Million Yen)

(Averages)	Japan proper incl. Karafuto		Chosen		Taiwan		Nanyo (Mandated Islands)		Total		
	Exp.	Imp.	Exp.	Imp.	Exp.	Imp.	Exp.	Imp.	Exp.	Imp.	Total
1889-1893	70	74	—	—	—	—	—	—	70	74	144
1899-1903	244	270	—	—	11	12	—	—	255	283	538
1911-1914	531	584	5	21	13	18	—	—	549	623	1,172
1913	632	729	6	32	13	18	—	—	651	779	1,430
1914	591	596	9	25	13	13	—	—	611	633	1,244
1915	708	532	9	18	15	13	—	—	733	563	1,296
1916	1,127	756	15	23	32	15	—	—	1,174	795	1,969
1917	1,603	1,034	20	31	40	21	—	—	1,663	1,088	2,752
1918	1,962	1,668	19	43	33	34	—	—	2,014	1,745	3,759
1919	2,099	2,173	22	98	36	64	—	—	2,157	2,336	4,492
1920	1,948	2,336	28	106	35	60	—	—	2,011	2,503	4,514
1921	1,253	1,614	21	76	24	40	—	—	1,297	1,730	3,028
1922	1,637	1,890	17	96	31	37	—	—	1,686	2,023	3,709
1923	1,448	1,982	20	98	29	39	41	316	1,497	2,120	3,617
1924	1,807	2,453	22	98	43	46	58	115	1,872	2,598	4,470
1925	2,306	2,573	24	105	48	56	0.022	0.165	2,378	2,735	5,113
1929	2,149	2,216	36	108	33	65	0.078	0.629	2,218	2,389	4,607
1930	1,470	1,546	26	89	33	45	0.061	0.257	1,519	1,680	3,199
1931	1,147	1,236	13	53	19	31	0.010	0.178	1,179	1,319	2,499
1932	1,410	1,431	29	62	18	31	0.049	0.341	1,457	1,525	2,982
1933	1,861	1,917	53	64	18	35	0.584	0.439	1,932	2,018	3,950
1934	2,172	2,283	58	80	27	38	1.964	0.335	2,258	2,400	4,659
1935	2,499	2,472	65	100	37	45	2.632	0.601	2,603	2,618	5,222
1936	2,693	2,764	75	114	29	49	0.303	2.631	2,798	2,928	5,726
1937	3,175	3,783	113	126	30	44	0.388	1.268	3,319	3,955	7,274
1938	2,690	2,663	169	133	36	39	1.676	1.444	2,897	2,836	5,733
1939	3,576	2,918	270	157	83	51	3.451	1.357	3,933	3,127	7,060
1940	3,972	3,709	—	—	—	—	—	—	—	—	—
1936 (1st half)	1,196	1,313	32	55	12	26	0.242	0.484	1,294	1,579	2,843
1937 (..)	1,506	1,919	55	55	15	24	0.156	0.551	1,602	2,243	3,845
1938 (..)	1,193	1,215	71	58	16	21	0.773	0.740	1,288	1,484	2,772
1939 (..)	1,454	1,478	127	86	36	25	1.930	0.636	1,617	1,591	3,208
1940 (..)	1,862	1,712	107	111	49	33	1.219	0.394	2,020	1,856	3,877

Note: Inclusive of re-exports and re-imports.

Table 3. 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
1938	136.2	121.7	128.6	174.3	101.1	135.2	77.9	121.6	94.5
1938	136.4	121.3	128.4	174.4	99.7	135.0	78.2	122.0	97.9

Table 4. Exports and Imports by Groups
(In million yen; Percentage against Total)

	Exports									
	Food and drinks		Raw materials		Semi-processed goods		Finished goods		Total incl. others	
	Value	%	Value	%	Value	%	Value	%	Value	%
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
1938	300.2	11.2	105.2	3.9	672.2	25.2	1,569.6	58.5	2,678.5	100
1939	432.0	12.1	183.4	5.1	948.9	26.6	1,939.3	54.4	3,564.3	100

Imports

	Imports									
	Food and drinks		Raw materials		Semi-processed goods		Finished goods		Total incl. others	
	Value	%	Value	%	Value	%	Value	%	Value	%
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	10.1	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
1938	199.3	7.5	1,295.7	48.5	702.0	26.4	447.9	14.6	2,652.4	100
1939	230.7	7.9	1,414.1	48.7	860.0	29.6	390.6	13.4	2,905.3	100

Trade by Political Units

Classified by political units the British Empire is Japan's second best export outlet, preceded by Kwantung Province and Manchoukuo, taken as a unit.

The British Empire in 1939 took 18.1% of Japan's total exports as contrasted with 20.4% in 1929. Japan's imports from the British Em-

pire in 1939 represented 20.3% of our country's total imports for that year. The United States and possessions accounted for 18.1% of Japan's total export and 36.0% of Japan's total imports in 1939. Manchoukuo and Kwantung Leased Territory took 36.1% of our country's total exports in that year, as contrasted with only 5.8% in 1929.

Table 5. Japan's Trade Distribution by Political Units
(In million yen)

	Exports													
	British Empire		U.S.A. and Possessions		Netherlands and Colonies		France and Colonies		Manchoukuo & Kwantung L. T.		China		Other countries	
	Value	%	Value	%	Value	%	Value	%	Value	%	Value	%	Value	%
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
1938	594.9	22.1	468.1	17.3	122.3	4.5	77.4	2.9	852.6	31.7	312.9	11.6	251.5	8.9
1939	649.2	18.1	646.9	18.1	169.0	4.7	49.1	1.3	1,291.6	36.1	455.5	12.7	315.1	8.9

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
1938	564.2	21.2	961.7	36.1	92.1	3.4	39.0	1.4	399.4	15.0	164.6	6.1	442.3	16.6
1939	595.4	20.3	1,051.7	36.0	73.6	2.6	50.6	1.7	467.3	16.0	215.7	7.3	463.3	16.9

Table 6. Specie & Bullion

(Unit: ¥1,000)

	Gold				Export Excess
	Export		Import		
	Value	%	Value	%	
1930	308,634		21,884		228,157
1931	419,857		31,661		387,281
1932	112,701		642		120,505
1933	20,925		7		28,467
1934	1		..		13,169
1935	..		72		146,665
1936	..		(7 Yen)		128,464
1937*	379,567		12		388,146

Note: * January to July.

Table 7. Import Ratio of Industrial Raw Materials
Against Total Consumption

(In million yen)

	Industrial production	Raw Materials Consumed	Ratio of raw materials 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	16,356	10,592	64.7	3,090	29.1
1938	19,667	11,939	60.7	1,993	16.7

Table 8. Summary of Principal Exports and Imports by Groups

(Unit: in Million Yen)

(A) Exports

	Food, Drinks & Tobacco											Class Total
	In a Natural State					Partly or wholly Prepared						
	Rice & Paddy	Beans & peas	Marine products	Total incl. others	Wheat flour	Tea	Sugar refined	Beer	Isinglass & vegetable	Comestible in tin & bottle	Total incl. others	
1927..	1.4	10.5	20.1	54.2	14.3	10.9	28.9	4.2	7.2	19.5	91.4	145.6
1933..	2.1	7.2	10.3	30.3	34.9	8.5	14.9	7.7	3.2	46.9	127.7	157.9
1934..	8.4	9.1	16.5	48.3	28.5	9.6	13.5	5.5	3.2	50.3	123.6	171.9
1935..	5.2	6.7	20.7	51.8	33.7	11.4	17.6	5.9	4.3	57.1	145.3	197.1
1936..	2.4	7.1	22.2	50.0	17.6	13.1	20.9	5.9	5.6	71.1	153.7	203.7
1937..	2.3	9.3	21.9	51.1	30.7	23.2	18.6	5.7	6.8	86.9	197.0	248.1
1938..	2.3	7.0	21.9	49.2	60.7	12.1	23.7	10.0	6.2	92.8	251.0	300.2
1939..	5.8	8.4	61.9	105.3	54.2	23.5	28.7	8.6	8.1	132.0	326.6	432.0
1938 1st half...	0.7	2.6	7.1	17.3	28.4	2.9	13.4	5.7	3.8	32.2	104.5	121.8
1939 1st half...	3.4	5.0	11.9	32.5	14.7	5.6	16.8	4.9	4.8	41.2	113.8	146.3
1940 1st half...	—	5.9	26.9	72.6	26.5	11.7	6.0	3.8	6.7	42.4	140.9	213.5

	Raw Materials				Manufactures for further use in Manufacturing							Raw silk
	Dried Pyrethrum	Silk waste & floss	Coal	Wood	Class Total incl. others	Vegetable oil	Peppermint oil	Oil, fish & whale	Camphor	Menthol crystal		
1927	3.1	11.8	25.5	15.9	137.3	10.1	2.3	7.5	5.6	4.9	742.3	
1933	6.3	1.3	14.2	18.6	73.8	8.2	2.0	2.5	4.4	5.3	390.9	
1934	7.4	1.8	10.4	23.9	95.7	12.3	1.8	3.3	4.6	4.6	286.8	
1935	6.4	2.6	9.4	23.2	110.5	33.1	2.3	6.9	5.0	5.4	287.0	
1936	3.2	3.2	10.4	24.7	126.6	37.3	3.0	10.2	4.8	5.0	392.8	
1937	7.7	6.2	9.9	35.4	133.1	23.7	3.0	15.4	4.8	6.1	407.1	
1938	6.1	2.9	10.1	46.9	105.2	9.5	2.2	7.0	3.7	4.4	304.1	
1939	7.1	1.1	11.0	128.6	183.4	19.3	2.6	5.8	5.9	5.3	506.8	
1938 1st half...	1.5	1.9	4.3	18.3	61.7	4.7	1.1	3.7	1.3	2.3	150.8	
1939 1st half...	1.8	0.6	4.4	35.1	83.3	9.7	1.3	1.8	1.8	1.8	166.6	
1940 1st half...	1.0	—	4.3	58.9	83.9	3.6	—	—	3.2	1.2	193.5	

	Manufactures for further use in Manufacturing					Wholly Manufactured					
	Cotton yarns	Rayon	Iron	Copper	Brass	Plaits for hat making	Class Total incl. others	Soap	Match	Silk tissues	Rayon tissues
1927	38.8	—	3.5	2.2	5.0	8.5	852.2	1.6	8.2	139.6	—
1933	15.7	—	34.7	6.5	5.5	7.2	538.8	3.2	3.2	63.5	77.4
1934	23.5	—	53.0	8.4	7.8	8.1	498.5	3.5	2.9	77.5	113.5
1935	35.9	22.8	65.8	12.3	8.5	4.6	672.4	4.0	3.2	77.4	128.2
1936	38.8	29.1	76.4	9.9	6.7	5.8	716.4	4.2	2.2	68.2	149.2
1937	54.9	44.8	—	15.1	5.9	7.9	814.6	5.5	2.1	72.3	154.9
1938	39.4	17.9	—	8.6	1.8	5.9	672.2	7.8	3.3	49.4	115.8
1939	71.1	29.3	—	10.1	1.1	5.7	948.9	17.4	4.6	47.4	137.4
1938 1st half...	17.2	7.5	—	5.2	0.6	1.8	286.7	3.6	1.6	23.9	54.5
1939 1st half...	30.5	11.4	—	5.2	0.5	1.7	355.5	7.6	2.6	19.4	62.1
1940 1st half...	26.3	31.8	—	—	—	—	423.1	9.9	—	21.7	66.3

	Wholly Manufactured										
	Cotton tissues	Woolen tissues	Cotton Blankets	Silk Handkerchiefs	Cotton towels	Knitted goods	Head gears	Buttons	Ornamental Jewels	Papers	Cement
1927	383.8	2.7	3.2	5.9	0.3	29.1	9.4	9.9	4.0	19.3	7.1
1933	383.2	12.4	3.7	2.5	6.0	40.3	13.9	7.7	8.4	17.7	7.4
1934	492.4	29.8	5.4	4.3	7.2	44.2	17.9	9.6	10.1	20.7	8.0
1935	496.1	32.4	7.5	4.0	6.5	50.3	16.3	10.1	11.9	23.1	8.1
1936	483.2	46.0	6.9	4.2	6.8	50.0	19.7	11.6	11.9	27.5	8.0
1937	573.1	50.1	8.1	5.6	8.9	60.1	26.3	13.7	15.5	38.7	6.8
1938	404.2	46.8	6.3	2.7	7.0	40.8	11.1	9.7	10.2	52.1	6.4
1939	403.9	51.8	7.7	2.9	9.8	40.2	14.3	11.7	11.7	77.9	11.5
1938 1st half...	220.6	17.9	2.1	1.5	2.8	17.5	4.5	4.5	5.0	20.7	2.0
1939 1st half...	182.9	27.9	2.4	1.3	3.7	18.6	5.8	5.1	5.8	30.6	5.4
1940 1st half...	196.4	21.7	2.6	0.8	4.8	20.1	10.3	6.3	7.4	38.7	4.7

	Wholly Manufactured										Class Total incl. others	Grand total Exports incl. re-exports
	Glass & glassware	Iron mfrs.	Rubber tyres	Potteries	Machineries & parts	Brushes	Lamps, etc.	Toys	Class Total incl. others	Grand total Exports incl. re-exports		
1927	16.6	12.1	4.9	30.5	11.3	5.6	6.9	10.5	831.2	1,992.3		
1933	15.3	26.9	8.8	35.6	25.9	4.5	15.9	26.4	1,031.6	1,861.0		
1934	19.5	35.3	9.9	41.9	57.8	5.2	15.7	30.4	1,345.5	2,499.1		
1935	23.3	37.5	9.9	42.7	63.9	5.1	16.7	33.9	1,451.3	2,693.0		
1936	25.6	40.3	9.9	43.2	82.1	5.6	18.6	36.5	1,563.4	3,175.4		
1937	33.6	54.1	13.0	54.0	109.9	6.9	22.0	42.3	1,899.7	3,576.4		
1938	25.9	52.2	7.8	40.5	156.5	4.1	14.7	25.0	1,569.6	2,689.7		
1939	27.1	76.3	9.6	48.6	209.2	5.2	17.7	22.0	1,939.3	3,576.4		
1938 1st half...	12.5	22.3	4.3	18.4	60.3	1.9	6.7	11.9	748.1	1,308.8		
1939 1st half...	12.4	32.9	4.0	19.7	102.0	2.4	7.4	9.3	857.9	1,454.4		
1940 1st half...	16.1	55.1	—	31.2	122.1	2.8	10.6	9.2	1,073.8	1,862.2		

(B) Imports

	Food, Drinks and Tobacco										Raw materials		
	In a natural state				Partly or wholly prepared			Class total	Oil yielding materials	Crude & heavy oils	Crude India Rubber, etc.		
	Rice & paddy	Wheat	Beans & peas	Total incl. others	Sugar	Beef, fresh	Total incl. others						
1927	78.9	53.9	52.9	222.7	75.8	8.0	100.8	323.5	18.9	24.0	18.9		
1933	11.5	44.4	50.3	131.2	12.8	5.3	42.0	173.2	23.3	68.3	29.7		
1934	0.7	40.7	52.0	125.9	9.7	6.9	48.5	174.4	25.3	82.5	57.3		
1935	3.3	43.2	71.6	147.5	12.7	6.1	45.1	192.6	43.1	106.8	51.6		
1936	5.1	33.7	82.6	168.9	20.9	8.4	62.2	231.2	44.9	129.7	73.0		
1937	4.0	29.6	92.5	183.1	18.8	6.9	68.3	251.5	43.6	—	99.2		
1938	2.8	9.6	102.2	157.5	5.2	4.4	41.8	199.2	28.8	—	51.4		
1939	6.3	4.1	123.6	183.8	0.1	4.2	46.9	230.7	32.0	—	57.5		
1938 1st half...	1.4	7.4	64.6	97.3	5.1	2.3	24.1	121.4	18.1	—	27.0		
1939 1st half...	1.2	2.4	80.7	109.8	0.1	2.6	22.0	151.3	17.0	—	26.1		
1940 1st half...	—	—	66.3	200.2	0	0.8	28.6	228.1	20.3	—	—		

	Raw Materials										
	Nitrate of soda, etc.	Sulphate of ammonia, crude	Phosphorus	Oil cake	Raw cotton	Hemp & other vegetable fibres	Wool	Coal	Ores	Wood	Class total incl. others
1927	34.4	32.8	10.8	99.0	624.6	25.6	101.7	35.5	12.9	103.8	1,202.0
1933	3.9	9.4	15.4	41.2	604.8	23.1	164.2	36.7	22.2	40.6	1,181.1
1934	3.5	13.8	16.7	42.1	731.4	27.5	186.5	47.2	27.8	40.2	1,400.2
1935	5.4	21.1	20.1	38.7	714.3	27.8	191.8	49.0	44.5	49.7	1,507.6
1936	7.2	33.9	22.4	35.8	850.5	37.3	200.9	50.9	51.2	55.5	1,737.7
1937	3.6	20.2	30.8	45.3	851.2	41.0	298.4	59.2	—	64.8	1,994.6
1938	2.6	31.7	19.3	60.1	436.8	27.3	94.4	67.2	—	28.2	1,295.7
1939	2.9	8.2	25.4	104.6	462.0	38.3	72.6	78.4	—	32.3	1,414.1
1938 1st half...	0.9	23.0	13.8	44.3	217.5	11.0	48.6	26.3	—	11.2	645.8
1939 1st half...	1.4	5.1	12.9	54.3	217.9	16.0	44.7	32.0	—	14.7	678.8
1940 1st half...	—	12.7	—	55.7	265.8	22.6	50.0	58.5	—	17.9	925.9

	Manufactures for further use in manufacturing										
	Hides & Skins	Leathers	Beef tallow	Caustic soda, Soda ash, etc.	Synthetic colours	Woolen, worsted yarns	Cellulose pulp	Pig iron	Rail & fish plate	Other iron	Aluminium
1927	9.6	7.7	5.0	12.2	—	43.6	11.9	21.0	—	95.5	6.2
1933	13.5	3.9	3.4	5.3	8.1	3.0	27.1	25.3	0.3	111.0	10.2
1934	16.3	4.8	3.4	4.4	9.1	1.7	44.3	26.5	0.4	144.6	12.6
1935	21.4	4.9	2.3	5.5	9.3	1.9	55.1	41.1	1.2	164.8	18.4
1936	24.4	5.5	1.6	4.3	11.4	1.9	67.1	42.1	2.9	147.1	13.2
1937	44.6	7.5	1.9	6.5	16.9	1.6	116.7	—	—	—	—
1938	27.8	1.9	0.4	2.0	2.8	0.3	41.2	—	—	—	—
1939	30.6	1.7	0.1	2.2	3.5	0	56.5	—	—	—	—
1938 1st half...	15.3	1.4	0.4	1.1	0.6	0.3	35.1	—	—	—	—
1939 1st half...	19.2	0.7	0	0.5	2.5	0	32.6	—	—	—	—
1940 1st half...	16.1	1.1	0	1.1	—	—	30.0	—	—	—	—

	Manufactures for further use in manufacturing			Articles wholly manufactured										Grand total imports incl. re-exports
	Lead (ingot, slab, etc.)	Tin (ingot, slab)	Zinc (ingot, slab & grain)	Class total incl. others	Mineral oil excepting crude & heavy	Cotton tissues	Woolen tissues	Printing paper	Automobile & parts	Internal combustion engines	Metal & wood working machineries	Class total incl. others		
1927 ..	15.2	11.2	9.3	348.2	42.3	7.2	34.7	5.7	18.3	...	...	290.5	2,179.2
1928 ..	11.9	10.7	7.5	328.8	34.8	3.0	7.2	3.7	13.9	16.1	16.2	220.3	1,917.2	
1929 ..	17.9	15.3	7.2	415.8	33.7	1.0	5.2	5.7	32.3	20.8	21.4	276.2	2,282.5	
1930 ..	20.3	15.6	8.5	468.6	37.2	1.2	6.8	8.2	32.6	15.6	18.3	286.3	2,472.2	
1931 ..	26.9	15.1	11.0	476.6	42.7	1.0	9.7	10.2	37.0	14.4	18.8	294.3	2,753.7	
1932 ..	...	...	...	1,095.3	...	0.8	9.3	9.2	...	...	...	420.8	3,783.1
1933 ..	...	...	...	702.0	...	0.2	2.7	0.7	...	...	...	447.9	2,663.3
1934 ..	...	...	...	583.8	...	0.2	2.6	0.7	...	...	...	253.6	1,584.3
1935 ..	...	...	...	448.1	...	0	0	0	...	...	...	208.1	1,478.1
1936 ..	...	...	...	450.8	...	...	...	...	...	...	...	186.7	1,711.8

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 9-A. Japan Proper's Foreign Trade With Yen Bloc and Other Countries (Unit: In Million Yen)

	Yen bloc countries										Grand Total	
	Manchou-kuo			Kwantung			China			Total		%
	Manchou-kuo	Kwantung	China	Manchou-kuo	Kwantung	China	Manchou-kuo	Kwantung	China			
1930 ..	36	87	225	348	23.7	1,122	76.3	1,470	100			
1931 ..	12	66	144	221	19.2	926	80.8	1,147	100			
1932 ..	26	121	129	276	19.5	1,134	80.5	1,410	100			
1933 ..	82	221	108	411	22.1	1,450	77.9	1,861	100			
1934 ..	107	296	117	520	23.9	1,652	76.1	2,172	100			
1935 ..	126	300	149	575	23.0	1,924	77.0	2,499	100			
1936 ..	151	347	160	658	24.4	2,035	75.6	2,693	100			
1937 ..	216	395	179	791	25.3	2,384	74.7	3,175	100			
1938 ..	317	536	313	1,025	38.1	1,665	61.9	2,690	100			
1939 ..	535	756	455	1,746	48.8	1,830	51.2	3,576	100			
1939 Jan.-June	203	326	196	725	49.9	729	50.1	1,454	100			
1940 Jan.-June	309	355	350	1,014	54.5	848	45.5	1,862	100			

	Yen bloc countries										Grand Total	
	Manchou-kuo			Kwantung			China			Total		%
	Manchou-kuo	Kwantung	China	Manchou-kuo	Kwantung	China	Manchou-kuo	Kwantung	China			
1930 ..	45	121	116	283	18.2	1,263	81.8	1,546	100			
1931 ..	42	90	104	236	19.1	1,000	80.9	1,236	100			
1932 ..	52	77	77	205	14.3	1,226	85.7	1,431	100			
1933 ..	148	20	113	281	14.6	1,636	85.4	1,917	100			
1934 ..	164	27	120	311	13.6	1,972	86.4	2,283	100			
1935 ..	191	34	134	359	14.1	2,122	85.9	2,472	100			
1936 ..	206	34	155	394	14.3	2,370	85.7	2,764	100			
1937 ..	249	45	144	438	11.6	3,345	88.4	3,783	100			
1938 ..	339	60	165	564	21.2	2,099	78.8	2,663	100			
1939 ..	406	61	216	682	23.4	2,236	76.6	2,918	100			
1939 Jan.-June	216	31	99	346	23.4	1,182	76.6	1,478	100			
1940 Jan.-June	215	30	157	402	23.5	1,310	76.5	1,712	100			

Table 10-A. Imports By Commodities and Countries of Origin

Commodity	Total	Countries of Origin												
		China	Brit. India	French Indo-China	Thailand	U.S.A.	Others	Kwan-tung	China	U.S.A.	Canada	Argentina	Australia	Others
RICE & PADDY														
1933 ..	11,521	—	—	57	10,882	581	1	—	—	—	—	—	—	—
1935 ..	3,349	—	200	162	2,986	—	—	—	—	—	—	—	—	—
1936 ..	5,098	—	66	212	4,820	—	—	—	—	—	—	—	—	—
1937 ..	4,033	—	68	208	3,757	—	—	—	—	—	—	—	—	—
1938 ..	2,808	—	2	6	2,800	—	—	—	—	—	—	—	—	—
1939 ..	6,286	—	124	—	3,189	—	—	—	—	—	—	—	—	—
WHEAT														
1933 ..	44,384	—	—	238	10,243	8	33,887	—	—	—	—	—	—	—
1935 ..	43,199	—	17	284	6,258	2,574	30,936	—	—	—	—	—	—	—
1936 ..	33,651	—	2,104	495	10,973	—	17,392	—	—	—	—	—	—	—
1937 ..	29,604	—	174	177	7,355	2,068	15,623	—	—	—	—	—	—	—
1938 ..	9,557	—	442	—	—	424	4,009	—	—	—	—	—	—	—
1939 ..	4,090	—	2,601	—	—	—	230	—	—	—	—	—	—	—
BEANS & PEAS														
1933 ..	50,345	45,342	102	2,992	1,434	447	—	—	—	—	—	—	—	—
1935 ..	71,649	64,162	216	4,429	2,295	537	—	—	—	—	—	—	—	—
1936 ..	82,601	73,043	304	4,593	4,249	354	—	—	—	—	—	—	—	—
1937 ..	92,547	84,708	435	3,635	3,235	220	—	—	—	—	—	—	—	—
1938 ..	102,176	98,641	918	2,184	72	53	—	—	—	—	—	—	—	—
1939 ..	123,576	119,829	612	2,515	105	116	—	—	—	—	—	—	—	—
OIL YIELDING MATERIALS														
1933 ..	23,293	9,294	96	9,478	299	8	2,249	141	867	860	—	—	—	—
1935 ..	43,088	18,709	14	17,631	82	184	3,685	180	1,652	951	—	—	—	—
1936 ..	44,873	23,508	35	14,332	1,129	501	3,765	49	552	1,001	—	—	—	—
1937 ..	43,612	19,206	7	14,093	2,459	662	5,062	53	77	1,993	—	—	—	—
1938 ..	28,790	17,069	33	6,963	161	114	2,268	9	—	1,671	—	—	—	—
1939 ..	31,982	25,469	113	2,249	1256	16	1,208	—	—	—	—	—	—	—
SUGAR														
1933 ..	12,794	—	—	12,621	—	—	—	—	—	—	—	—	—	—
1935 ..	12,701	11	—	12,576	—	—	—	—	—	—	—	—	—	—
1936 ..	20,928	31	—	19,767	—	—	—	—	—	—	—	—	—	—
1937 ..	18,806	5	—	17,724	—	—	—	—	—	—	—	—	—	—
1938 ..	5,241	40	—	5,189	—	—	—	—	—	—	—	—	—	—
1939 ..	140	—	—	132	—	—	—	—	—	—	—	—	—	—
BEEF, FRESH														
1933 ..	5,267	317	664	3,965	—	—	—	—	—	—	—	—	—	—
1935 ..	6,115	167	513	4,026	172	—	—	—	—	—	—	—	—	—
1936 ..	8,401	385	435	6,204	182	—	—	—	—	—	—	—	—	—
1937 ..	6,878	379	400	3,958	188	—	—	—	—	—	—	—	—	—
1938 ..	4,414	472	303	1,654	6	—	—	—	—	—	—	—	—	—
1939 ..	4,162	216	120	2,889	—	—	—	—	—	—	—	—	—	—
HIDES & SKINS														
1933 ..	13,545	799	67	4,001	284	454	4,320	643	558	1,517	—	—	—	—
1935 ..	21,356	1,041	45	5,126	462	393	6,696	1,036	2,295	4,263	—	—	—	—
1936 ..	24,386	927	35	9,177	659	324	3,972	1,391	1,124	6,778	—	—	—	—
1937 ..	44,571	1,039	198	10,070	2,323	835	9,396	5,871	5,023	9,816	—	—	—	—
1938 ..	27,826	1,654	26	3,083	205	378	10,954	6,883	2,265	2,469	—	—	—	—
1939 ..	30,573	249	—	13,248	90	349	8,668	1,877	2,316	3,777	—	—	—	—
LEATHER, BEER TALLOW														
1933 ..	3,933	1,957	404	565	767	240	3,380	561	2,588	230	—	—	—	—
1935 ..	4,944	2,519	192	960	958	316	1,644	86	747	811	—	—	—	—
1936 ..	5,465	2,346	277	1,023	1,223	596	2,340	7	2,201	133	—	—	—	—
1937 ..	7,520	3,436	413	934	1,061	1,675	1,949	52	1,147	750	—	—	—	

(Continued)

MINERAL OIL

	Total	Manchoukuo	Brit. India	D.E.I.	Russia	Germany	U.S.A.	Others
1933	103,167	1,729	4,635	21,820	9,983	824	54,356	9,799
1934	116,167	1,355	4,475	26,254	711	323	55,582	10,834
1935	144,098	1,311	5,761	37,512	887	203	87,617	11,767
1936	172,491	1,692	9,524	43,492	1,366	140	109,340	6,937

INDIA-RUBBER & GUTTA PERCHA

	Total	Brit. India	S.S.	D.E.I.	French Indo-China	Great Britain	Holland	U.S.A.	Others
1933	29,685	365	20,499	7,269	10	49	186	107	1,201
1935	51,636	187	24,125	11,661	1,771	37	—	27	13,828
1936	72,957	1,598	23,662	22,878	4,075	56	22	143	20,522
1937	99,218	343	41,566	25,775	8,371	65	—	203	22,895
1938	51,374	51	25,184	12,080	1,364	—	—	7	12,687
1939	57,490	—	18,999	16,178	405	4	55	80	21,769

CAUSTIC SODA (crude) SODA ASH, NITRATE OF SODA

	Caustic Soda (crude)						Soda Ash			
	Total	China	Great Britain	U.S.A.	Kenya, Uganda, etc.	Others	Total	U.S.A.	Chile	Others
1933	5,264	376	1,903	1,037	—	1,948	3,858	1,212	2,464	182
1935	5,492	110	3,470	704	1,208	—	5,423	2,377	2,777	269
1936	4,267	135	2,046	803	1,281	4	7,158	2,546	4,398	214
1937	6,534	177	3,676	1,825	844	9	3,630	438	3,032	161
1938	1,973	—	7	66	154	1,745	2,558	18	2,272	269
1939	2,246	486	—	—	—	1,759	2,865	310	2,554	—

SULPHATE OF AMMONIUM (crude)

	Total	Manchoukuo	Kwantung	Great Britain	Germany	U.S.A.	Australia	Others
1933	9,421	641	9	1,828	6,943	—	—	—
1935	21,069	5,837	395	300	12,986	285	—	1,266
1936	33,930	4,110	5,718	23	15,607	6,757	—	1,714
1937	20,191	1,957	7,315	171	6,349	—	—	4,399
1938	31,710	841	12,298	—	14,639	—	—	3,932
1939	8,240	684	7,438	118	—	—	—	—

SYNTHETIC COLOR

	Total	Great Britain	France	Germany	Italy	Switzerland	U.S.A.	Others
1933	8,060	23	580	5,218	120	1,236	882	2
1935	9,339	32	364	5,717	40	1,690	1,391	4
1936	11,404	17	371	6,983	20	1,664	2,347	2
1937	16,928	14	418	12,313	20	2,227	1,932	3
1938	2,838	19	261	1,711	1	477	355	14
1939	3,507	7	353	1,873	42	694	538	—

COTTON (raw)

	Total	China	Brit. India	D.E.I.	French Indo-China	Turkey	U.S.A.	Egypt	Kenya, Uganda, etc.
1933	604,847	24,348	168,797	269	111	972	381,656	19,084	—
1935	714,262	20,705	259,037	968	135	646	371,952	43,009	677
1936	850,452	22,778	315,061	701	68	2,439	372,415	36,415	27,500
1937	851,163	23,610	363,635	1,173	154	291	306,388	58,759	21,529
1938	436,835	71,790	113,331	452	30	1,478	166,414	27,529	5,218
1939	462,007	46,809	120,997	359	10	—	146,640	37,093	19,144

OTHER VEGETABLE FIBRE

	Total	Manchoukuo	China	Brit. India	D.E.I.	P.I.	Great Britain	Others
1933	23,137	333	6,923	5,400	322	9,616	284	259
1935	27,795	643	7,386	4,655	435	13,513	20	1,142
1936	37,301	298	7,556	7,342	546	20,680	—	878
1937	40,995	1,273	5,127	8,344	1,279	23,224	46	1,701
1938	27,306	5,587	3,116	3,769	399	11,889	973	1,573
1939	38,266	11,363	9,139	5,766	264	10,550	28	1,156

SHEEP'S WOOL

	Total	Manchoukuo	China	Great Britain	Chile	Argentina	Fed. S.A.	Australia	New Zealand
1933	164,192	36	129	1,051	465	2,427	2,529	156,514	792
1935	191,761	15	95	756	875	612	1,872	182,007	4,007
1936	200,898	269	611	1,190	1,744	6,562	17,389	147,493	18,316
1937	298,407	527	381	1,073	2,353	17,713	82,763	118,196	42,822
1938	94,426	2,478	3,327	677	780	5,946	4,266	64,882	8,272
1939	72,590	1,639	11,163	618	—	686	1,599	51,428	4,351

(Continued)

WOOLLEN or WORSTED YARNS, COTTON TISSUES, WOOLEN TISSUES

	Woolen or Worsted yarn			Cotton Tissues			Woolen Tissues			
	Total	Great Britain	Others	Total	Great Britain	Others	Total	Great Britain	Germany	Others
1933	3,921	2,168	853	2,954	1,212	1,743	7,213	6,834	297	82
1935	1,931	1,922	2	1,159	909	249	6,753	6,536	130	87
1936	1,873	1,864	8	984	809	175	9,675	9,389	195	91
1937	1,605	1,605	1	793	624	169	9,292	8,971	200	120
1938	328	325	—	236	177	51	2,724	2,613	81	30
1939	—	—	—	48	3	48	63	3	2	57

PULP for PAPER MAKING

	Total	Germany	Czecho	Sweden	Norway	U.S.A.	Canada	Finland
1933	27,066	622	96	3,572	7,578	7,802	6,043	—
1935	55,101	242	45	7,735	13,201	22,812	5,991	—
1936	67,107	40	391	9,735	14,621	31,758	4,150	6,401
1937	116,720	30	1,157	26,993	17,071	49,181	12,619	9,497
1938	42,132	50	132	6,276	5,400	15,111	50,046	3,339
1939	56,537	—	—	4,191	9,387	18,767	20,034	5,776

PRINTING PAPER

	Total	Great Britain	Germany	Holland	Sweden	Norway	U.S.A.	Canada	Others
1933	3,669	486	17	21	26	16	76	2,976	50
1935	8,212	557	27	37	30	267	215	6,844	236
1936	10,164	477	25	21	326	249	226	8,443	396
1937	9,171	704	282	209	358	657	54	6,658	240
1938	718	52	87	16	25	173	4	—	—
1939	8	—	4	—	—	—	—	—	—

PHOSPHORITE, COAL

	Phosphorite					Coal				
	Total	S.S.	U.S.A.	Egypt	Others	Total	Manchoukuo	China	French Indo-China	Others
1933	15,374	—	2,718	5,961	6,696	36,657	24,150	4,104	6,038	2,365
1935	20,060	1,497	4,519	6,151	7,892	48,970	30,906	7,610	9,793	660
1936	22,393	3,292	5,499	7,044	6,558	50,887	26,660	12,279	11,656	144
1937	30,810	4,186	7,760	10,022	8,842	59,224	29,958	16,279	12,832	155
1938	19,281	4,148	4,725	5,879	4,530	67,217	27,951	26,877	12,108	282
1939	25,412	3,965	7,370	5,966	8,111	78,364	16,393	48,553	13,307	109

ORES

	Total	Manchoukuo	China	Brit. India	S.S.	Russia	Great Britain	U.S.A.	Australia	Others
1933	22,162	43	4,301	1,612	8,820	969	1,596	1,491	2,128	1,212
1934	27,806	61	6,804	2,356	8,743	1,225	2,144	1,074	1,131	4,269
1935	44,542	34	11,839	3,637	159	31	2,728	677	5,297	20,140
1936	51,151	68	12,015	4,184	47	—	641	788	3,288	30,130

PIG IRON, RAIL & FISH-PLATES

	Pig Iron							Rail & Fish-plates		
	Total	Manchoukuo	Brit. India	Great Britain	Sweden	U.S.A.	Others	Total	U.S.A.	Others
1933	22,252	18,101	5,803	216	992	35	105	346	262	85
1934	26,528	18,961	7,292	110	26	84	56	423	363	60
1935	41,180	18,812	12,728	195	64	99	9,281	1,176	991	186
1936	42,064	14,659	14,570	220	5	69	—	2,882	2,826	57

ALUMINIUM (Ingots, slabs & grains)

	Total	Great Britain	France	Germany	Belgium	Switzerland	Norway	U.S.A.	Canada	Others
1933	5,807	557	355	975	26	1,027	219	90	2,483	102
1934	7,431	141	776	365	—	555	861	—	4,026	707
1935	14,323	444	510	344	—	2,565	3,005	—	6,030	1,425
1936	11,831	—	6	—	—	1,952	759	489	8,620	4

LEAD (Ingots & slabs)

	Total	China	Brit. India	Great Britain	U.S.A.	Canada	Australia	Others
1933	11,902	37	2,012	25	4,012	5,542	250	24
1934	17,903	—	3,049	22	6,823	7,406	580	24
1935	20,282	—	4,635	99	4,815	6,929	461	3,443
1936	2							

(Continued)

COPPER (ingots & slabs), AUTOMOBILE & PARTS

	Copper (ingots & slabs)				Automobile & parts					
	Total	U.S.A.	Canada	Others	Total	Great Britain	France	Germany	U.S.A.	Others
1933....	7,476	7,238	167	71	13,871	453	27	93	13,288	12
1934....	26,171	26,138	—	33	32,302	402	4	105	31,563	238
1935....	36,444	35,850	40	554	32,589	406	27	270	31,255	630
1936....	32,873	31,930	—	944	37,036	674	3	810	34,929	620

TIN (Ingots & slabs), ZINC (Ingots & slabs)

	Tin (Ingots & slabs)					Zinc (Ingots & slabs)				
	Total	China	Hongkong	S.S.	D.E.I.	Total	French Indo-China	U.S.A.	Canada	Australia
1933....	10,671	1,777	1,739	5,330	1,706	7,462	353	825	3,957	2,103
1934....	15,317	2,731	1,281	10,613	218	7,229	87	1,352	3,420	2,293
1935....	15,581	3,194	2,395	9,895	78	8,503	57	1,848	2,814	2,729
1936....	15,082	3,362	2,291	8,676	235	10,997	—	1,999	3,836	3,439

WATCHES & PARTS, DYNAMOS, TRANSFORMERS, etc.

	Watches & parts				Dynamos, transformers, etc.					
	Total	Switzerland	U.S.A.	Others	Total	Great Britain	Germany	Switzerland	Sweden	U.S.A.
1933....	2,097	1,994	55	48	1,799	131	985	163	57	376
1935....	4,022	3,113	364	545	2,332	82	1,657	32	32	513
1936....	3,742	2,761	413	568	1,805	532	468	83	152	557
1937....	5,645	4,319	466	860	1,841	22	694	125	11	870
1938....	2,893	2,448	134	311	2,766	89	715	59	20	1,869
1939....	562	517	14	30	2,184	3	253	106	57	1,764

MACHINERY & PARTS

	Total	Great Britain	France	Germany	Italy	Switzerland	Sweden	U.S.A.	Others
1933....	70,859	12,205	3,423	15,979	136	2,006	3,665	21,878	11,568
1934....	97,713	15,797	3,282	24,361	763	3,499	5,244	35,134	8,632
1935....	102,676	21,779	2,974	28,225	219	2,699	5,919	38,389	2,471
1936....	89,379	15,929	1,910	24,047	254	3,701	4,611	37,862	1,055

WOOD

	Total	Manchou-kuo	China	Brit. Borneo	D.E.I.	Russia	P.I.	Thailand	U.S.A.	Canada
1933....	40,584	206	91	799	1,610	2,597	2,512	1,240	23,745	7,633
1935....	49,775	189	92	2,542	2,120	1,410	5,095	1,624	28,227	5,258
1936....	55,548	298	677	4,306	2,012	107	7,330	1,773	32,184	6,217
1937....	64,817	660	826	3,198	2,477	1,005	11,260	3,102	30,077	11,517
1938....	28,178	1,294	289	1,980	2,282	189	6,695	1,236	9,770	3,803
1939....	32,326	783	598	2,159	1,793	4	10,366	1,083	9,448	5,171

WHEAT BRAN, OIL CAKE

	Wheat Bran				Oil Cake					
	Total	Manchoukuo	Kwantung	China	Total	Manchoukuo	Kwantung	China	Brit. India	D.E.I.
1933....	6,054	26	2	6,026	41,181	31,481	2,218	5,929	1,184	293
1935....	7,488	263	137	7,088	38,678	23,966	7,275	6,097	822	486
1936....	8,724	1,733	616	6,376	35,790	20,137	6,975	7,651	451	485
1937....	10,653	6,004	610	4,038	45,310	29,662	6,870	6,143	1,943	678
1938....	8,932	6,678	221	2,033	60,112	49,996	8,056	1,957	47	107
1939....	8,412	4,046	162	4,204	104,639	83,866	15,359	5,594	—	—

Table 10—B. Exports By Commodities and Destinations

RICE & PADDY

	Total	Kwantung	Asiatic Russia	Holland	U.S.A.	Canada	Hawaii	Others
1933....	2,124	176	412	695	86	600	53	102
1935....	5,225	287	525	3,318	95	493	245	263
1936....	2,367	215	—	—	49	842	959	302
1937....	2,306	282	—	—	89	694	727	443
1938....	2,265	453	—	—	102	736	368	607
1939....	5,826	1,764	—	—	205	617	423	2,818

	Total	Great Britain	Germany	Italy	U.S.A.	Canada	Hawaii	Others
1933....	7,161	5,481	294	190	201	24	46	924
1935....	6,722	4,231	1,146	103	199	22	27	993
1936....	7,061	4,463	589	112	1,046	30	39	780
1937....	9,330	4,739	1,700	—	1,070	56	39	1,726
1938....	6,972	2,706	1,808	—	51	34	36	2,338
1939....	8,419	2,797	3,150	—	52	44	35	2,341

WHEAT FLOUR

	Total	Manchou-kuo	Kwantung	China	S.S.	P.I.	D.E.I.	Others
1933....	34,955	9,305	21,808	3,341	18	222	65	195
1935....	33,700	14,450	16,314	223	51	1,116	71	1,476
1936....	17,622	6,013	8,832	620	194	934	154	875
1937....	30,746	2,560	11,669	15,249	10	881	108	269
1938....	60,715	15,748	21,901	23,063	—	1	3	—
1939....	54,228	23,293	24,510	6,424	—	1	—	—

SUGAR, refined

	Total	Manchou-kuo	Kwantung	China	Russia	Brit. India	Others
1933....	14,090	654	6,994	6,158	593	268	242
1935....	17,577	1,523	5,199	9,763	55	423	615
1936....	20,977	1,361	13,226	5,826	—	23	541
1937....	18,577	1,715	7,770	8,298	—	66	728
1938....	23,654	3,259	13,081	7,309	—	—	5
1939....	28,677	3,860	9,371	15,446	—	—	—

TEA

	Total	Kwantung	Brit. India	Russia	U.S.A.	Canada	Hawaii	Others
1933....	8,450	143	334	1,550	5,084	722	43	573
1935....	11,419	242	424	1,583	4,481	579	45	4,064
1936....	13,130	242	588	—	5,549	1,097	48	5,606
1937....	23,181	313	862	1,868	7,750	1,226	62	11,099
1938....	12,063	489	599	—	4,316	641	73	5,945
1939....	23,463	2,716	322	—	7,742	1,375	101	11,208

AQUATIC PRODUCTS

	Total	Manchoukuo	Kwan-tung	China	Hongkong	Thailand	S.S.	P.I.	U.S.A.	Hawaii
1933....	10,302	337	2,269	2,279	1,397	230	893	284	1,192	560
1935....	20,735	232	3,105	5,985	3,968	461	2,208	532	2,665	558
1936....	22,216	334	4,402	7,219	2,436	261	2,459	634	2,811	689
1937....	21,916	578	7,402	3,418	2,016	204	1,965	697	3,972	802
1938....	21,931	978	9,230	6,552	134	23	46	314	3,370	710
1939....	61,935	5,322	26,294	19,260	177	22	30	198	9,025	764

ISINGLASS

	Total	China	Hong-kong	S.S.	D.E.I.	Great Britain	France	Germany	U.S.A.	Australia	Others
1933....	3,199	89	27	158	459	341	326	480	675	86	557
1935....	4,262	119	64	270	366	572	558	835	542	115	820
1936....	5,574	136	82	289	441	768	768	542	998	161	1,419
1937....	6,761	145	45	286	533	898	875	1,060	1,236	188	1,496
1938....	6,201	185	6	104	285	574	601	1,201	1,152	295	1,798
1939....	8,144	485	2	130	417	1,297	628	1,123	1,536	444	2,082

COMESTIBLES

	Total	Manchou-kuo	Kwan-tung	China	Great Britain	France	Germany	Belgium	Holland	U.S.A.
1933....	46,984	263	1,447	250	13,136	7,309	187	1,135	305	17,838
1935....	57,130	413	1,528	639	20,488	2,202	475	2,509	911	16,813
1936....	71,077	670	1,916	338	32,384	2,472	551	2,465	1,040	15,458
1937....	86,905	1,202	3,902	854	29,122	2,722	673	3,903	1,635	21,940
1938....	92,819	2,480	7,229	9,865	40,832	1,675	495	2,337	1,072	12,212
1939....	132,009	10,880	14,962	11,754	40,991	1,732	338	3,080	1,661	31,991

VEGETABLE FATTY OILS

	Total	Manchoukuo	Kwantung	China	France	Germany	U.S.A.	Australia	Others
1933....	8,300	259	34	511	223	415	5,912	94	854
1935....	33,051	309	62	1,196	250	487	27,473	151	3,123
1936....	37,309	275	64	1,018	386	701	32,511	113	2,240
1937....	23,662	—	310	—	160	966	18,956	239	2,389
1938....	8,572	—	431	—	93	376	5,638	154	1,661
1939....	16,254	—	278	—	11	670	9,699	97	5,909

(Continued)

BEER										
Total	Manchou-kuo	Kwan-tung	China	Hongkong	Brit. India	Thailand	D.E.I.	U.S.A.	Hawaii	
1933....	7,784	966	2,240	758	94	901	241	1,639	303	234
1935....	5,871	1,196	2,011	545	117	639	253	189	29	118
1936....	5,912	1,158	1,750	555	149	650	290	164	41	265
1937....	5,686	308	1,980	944	106	753	187	186	54	690
1938....	10,019	525	1,646	6,034	56	689	25	62	42	549
1939....	8,602	364	1,096	5,148	72	787	42	119	47	507

PEPPERMINT

Total	China	Brit. India	S.S.	Fr. Indo China	Great Britain	France	Germany	Australia	Others
1933....	2,007	70	51	79	8	673	572	393	21
1935....	2,282	2	81	89	10	564	689	702	11
1936....	2,963	1	76	253	26	532	977	919	18
1937....	2,975	24	80	157	17	297	876	1,133	25
1938....	2,168	2	59	2	15	131	808	981	11
1939....	2,584	19	95	1	14	713	461	963	15

FISH OILS & WHALE OIL

Total	Kwantung	China	Brit. India	P.I.	Great Britain	Germany	Holland	U.S.A.	Australia	Others
1933....	2,529	247	94	72	—	591	886	201	47	158
1935....	6,893	418	108	33	2	851	2,589	873	285	220
1936....	10,180	450	209	103	9	922	3,931	1,211	864	168
1937....	15,414	562	248	70	41	1,531	6,314	582	1,486	254
1938....	7,027	578	43	19	12	1,116	1,857	348	1,886	141
1939....	5,802	165	314	3	41	771	272	49	2,998	139

SOAP

Total	Manchou-kuo	Kwan-tung	China	Hongkong	Brit. India	D.E.I.	Thailand	S.S.	Others
1933....	3,203	651	556	181	58	837	486	49	129
1935....	3,981	920	1,038	528	154	239	146	129	212
1936....	4,246	1,300	1,138	535	126	237	97	77	184
1937....	5,531	2,141	1,154	432	203	314	110	104	317
1938....	7,837	3,713	2,090	1,500	13	95	27	8	96
1939....	17,413	7,924	3,896	5,169	4	47	25	17	122

DRIED PLANTS FOR INSECTIFUGE

Total	Hongkong	Great Britain	U.S.A.	Australia	Others
1933....	6,350	137	217	5,500	68
1935....	6,400	170	38	5,809	44
1936....	3,207	70	36	2,885	41
1937....	7,693	163	57	6,879	94
1938....	6,103	48	80	5,275	42
1939....	7,149	28	189	6,247	67

CAMPHOR

Total	Brit. India	S.S.	Great Britain	France	Germany	Holland	U.S.A.	Australia	Others
1933....	4,445	1,289	29	252	415	30	276	1,568	81
1935....	5,039	1,632	53	185	405	74	95	1,552	134
1936....	4,843	1,415	84	131	350	85	74	1,736	113
1937....	4,774	1,447	54	116	269	156	76	1,490	154
1938....	3,723	1,405	58	45	252	74	63	1,040	135
1939....	5,868	1,923	57	223	244	83	93	1,989	157

MENTHOL CRYSTAL

Total	Brit. India	S.S.	Great Britain	France	Germany	U.S.A.	Canada	Others
1933....	5,284	284	190	68	1,427	152	2,692	36
1935....	5,401	730	172	40	804	72	3,139	41
1936....	4,986	416	462	146	700	273	2,406	36
1937....	6,116	656	317	161	544	479	3,276	95
1938....	4,380	387	11	218	373	289	2,688	65
1939....	5,313	981	11	351	152	235	2,650	105

MATCHES

Total	Manchou-kuo	Kwan-tung	China	Hongkong	Brit. India	S.S.	D.E.I.	U.S.A.	Others
1933....	3,249	63	44	1	155	88	235	108	1,948
1935....	3,209	20	112	5	1,566	105	501	60	301
1936....	2,174	8	189	3	701	86	450	83	46
1937....	2,103	—	423	9	574	93	308	47	41
1938....	3,304	—	638	2,053	65	13	44	25	38
1939....	4,616	—	630	2,434	186	38	90	25	22

(Continued)

COTTON YARN										
Total	Manchou-kuo	Kwan-tung	China	Hongkong	Brit. India	D.E.I.	P.I.	Thailand	Australia	
1933....	15,712	3,100	615	168	292	7,605	1,236	193	147	333
1935....	35,873	4,628	540	199	944	20,093	4,503	717	968	418
1936....	38,345	6,391	447	279	1,840	18,051	5,489	1,259	944	391
1937....	54,906	5,334	1,423	1,025	3,625	19,846	13,790	1,761	543	235
1938....	39,355	3,232	368	626	716	20,502	7,419	1,134	269	372
1939....	71,090	6,671	3,999	1	5,010	28,959	14,094	1,247	790	410

WASTE SILK, FLOSS SILK & DUPION, ETC.

Total	Great Britain	France	Belgium	Italy	U.S.A.	Others
1933....	1,304	55	656	20	334	74
1935....	2,569	75	449	177	428	393
1936....	3,164	84	284	171	471	699
1937....	6,238	301	734	605	1,567	378
1938....	2,897	312	197	350	735	179
1939....	1,132	56	—	94	110	50

RAW SILK

Total	Brit. India	Great Britain	France	Italy	Switzerland	U.S.A.	Canada	Australia
1933....	390,901	274	14,655	15,378	1,021	145	355,806	208
1935....	387,032	5,534	21,451	23,765	130	264	328,912	70
1936....	392,809	3,872	23,628	21,772	11	142	333,949	823
1937....	407,118	8,460	31,430	26,111	269	433	325,225	727
1938....	364,124	1,520	26,175	24,630	351	177	297,882	278
1939....	506,845	581	36,920	16,180	214	1,375	437,611	—

RAYON YARN

Total	Kwantung	China	British India	Germany	Mexico	Australia	Others
1933....	9,483	6,476	442	1,355	417	250	314
1935....	22,853	5,626	2,293	7,583	83	1,686	1,181
1936....	29,174	8,840	2,002	8,767	163	2,332	1,223
1937....	44,803	1,328	4,629	23,155	278	6,018	518
1938....	17,888	672	7,487	4,550	59	1,150	550
1939....	29,348	531	4,370	44,163	48	2,069	1,201

COTTON TISSUE (Gray)

Total	Manchoukuo	Kwan-tung	China	Brit. India	Aden	D.E.I.	Egypt	Fed. S.A.	Australia
1933....	93,502	5,392	6,296	1,321	25,885	5,075	8,537	11,341	664
1935....	145,356	12,629	6,975	2,144	41,562	6,936	9,978	7,243	818
1936....	143,580	20,760	5,625	3,250	33,107	6,558	12,456	3,613	998
1937....	148,404	20,840	8,022	6,729	16,916	6,452	18,634	2,114	1,029
1938....	126,263	13,952	4,355	9,059	32,916	4,451	9,077	1,298	861
1939....	110,860	835	3,512	966	31,632	5,608	11,124	2,254	1,385

COTTON TISSUE (Bleached)

Total	Manchoukuo	Kwan-tung	China	Brit. India	Iraq	D.E.I.	U.S.A.	Egypt	Australia
1933....	78,035	1,070	1,673	5,507	—	23,383	327	5,303	1,005
1935....	85,304	3,001	1,486	5,299	11,360	3,225	10,403	5,412	5,761
1936....	85,286	3,435	5,967	2,022	9,210	1,846	10,633	8,702	2,569
1937....	124,653	4,935	6,983	2,201	13,011	2,097	24,603	17,510	2,533
1938....	88,905	5,361	3,180	9,110	11,957	2,010	11,936	2,000	846
1939....	79,506	329	671	1,255	8,121	2,961	8,576	8,764	974

COTTON TISSUE (Others)

Total	Manchoukuo	Kwan-tung	China	Thailand	Brit. India	P.I.	D.E.I.	Argentina	Egypt
1933....	211,681	15,164	10,853	18,776	3,847	28,649	4,561	46,353	4,157
1935....	265,438	20,103	6,750	4,469	6,241	32,261	10,737	46,198	15,043
1936....	254,725	23,026	16,640	2,589	8,983	30,200	5,710	32,301	10,300
1937....	300,008	29,934	14,421	2,366	9,491	33,114	8,719	42,367	20,724
1938....	189,071	18,691	9,853	5,742	7,803	23,005	5,176	18,472	9,858
1939....	213,580	3,384	1,033	8,687	7,100	22,611	4,891	33,456	2,009

WOOLEN TISSUE

Total	Manchoukuo	Kwantung	China	Brit. India	D.E.I.	Egypt	Hawaii	Others
1933....	12,377	1,361	5,944	1,687	1,647	568	284	35
1935....	32,401	1,397	8,729	3,044	4,921	1,213	2,278	32
1936....	37,004	991	9,999	2,915	5,569	267</		

(Continued)

SILK TISSUE

	Total	Brit. India	S.S.	D.E.I.	Great Britain	France	U.S.A.	Egypt	Fed. S.A.	Australia
1933	63,545	15,259	1,129	916	7,619	3,277	5,563	3,387	4,738	10,799
1935	77,444	18,074	3,105	1,362	12,063	1,666	6,778	2,559	4,009	6,691
1936	68,027	13,203	3,613	1,089	8,306	1,443	7,544	2,333	4,005	4,076
1937	72,286	13,838	4,597	1,148	9,518	1,673	11,531	3,158	3,531	2,664
1938	49,352	7,896	1,122	627	9,023	1,515	8,282	1,772	1,453	1,923
1939	47,397	5,416	656	383	7,541	2,716	7,413	1,704	1,069	1,457

ARTIFICIAL SILK-TISSUE

	Total	Kwantung	Hongkong	Brit. India	D.E.I.	P.I.	Thailand	Egypt	Fed. S.A.	Australia
1933	77,382	2,373	441	17,654	14,973	970	850	4,328	3,873	9,136
1935	128,260	11,158	4,339	22,455	12,684	4,950	3,768	5,449	5,149	22,806
1936	149,170	21,494	7,509	26,221	11,633	8,674	4,440	2,941	5,838	18,414
1937	154,860	15,612	7,673	32,466	11,490	5,500	3,522	1,174	7,168	16,667
1938	115,762	20,243	2,150	11,627	7,202	2,096	1,569	162	3,475	17,303
1939	137,358	25,304	2,598	19,581	9,411	1,392	1,392	76	4,255	18,373

COTTON BLANKET

	Total	Manchou-kuo	China	Hongkong	Brit. India	S.S.	D.E.I.	P.I.	Thailand	Others
1933	3,662	60	24	132	315	236	683	100	985	2,274
1935	7,452	538	59	209	1,390	341	522	185	1,935	2,441
1936	6,908	693	40	227	1,894	217	186	121	1,087	3,532
1937	8,092	821	219	116	1,610	237	356	251	951	2,759
1938	6,321	2,547	64	21	40	23	270	95	502	3,516
1939	7,731	2,731	58	89	126	36	273	158	745	

COTTON TOWEL

	Total	Kwantung	Hongkong	Brit. India	S.S.	D.E.I.	Thailand	Egypt	Fed. S.A.	Australia	Others
1933	6,041	160	51	1,006	370	894	505	451	251	656	1,697
1935	6,477	201	301	771	337	502	552	290	437	526	2,560
1936	6,830	240	231	563	418	536	444	158	644	496	3,100
1937	8,935	320	221	586	387	593	311	32	872	904	709
1938	6,961	357	40	46	100	288	409	14	985	861	3,858
1939	9,835	667	100	33	152	362	469	11	1,273	957	5,811

SILK HANDKERCHIEF

	Total	Brit. India	Great Britain	U.S.A.	Canada	Argentine	Uruguay	Fed. S.A.	Australia	Others
1933	2,464	619	432	579	29	53	91	82	17	561
1935	3,953	840	646	864	53	43	5	48	46	1,409
1936	4,192	835	705	1,194	62	38	15	36	93	1,214
1937	5,638	834	899	1,704	148	62	10	41	110	1,832
1938	2,738	359	569	667	101	30	3	48	163	797
1939	2,940	744	403	664	143	13	2	29	76	866

KNITTED GOODS

	Total	Manchou-kuo	Kwantung	Brit. India	D.E.I.	P.I.	Great Britain	U.S.A.	Egypt	Fed. S.A.
1933	42,407	1,023	842	9,628	4,235	2,671	6,561	879	3,370	2,566
1935	50,266	1,034	1,300	7,510	4,118	4,734	7,345	3,871	1,698	1,701
1936	49,988	1,813	1,600	4,256	4,426	5,475	5,206	6,784	965	2,711
1937	60,713	3,363	2,018	4,560	7,602	5,014	5,967	6,849	1,030	3,180
1938	40,818	3,441	2,332	2,366	6,086	4,024	3,203	1,462	272	2,579
1939	40,237	3,469	1,563	1,732	6,349	3,732	2,738	2,001	178	3,172

HEADGEAR

	Total	Manchou-kuo	Kwantung	China	Brit. India	D.E.I.	Thailand	Great Britain	U.S.A.	Fed. S.A.
1933	13,927	699	479	507	1,181	1,230	442	640	4,144	387
1935	16,284	935	562	721	1,338	867	534	950	3,507	533
1936	19,736	786	561	1,642	1,247	462	301	1,272	5,233	913
1937	26,337	1,192	655	1,884	1,736	693	351	1,603	8,479	768
1938	11,092	973	820	801	536	397	18	429	3,081	401
1939	14,327	2,785	1,350	1,331	643	819	20	345	4,421	396

BUTTON

	Total	China	Brit. India	D.E.I.	Great Britain	Germany	Holland	U.S.A.	Argentina	Australia
1933	7,749	408	640	461	1,555	740	436	357	292	319
1935	10,142	393	1,262	431	1,624	297	490	299	479	521
1936	11,635	364	1,116	352	2,566	415	677	817	306	596
1937	13,737	318	1,432	653	3,046	353	710	575	620	669
1938	9,630	380	808	482	1,837	457	522	343	506	516
1939	11,701	801	826	513	1,930	350	936	739	469	723

(Continued)

JEWELRY FOR PERSONAL ADORNMENT

	Total	Manchoukuo	China	Brit. India	P.I.	Great Britain	U.S.A.	Australia	Others
1933	8,367	91	58	2,432	207	824	1,725	352	2,679
1935	11,924	119	189	3,764	228	1,336	1,696	443	4,181
1936	11,835	126	231	3,202	236	695	2,249	493	4,622
1937	15,535	212	108	4,048	342	826	3,132	558	6,307
1938	10,167	254	121	3,515	155	762	1,369	460	3,531
1939	11,707	670	482	2,566	89	529	3,360	490	3,522

PAPER

	Total	Manchou-kuo	Kwan-tung	China	Hongkong	Brit. India	D.E.I.	Thailand	Great Britain	U.S.A.
1933	17,687	1,287	6,128	4,786	650	842	1,082	455	230	943
1935	23,085	2,532	7,158	6,572	1,669	1,107	747	512	409	845
1936	27,545	3,008	9,699	7,413	1,213	1,025	916	863	515	1,116
1937	38,608	5,931	13,814	6,940	1,777	1,613	1,830	921	802	1,773
1938	52,127	8,857	19,393	19,149	718	1,123	808	572	541	1,497
1939	77,946	16,128	26,024	27,663	535	1,333	1,241	547	454	1,797

COAL

	Total	China	Hongkong	S.S.	D.E.I.	French Indo-China	Russia	P.I.	Others
1933	14,158	4,445	5,227	2,183	62	109	355	1,652	126
1935	8,721	1,199	4,079	2,320	—	83	186	1,693	172
1936	10,356	828	4,023	2,806	9	119	—	2,448	123
1937	9,927	290	3,564	3,388	—	80	—	2,373	231
1938	10,147	2,514	3,216	1,948	—	235	—	1,953	282
1939	9,665	5,417	2,013	1,690	—	250	—	41	255

CEMENT

	Total	Manchou-kuo	Kwan-tung	China	Hongkong	Brit. India	S.S.	D.E.I.	Kenya, Uganda, etc.	Others
1933	7,395	206	1,824	395	1,212	949	597	1,369	—	839
1935	8,082	66	2,001	238	716	234	959	549	127	3,191
1936	8,002	59	1,874	251	581	170	995	607	182	3,283
1937	6,836	13	286	138	151	184	877	1,046	277	3,764
1938	6,411	625	904	911	1	65	352	1,150	149	2,245
1939	11,549	2,757	3,341	1,923	22	54	528	1,044	150	1,730

POTTERY

	Total	Manchou-kuo	Kwan-tung	China	Brit. India	D.E.I.	Great Britain	U.S.A.	Canada	Australia
1933	35,634	531	1,195	992	3,965	3,729	1,296	10,180	1,399	2,707
1935	42,735	1,180	1,794	1,209	3,529	2,120	1,187	15,776	1,458	2,805
1936	43,192	1,363	1,641	1,066	3,691	2,364	1,275	15,530	2,025	2,291
1937	53,971	2,222	2,353	1,146	4,240	3,109	1,171	19,460	2,038	2,599
1938	40,477	3,821	4,643	2,453	2,580	2,614	888	8,696	1,235	2,915
1939	48,624	6,516	5,597	5,574	2,553	2,992	613	11,115	1,230	2,264

GLASS & GLASSWARE

	Total	Manchoukuo	Kwan-tung	China	Brit. India	D.E.I.	P.I.	U.S.A.	Fed. S.A.	Australia
1933	15,327	422	481	1,047	5,507	2,067	809	803	450	756
1935	23,337	698	637	1,389	6,227	1,983	1,060	2,309	785	1,048
1936	25,627	822	799	1,318	5,816	2,206	1,330	3,059	831	1,114
1937	33,572	1,370	1,180	1,161	6,215	3,436	1,991	4,543	1,070	1,412</

(Continued)

IRON MANUFACTURES

	Total	Manchoukuo	Kwan-tung	China	Hongkong	Brit. India	S.S.	D.E.I.	P.I.	Thailand
1933....	26,897	1,459	6,059	1,694	227	5,151	1,187	4,366	932	1,190
1935....	37,504	2,562	8,394	2,292	712	5,466	1,744	3,719	1,582	2,113
1936....	40,302	2,699	8,718	2,967	692	4,309	2,154	4,181	2,098	2,045
1937....	54,116	5,288	12,590	2,668	657	6,221	2,027	7,774	2,262	1,534
1938....	52,213	10,413	22,786	6,357	105	2,728	279	2,857	651	561
1939....	76,253	19,135	32,027	10,753	158	3,585	390	4,976	457	453

RUBBER TYRES

	Total	Manchoukuo	Kwan-tung	China	Hongkong	Brit. India	S.S.	D.E.I.	Fed. S.A.	Kenya Uganda, etc.
1933....	8,839	183	1,066	1,727	209	1,477	684	2,498	98	—
1935....	9,946	399	1,060	1,739	228	1,033	955	2,980	1	118
1936....	9,939	478	1,601	2,010	373	1,206	1,033	1,449	2	106
1937....	12,983	1,052	3,449	2,132	452	1,099	1,151	1,503	1	147
1938....	7,799	1,323	2,853	1,251	3	767	23	403	4	62
1939....	9,562	2,021	2,649	978	37	1,172	48	488	1	52

MACHINERY & PARTS

	Total	Manchoukuo	Kwan-tung	China	Brit. India	D.E.I.	Russia	P.I.	Brazil	Others
1933....	25,857	1,938	14,197	4,951	2,105	312	1,329	197	104	723
1935....	63,856	5,608	34,779	15,310	3,071	803	1,106	389	204	2,388
1936....	82,054	6,370	41,166	16,936	2,969	968	8,042	505	277	4,822
1937....	109,881	14,835	46,584	24,152	6,443	2,113	4,460	1,073	436	9,786
1938....	156,475	30,384	75,807	35,925	5,794	1,038	1,811	817	270	4,629
1939....	209,206	63,896	101,015	36,982	3,305	888	69	375	276	2,400

WOOD

	Total	Manchoukuo	Kwan-tung	China	Brit. India	S.S.	D.E.I.	Russia	Great Britain	Belgium
1933....	18,638	729	2,854	2,602	1884	703	1,265	776	3,838	748
1935....	23,182	1,096	4,746	2,987	1,199	519	879	509	5,629	651
1936....	24,703	11,313	3,856	2,460	1,123	469	1,082	—	8,301	596
1937....	35,412	1,536	6,122	2,951	1,535	626	1,687	—	12,141	781
1938....	46,887	4,299	15,168	13,839	1,242	206	1,637	—	4,962	333
1939....	128,647	26,317	45,699	42,935	1,383	104	949	—	4,728	111

PLAITS FOR HAT MAKING

	Total	Great Britain	France	Germany	Belgium	Italy	U.S.A.	Australia	Others
1933....	7,805	745	1,177	692	218	127	3,303	286	1,258
1935....	4,615	976	375	361	11	62	1,832	327	672
1936....	5,793	624	474	220	73	29	3,593	220	566
1937....	7,876	526	643	118	95	16	4,780	249	1,447
1938....	5,901	402	679	99	96	4	3,640	189	792
1939....	5,671	135	335	36	119	9	3,643	91	1,203

UMBRELLAS & PARASOLS

	Total	Manchoukuo	China	Brit. India	S.S.	D.E.I.	Thailand	Fed. S.A.	Others
1933....	1,259	13	1	669	34	127	45	99	270
1935....	2,073	34	16	82	71	175	105	219	1,373
1936....	2,633	31	14	106	101	107	117	167	1,989
1937....	3,714	51	22	134	124	200	98	233	2,853
1938....	1,463	102	16	43	12	95	2	131	1,063
1939....	1,675	260	29	35	19	59	6	192	1,075

BRUSH

	Total	China	Brit. India	D.E.I.	Great Britain	Italy	Holland	U.S.A.	Canada	Australia
1933....	4,453	74	171	143	694	173	140	1,679	100	70
1935....	5,117	142	252	172	722	51	194	1,663	59	79
1936....	5,633	159	243	163	744	61	238	2,063	129	96
1937....	6,917	119	327	244	731	30	243	2,615	205	71
1938....	4,078	200	192	228	497	5	207	830	135	97
1939....	5,167	723	274	277	347	—	281	1,028	96	62

LAMPS & PARTS

	Total	Manchoukuo	Kwan-tung	China	Brit. India	D.E.I.	P.I.	Great Britain	U.S.A.	Australia
1933....	15,863	253	1,024	635	1,234	1,707	414	2,362	3,272	607
1935....	16,747	388	1,622	565	1,448	1,191	458	1,441	2,631	652
1936....	18,587	389	1,116	502	1,148	1,122	435	2,459	4,931	571
1937....	21,950	592	1,916	520	1,584	1,801	458	2,895	4,238	565
1938....	14,748	1,191	2,949	1,613	718	811	124	1,453	1,737	345
1939....	17,745	2,032	4,018	2,546	864	1,028	97	662	3,167	291

(Continued)

TOYS

	Total	China	Brit. India	S.S.	D.E.I.	Great Britain	Holland	U.S.A.	Canada	Australia
1933....	26,375	453	3,809	491	1,924	4,054	1,212	6,976	410	1,812
1935....	33,852	647	2,751	501	851	4,877	1,068	11,494	758	2,010
1936....	36,459	507	2,784	643	959	5,916	982	13,689	1,081	2,137
1937....	42,295	339	2,787	631	1,132	7,036	844	16,521	1,669	2,276
1938....	34,991	270	1,715	135	500	5,504	879	6,093	1,262	2,187
1939....	22,020	449	1,402	214	804	2,979	755	7,068	897	1,738

Table 11. Japan's Principal Imports and Exports By Countries
(Unit: in ¥1,000)

	To Manchoukuo									
	Sugar	Wheat Flour	Soap	Cotton Yarn	Cotton Tissues	Woollen Tissues	Silk Tissues	Rayon Tissues	Paper	Iron mfrs.
1933....	97	9,305	651	3,099	21,626	1,361	108	553	1,287	1,459
1935....	1,523	14,449	920	4,628	35,733	1,397	824	825	2,532	2,562
1936....	1,361	6,013	1,300	6,391	47,222	1,052	393	842	3,008	2,699
1937....	1,715	2,560	2,141	8,334	55,748	3,800	681	2,574	5,931	5,288
1938....	3,259	15,748	3,713	2,232	38,010	11,651	1,494	17,029	8,857	10,413
1939....	3,860	23,293	7,924	6,671	4,549	18,406	6,356	22,954	16,128	19,135

	From Manchoukuo									
	Machinery	Aquatic Products	Comestibles	Cotton Blanket	Knitted Goods	Pottery	Rubber Tyres	Wood	Total incl. others	
1933....	1,938	337	263	60	1,023	531	183	729	82,971	
1935....	5,607	233	414	538	1,033	1,180	399	1,096	126,046	
1936....	6,370	334	670	693	1,813	1,391	479	1,313	150,859	
1937....	14,835	578	1,202	821	3,363	2,222	1,052	1,536	216,092	
1938....	30,384	974	2,480	2,547	3,441	3,821	1,323	4,299	316,323	
1939....	63,896	5,352	10,800	2,730	3,469	6,516	2,021	26,317	535,681	

	To Kwantung									
	Rice	Iron mfrs.	Sugar	Wheat Flour	Cotton Tissues	Paper	Machinery	Aquatic Products	Comestibles	Beer
1933....	176	27,555	6,994	21,808	18,822	6,128	14,197	2,269	1,447	2,240
1935....	287	36,747	5,199	16,314	15,210	7,158	34,779	3,105	1,528	2,011
1936....	215	26,023	13,226	8,832	28,332	9,699	41,166	4,402	1,916	1,750
1937....	282	—	5,199	11,669	29,426	13,814	46,584	7,402	3,902	1,980
1938....	453	—	13,081	22,901	17,389	19,394	75,807	9,230	7,230	1,646
1939....	1,764	—	9,371	24,510	5,216	26,024	101,015	26,294	14,962	1,096

	From Kwantung									
	Beans & Peas	Wheat Bran	Pig Iron	Oil Cake	Coal	Sulphate of Ammonia	Wool, Sheep's	Hides & Skins	Fresh Beef	Total incl. others
1933....	102	2	61	2,218	396	9	13	67	664	20,161
1935....	215	137	13	7,275	21	395	—	45	513	25,517
1936....	918	616	—	6,975	58	5,718	5	35	435	33,848
1937....	435	610	—	6,870	60	7,316	—	198	406	45,198
1938....	918	221	—	8,056	231	12,298	4	26	303	60,323
1939....	612	162	—	15,359	16	7,440	—	—	120	61,750

(Continued)

	To China									
	Wheat Flour	Soap	Beer	Aquatic Products	Sugar	Cotton Tissue	Paper	Comestibles	Match	Rayon Yarn
1933 ...	3,341	181	—	2,279	6,158	25,605	4,786	205	1	442
1935 ...	223	528	—	5,985	9,763	11,912	6,572	639	5	2,192
1936 ...	620	535	554	7,219	5,826	7,861	7,412	338	3	2,002
1937 ...	15,249	432	944	3,418	8,298	11,296	6,940	854	8	4,629
1938 ...	23,063	1,500	6,034	6,552	7,309	23,911	16,149	9,865	2,053	7,487
1939 ...	6,424	5,169	5,148	19,260	15,446	10,908	27,663	11,755	2,434	4,370

	From China									
	Woolen Tissues	Rayon Tissues	Coal	Pottery	Glass & Glass ware	Iron ware	Rubber Tyres	Machinery	Wood	Total incl. others
1933 ...	1,687	65	4,445	992	1,047	1,694	1,727	4,951	2,702	108,253
1935 ...	3,043	52	1,198	1,209	1,389	2,282	1,739	15,310	2,987	148,788
1936 ...	3,616	492	828	1,127	1,318	2,967	2,010	16,936	2,460	159,691
1937 ...	3,823	1,334	290	1,146	1,161	2,668	2,132	24,153	2,951	179,251
1938 ...	9,508	6,883	2,514	2,453	2,015	6,357	1,251	35,925	13,839	312,900
1939 ...	3,936	3,745	5,417	5,574	2,935	10,753	978	36,982	42,935	455,479

	To Hongkong									
	Beans & Peas	Oil yielding Materials	Cotton, Raw	Oil Cake	Coal	Wheat Bran	Fresh Beef	Hides & Skins	Wool	Total incl. others
1933 ...	2,992	9,478	24,348	5,929	4,104	5,929	3,965	4,001	129	113,357
1935 ...	4,429	17,631	20,705	6,097	7,610	7,088	4,026	5,126	95	133,818
1936 ...	4,593	14,332	22,778	7,651	12,595	6,376	6,204	6,204	611	154,838
1937 ...	3,635	14,093	23,610	6,143	16,279	4,038	3,958	10,070	382	143,636
1938 ...	2,184	6,963	71,790	1,957	26,877	2,033	1,654	3,083	3,327	164,611
1939 ...	2,515	2,249	46,809	5,594	48,553	4,204	2,889	13,248	11,163	215,662

	To Hongkong					From Hongkong				
	Aquatic Products	Comestibles	Coal	Cotton Yarn	Rayon Tissues	Cotton Tissues	Total incl. others	Tin	Sugar	Total incl. others
1933 ...	1,397	114	5,227	292	441	5,675	23,419	1,739	—	2,091
1935 ...	3,968	221	4,079	944	4,339	9,802	49,732	2,395	11	2,856
1936 ...	2,436	267	4,023	1,840	7,509	15,102	58,445	2,291	31	3,285
1937 ...	2,016	173	3,564	3,625	7,673	9,346	49,150	—	5	3,332
1938 ...	134	169	3,216	716	2,150	4,586	16,754	—	40	1,508
1939 ...	177	124	2,013	5,010	2,598	10,527	30,578	—	—	983

	To French Indo-China					From French Indo-China				
	Silk Tissue	Coal	Glass & Glass ware	Pottery	Total incl. others	Rice	Raw Cotton	Coal	Total incl. others	
1933 ...	879	109	46	145	3,680	57	111	6,038	9,910	
1935 ...	741	83	240	245	4,021	162	135	9,793	15,011	
1936 ...	567	119	258	270	4,697	212	68	11,757	20,155	
1937 ...	921	80	234	232	4,624	208	154	12,832	27,010	
1938 ...	201	235	120	131	3,082	6	30	12,108	20,301	
1939 ...	24	250	147	141	1,981	—	10	13,304	26,651	

	To Thailand					From Thailand				
	Cotton Tissues	Cotton Blanket	Rayon Tissues	Paper	Iron mfrs.	Total incl. others	Rice	Wood	Total incl. others	
1933 ...	6,779	985	850	455	1,190	18,124	10,882	1,240	12,256	
1935 ...	13,227	1,935	3,768	512	2,113	40,258	2,986	1,624	5,458	
1936 ...	13,611	1,087	4,440	565	2,045	43,028	4,820	1,773	8,753	
1937 ...	16,089	951	3,522	921	1,534	49,382	3,757	3,102	13,571	
1938 ...	14,905	502	1,569	572	561	39,269	2,799	1,236	4,951	
1939 ...	14,163	745	1,392	547	543	26,025	3,189	1,083	5,536	

	To Straits Settlement					From Straits Settlement				
	Aquatic Products	Coal	Silk Tissues	Cotton Tissues	Rayon Tissues	Total incl. others	Rubber, Crude	Ores	Phosphorite	Total incl. others
1933 ...	893	2,183	1,129	16,608	3,294	46,133	20,499	8,820	2,718	38,772
1935 ...	2,208	2,320	3,105	8,495	1,844	48,536	24,125	159	4,519	40,648
1936 ...	2,459	2,806	3,613	9,188	2,848	58,770	23,662	47	3,291	41,174
1937 ...	1,965	3,388	4,597	12,231	3,632	67,433	41,566	—	4,186	67,796
1938 ...	46	1,948	1,122	5,053	2,207	20,696	25,184	—	4,148	54,167
1939 ...	30	1,690	656	5,450	2,690	20,426	18,999	—	3,965	46,833

(Continued)

	To British India									
	Rayon Yarn	Cotton Yarn	Cotton Tissues	Silk Tissues	Rayon Tissues	Raw Silk	Woolen Tissues	Glass & Glass ware	Total incl. others	
1933 ...	17,653	7,605	71,432	15,259	17,654	274	1,647	5,507	205,155	
1935 ...	22,455	20,093	90,383	18,074	22,455	5,534	4,921	6,226	275,637	
1936 ...	26,221	18,051	22,516	13,203	26,221	3,871	5,254	5,816	259,108	
1937 ...	22,154	19,846	63,041	13,838	32,466	8,460	9,884	6,215	299,367	
1938 ...	4,274	20,502	67,879	7,896	11,627	1,520	3,460	5,492	188,040	
1939 ...	14,163	28,959	72,364	5,416	19,581	581	2,512	4,991	210,995	

	From British India									
	Rice & Paddy	Crude Rubber	Oil yielding Materials	Oil Cake	Cotton, Raw	Vegetable Fibre	Leather	Pig Iron	Lead	Total incl. others
1933 ...	0	365	299	1,184	168,797	5,400	1,957	5,803	2,012	204,738
1935 ...	200	187	82	822	259,037	4,655	2,519	12,728	4,634	305,646
1936 ...	66	1,598	1,129	451	315,061	7,342	3,346	14,570	3,765	449,486
1937 ...	68	343	2,459	1,943	363,635	8,344	3,436	—	—	172,231
1938 ...	2	51	161	47	113,331	3,769	1,088	—	—	182,263
1939 ...	124	—	1,256	—	120,997	5,766	136	—	—	—

	To Philippines							From Philippines		
	Cotton Tissues	Knitted Goods	Cotton Yarn	Pottery	Rayon Tissues	Glass & Glass ware	Total incl. others	Wood	Vegetable Fibre	Total incl. others
1933 ...	5,780	2,671	193	959	970	809	24,051	2,512	9,616	14,185
1935 ...	14,492	4,734	717	919	4,951	1,060	48,058	5,095	13,513	23,949
1936 ...	7,680	5,475	1,259	1,148	8,674	1,330	51,840	7,230	20,680	36,266
1937 ...	12,057	5,015	1,761	1,431	5,500	1,991	60,348	11,260	23,224	44,194
1938 ...	6,053	4,024	1,135	628	2,096	1,130	32,599	6,695	11,889	35,630
1939 ...	5,583	3,732	1,247	620	694	732	24,734	10,366	10,550	49,117

	To Dutch East Indies									
	Cotton Yarn	Silk Tissues	Cotton Tissues	Rayon Tissues	Knitted Goods	Pottery	Glass & Glass ware	Iron mfrs.	Total incl. others	
1933 ...	1,236	916	78,273	14,972	4,235	3,729	2,069	4,366	157,488	
1935 ...	4,502	1,362	66,579	17,684	4,118	2,120	1,983	3,718	143,041	
1936 ...	5,489	1,088	53,290	11,633	4,426	2,388	2,206	4,181	129,495	
1937 ...	13,790	1,148	85,703	11,490	7,602	3,109	3,436	7,774	200,051	
1938 ...	7,419	627	28,177	7,202	6,086	2,714	2,976	2,857	104,145	
1939 ...	14,094	383	53,156	9,411	6,349	2,992	2,473	4,976	137,802	

	From Dutch East Indies									
	Beans & Peas	Sugar	Raw Cotton	Wood	Oil yielding Materials	Mineral Oil	Rubber, Crude	Vegetable Fibre	Total incl. others	
1933 ...	447	12,621	269	1,610	2,249	21,820	7,269	322	55,710	
1935 ...	539	12,576	968	2,120	3,685	36,512	11,661	435	78,187	
1936 ...	353	19,767	701	2,012	3,765	43,492	22,878	546	113,546	
1937 ...	220	17,724	1,173	2,477	5,062	—	25,775	1,279	153,450	
1938 ...	53	5,189	452	2,282	2,268	—	12,080	399	88,249	
1939 ...	116	132	359	1,793	1,208	—	16,178	264	71,629	

	To Great Britain									
	Beans & Peas	Raw Silk	Comestibles	Silk Tissues	Rayon Tissues	Knitted Goods	Buttons	Toys	Wood	Total incl. others
1933 ...	5,481	14,655	13,136	7,619	1,106	6,561	1,555	4,054	3,840	87,849
1935 ...	4,231	21,451	20,488	12,063	717	7,345	1,624	4,877	5,629	119,458
1936 ...	4,463	23,772	32,384	8,306	912	5,206	2,566	5,916	3,301	147,309
1937 ...	4,739	31,430	29,122	9,518	1,537	5,967	3,047	7,036	12,141	167,954
1938 ...	2,706	26,175	40,832	9,023	1,043	3,203	1,837	5,504	4,962	134,972
1939 ...	2,797	36,920	40,991	7,541	586	2,738	1,930	2,979	4,728	132,085

	From Great Britain									
	Wool	Soda, Caustic	Woolen Yarns	Pig Iron	Dynamos, etc.	Iron, others	Cotton Tissues	Woolen Tissues	Machinery	Total incl. others
1933 ...	1,051	1,903	2,168	216	131	17,299	1,212	6,834	12,205	82,549
1935 ...	756	3,470	1,922	195	82	11,535	909	6,536	21,779	82,160
1936 ...	1,190	2,045	1,864	..	532	7,100	809	9,389	15,929	72,942
1937 ...	1,073	3,679	1,605	..	22	..	624	8,971	..	105,758
1938 ...	677	..	325	..	..	..	177	2,613	..	63,157
1939 ...	618	..	..	..	3	..	3	..	..	24,426

FOREIGN TRADE

(Continued)

	To France									
	Raw Silk	Menthol Crystal	Silk Tissues	Peppermint Oil	Camphor	Isinglass	Comestibles	Rayon Tissues	Toys	Total incl. others
1933	15,378	1,427	2,277	572	415	327	7,309	248	122	38,736
1935	23,764	804	1,666	689	405	558	2,202	430	141	42,468
1936	21,772	700	1,443	977	350	739	2,472	495	158	43,475
1937	26,111	544	1,673	876	269	875	2,722	205	282	47,208
1938	24,631	373	1,515	808	252	601	1,615	98	154	36,814
1939	16,180	152	2,716	461	244	628	1,732	169	77	25,934

	From France								
	Synthetic Colors	Cotton Tissues	Woollen Yarn	Woollen Tissues	Automobiles & Parts	Machinery	Hides & Skins	Dynamos, etc.	Total incl. others
1933	580	10	2	51	27	3,423	454	84	21,756
1935	364	8	2	50	27	2,974	393	7	19,809
1936	371	7	3	42	3	1,910	324	8	19,898
1937	418	5	1	31	..	..	835	2	27,855
1938	261	3	..	..	..	..	378	11	13,502
1939	353	..	..	7	..	..	349	..	14,264

	To Germany									
	Beans & Peas	Silk Tissues	Cotton Tissues	Vegetable Oil	Camphor	Menthol Crystal	Isinglass	Peppermint Oil	Fish Oil	Total incl. others
1933	294	362	148	415	30	152	480	393	886	12,412
1935	1,146	868	1,361	487	74	72	835	702	2,589	26,766
1936	589	851	4,085	419	85	373	542	919	3,931	35,065
1937	1,700	1,464	4,048	966	156	479	1,060	1,133	6,314	43,261
1938	1,808	1,449	3,115	376	74	289	1,201	981	1,857	33,015
1939	3,150	1,078	3,012	670	83	235	628	963	272	24,991

	From Germany									
	Sulphate of Ammonia	Printing Paper	Dynamos, etc.	Synthetic Colors	Pig Iron	Rail, Fish-plates, etc.	Iron, others	Woollen Tissues	Total incl. others	
1933	6,943	17	985	5,218	39	38	24,885	297	95,798	
1935	12,956	27	1,657	5,717	54	9	18,692	130	120,818	
1936	15,607	24	468	6,983	..	..	12,120	194	115,500
1937	6,340	282	694	12,313	..	..	..	200	176,377
1938	14,639	87	715	1,711	..	..	..	81	171,170
1939	..	4	253	1,873	..	..	..	2	141,003

	To Belgium							From Belgium		
	Comestibles	Cotton Tissues	Silk Tissues	Buttons	Wood	Toys	Total incl. others	Iron, others	Machinery	Total incl. others
1933	1,135	..	340	189	748	222	7,739	10,444	50	14,693
1935	2,509	..	263	302	652	313	15,393	16,903	9	24,562
1936	2,465	..	232	414	596	252	16,230	7,447	255	16,019
1937	3,903	2,269	349	680	781	440	20,650	..	..	41,059
1938	2,337	917	360	445	333	289	10,151	..	..	15,411
1939	3,080	1,799	314	413	111	204	10,476	..	..	19,028

	To Italy					From Italy				
	Silk Waste	Cotton Tissues	Silk Tissues	Pottery	Total incl. others	Woollen Tissues	Synthetic Colors	Iron, others	Machinery	Total incl. others
1933	334	52	159	372	6,168	7	120	1,098	136	6,036
1935	428	1,065	500	110	6,989	2	40	118	219	5,832
1936	471	832	369	57	4,468	3	20	20	254	3,766
1937	1,657	395	646	34	7,111	12	20	..	..	4,416
1938	735	42	214	27	3,256	26	1	..	..	5,843
1939	116	41	25	2	5,719	44	42	..	..	7,062

	From Switzerland					From Sweden				
	Synthetic Colors	Watch & Parts	Dynamos, etc.	Machinery	Total incl. others	Pulp	Pig Iron	Printing Paper	Machinery	Total incl. others
1933	1,236	1,994	163	2,006	9,185	3,572	992	26	3,665	16,086
1935	1,790	3,113	32	2,699	13,456	7,735	64	30	5,919	23,074
1936	1,664	2,760	82	3,701	14,000	9,735	5	326	4,611	23,109
1937	2,227	4,319	125	..	19,239	26,993	..	358	..	49,277
1938	477	2,448	59	..	30,198	6,276	..	25	..	24,069
1939	694	517	106	..	16,656	4,191	..	..	..	26,277

FOREIGN TRADE

(Continued)

	To Holland				From Norway				
	Comestibles	Silk Tissues	Pottery	Total incl. others	Pulp	Printing Paper	Nitrate of Soda	Aluminium	Total incl. others
1933	305	322	982	12,325	7,578	16	182	219	11,624
1935	911	1,447	499	18,316	13,201	267	78	3,005	19,941
1936	1,040	480	608	15,385	14,621	249	174	759	17,853
1937	1,635	390	542	18,440	17,071	657	..	..	24,033
1938	1,072	369	607	11,456	5,599	173	..	..	15,719
1939	1,661	328	514	11,706	9,387	..	..	..	21,869

	To U.S.A.									
	Beans & Peas	Aquatic Products	Knitted Goods	Cotton Tissues	Tea	Comestibles	Menthol Crystal	Raw Silk	Silk Tissues	Pottery
1933	201	1,192	879	1,298	5,084	17,838	2,692	355,806	5,563	10,180
1935	199	2,665	3,871	8,184	4,481	16,813	3,139	328,911	6,778	15,776
1936	1,046	2,811	6,784	13,780	5,549	15,458	2,406	333,949	7,544	15,530
1937	1,070	3,972	6,849	22,138	7,750	21,940	3,276	325,225	11,531	19,460
1938	51	3,370	1,462	2,406	4,316	12,212	2,688	297,882	8,282	8,696
1939	52	9,026	2,001	10,162	7,742	31,991	2,650	437,611	7,413	11,115

	From U.S.A.									
	Toys	Glass & Glass ware	Plates for Hat	Isinglass	Vegetable Oil	Camphor	Pyrethrum	Paper	Head-gear	Total incl. others
1933	6,976	803	3,303	675	5,912	1,568	5,500	943	4,144	492,238
1935	11,494	2,309	1,832	542	27,473	1,552	5,809	845	3,507	535,389
1936	13,689	3,059	3,593	542	31,663	1,736	2,885	1,116	5,233	594,254
1937	16,521	4,543	4,780	1,236	18,956	1,490	6,879	1,773	8,479	639,428
1938	6,093	1,857	3,640	1,152	5,638	1,040	5,275	1,497	3,081	425,123
1939	7,068	2,471	3,743	1,536	9,679	1,989	6,247	1,797	4,421	641,509

	From U.S.A.									
	Wheat	Phosphorites	Raw Cotton	Wood	Hides & Skins	Leather	Pig Iron	Rail & Fish-plates	Iron, others	
1933	238	2,718	381,656	23,745	4,320	767	35	262	27,396	
1935	284	4,519	371,952	28,227	6,696	958	99	991	87,901	
1936	495	5,499	372,415	32,184	3,972	1,223	69	2,826	75,200	
1937	177	7,760	306,388	30,077	9,396	1,061	..	..	..
1938	..	4,725	166,414	9,770	10,954	175	..	..	..
1939	..	7,370	146,640	9,448	8,668	142	..	..	..

	From U.S.A.									
	Caustic Soda	Mineral Oil	Auto. Parts	Pulp	Watch & Parts	Dynamos, etc.	Machinery	Synthetic Color	Total incl. others	
1933	1,037	59,356	13,288	7,802	55	367	21,878	882	620,789	
1935	704	87,617	31,255	22,812	364	513	38,389	1,391	809,645	
1936	803	109,421	34,929	31,758	413	557	37,872	2,347	847,453	
1937	1,825	..	..	49,180	466	980	..	1,932	1,269,542
1938	66	..	..	15,111	134	1,869	..	355	915,354
1939	..	..	..	18,767	14	1,764	..	538	1,002,384

	To Canada						From Canada			
	Rice & Paddy	Tea	Raw Silk	Pottery	Toys	Total incl. others	Wheat	Wood	Pulp	Total incl. others
1933	600	722	208	1,399	410	6,580	10,243	7,633	6,043	46,891
1935	493	579	70	1,458	758	7,977	6,258	8,258	5,991	52,531
1936	842	1,097	823	2,025	1,081	14,551	10,973	6,217	4,150	73,179
1937	694	1,226	727	2,038	1,669	20,036	7,355	11,517	12,619	104,692
1938	736	641	278	1,235	1,262	15,244	..	3,803	5,046	91,260
1939	617	1,375	..	1,230	897	17,202	..	5,171	2,034	126,022

	To Argentina						From Argentina			
	Silk Tissues	Cotton Tissues	Pottery	Button	Toys	Total incl. others	Hides & Skin	Wheat	Wool	Total incl. others
1933	3,503	6,617	396	282	125	12,262	643	8	2,427	6,739
1935	1,310	20,127	767	479	535	28,603	1,036	2,574	612	10,371
1936	1,142	14,280	595	306	425	22,712	1,391	..	6,562	29,988
1937	1,882	29,196	1,259	620	562	42,481	5,871	2,068	17,713	42,018
1938	620	13,130	785	506	406	19,607	6,883	424	5,946	24,356
1939	207	3,177	387	469	104	8,152	1,877	..	686	11,860

	To Chile		From Chile			To Uruguay			To Peru	
	Cotton Tissues	Total incl. others	Nitrate of Soda	Wool	Total incl. others	Cotton Tissues	Rayon Tissues	Total incl. others	Cotton Tissues	Total incl. others
1933 ...	1,224	1,476	2,464	465	2,963	533	917	2,451	585	3,890
1935 ...	5,190	6,647	2,777	875	4,473	846	3,910	5,676	2,132	6,961
1936 ...	6,027	7,426	4,398	1,744	9,953	1,929	5,107	7,891	1,422	6,156
1937 ...	7,951	10,742	3,032	2,376	14,719	4,833	3,663	10,106	1,347	6,344
1938 ...	4,289	6,129	2,272	780	11,152	2,028	1,217	3,988	1,331	5,760
1939 ...	6,557	14,010	2,554	—	10,230	2,260	684	3,771	1,741	6,084

	To Mexico			To Brazil					To Venezuela	
	Rayon Yarn	Cotton Tissues	Total incl. others	Pottery	Buttons	Machinery	Toys	Total incl. others	Cotton Tissues	Total incl. others
1933 ...	250	28	1,492	370	210	104	270	—	—	—
1935 ...	1,686	67	5,465	672	192	204	316	5,926	2,031	3,656
1936 ...	2,332	59	7,190	460	174	277	337	8,840	5,376	7,814
1937 ...	6,018	389	13,622	1,036	271	436	378	17,305	5,401	9,139
1938 ...	1,150	114	5,317	576	96	331	331	10,388	2,694	5,480
1939 ...	2,069	394	7,940	916	118	276	432	15,609	4,504	7,984

	To Federation of S. Africa							From Fed. of S. Africa		
	Silk Tissues	Rayon Tissues	Cotton Tissues	Knitted Goods	Cotton Towels	Glass & Glass ware	Pottery	Total incl. others	Wool	Total incl. others
1933 ...	4,738	3,873	5,911	2,566	251	450	908	26,741	2,529	4,313
1935 ...	4,008	5,149	6,337	1,701	437	785	839	32,769	1,872	4,762
1936 ...	4,005	5,838	7,348	2,711	634	831	1,144	41,534	17,389	22,852
1937 ...	3,531	7,168	10,214	3,180	872	1,070	1,259	53,749	82,763	88,852
1938 ...	1,454	3,475	7,124	2,579	985	663	1,009	35,289	4,266	9,558
1939 ...	1,069	4,255	10,646	3,172	1,273	687	1,318	46,802	1,599	9,249

	To Egypt					From Egypt			
	Silk Tissues	Rayon Tissues	Cotton Tissues	Woollen Tissues	Knitted Goods	Total incl. others	Raw Cotton	Phosphorites	Total incl. others
1933 ...	3,387	4,328	38,351	284	3,700	55,608	19,084	5,961	26,456
1935 ...	3,559	5,449	31,683	2,278	1,698	53,800	40,009	6,151	51,305
1936 ...	2,333	2,941	20,525	4,051	965	40,907	36,415	7,044	45,737
1937 ...	3,158	1,174	10,510	4,071	1,030	32,772	58,759	10,022	74,118
1938 ...	1,772	162	3,347	1,458	272	13,997	27,529	5,879	36,315
1939 ...	1,704	76	5,811	2,084	178	15,666	37,093	5,966	50,312

	To Australia							From Australia		
	Comestible	Raw Silk	Silk Tissues	Rayon Tissues	Cotton Tissues	Pottery	Toys	Cotton Tissues	Glass & Glass ware	Total incl. others
1933 ...	323	3,297	10,799	9,136	10,303	2,707	1,812	656	756	—
1935 ...	881	4,233	6,690	22,806	16,176	2,805	2,010	526	1,048	74,793
1936 ...	946	5,231	4,076	18,415	16,983	2,291	2,137	496	1,114	68,763
1937 ...	2,389	8,132	2,664	16,667	13,527	2,599	2,276	904	1,412	72,080
1938 ...	2,464	6,461	1,923	17,303	15,070	2,915	2,187	861	1,367	69,388
1939 ...	2,534	9,381	1,457	18,375	15,118	2,264	1,738	957	880	72,101

	From Australia					To New Zealand				
	Wheat	Wool	Beef Tallow	Zinc	Hides & Skins	Total incl. others	Silk Tissues	Rayon Tissues	Cotton Tissues	Total incl. others
1933 ...	33,887	155,514	3,251	2,193	558	204,586	525	808	563	—
1935 ...	30,936	182,007	2,201	2,719	2,295	235,128	755	2,682	1,292	11,305
1936 ...	17,392	147,493	747	3,349	1,124	181,914	651	4,151	1,838	16,740
1937 ...	15,623	118,197	1,147	—	5,023	165,252	410	4,621	3,044	19,356
1938 ...	4,009	64,882	301	—	2,265	82,875	398	3,318	1,455	14,808
1939 ...	230	51,428	114	—	2,316	71,026	364	3,487	2,721	12,277

	From New Zealand			To Hawaii					
	Wool	Total incl. others	Rice	Aquatic Products	Comestibles	Beer	Woollen Tissues	Cotton Tissues	Total incl. others
1933 ...	792	2,400	53	560	954	234	35	171	1,027
1935 ...	4,007	6,364	245	558	951	118	55	245	7,242
1936 ...	18,316	21,973	959	689	1,092	265	24	408	9,299
1937 ...	42,822	48,633	797	802	1,755	397	27	612	11,155
1938 ...	8,272	10,210	368	740	1,747	380	20	409	9,774
1939 ...	4,351	5,396	443	764	1,643	320	13	206	8,627

Table 12. Imports of Principal Industrial Raw Materials Classified By Countries of Origin

	East Asia %	S. Asia %	S. Seas %	Europe %	America		Africa %	Australia & N.Z. %	Total Value (¥1,000)
					North %	South %			
COAL									
1937	61.40	21.67	—	—	—	—	—	—	59,224
1938	81.91	18.01	—	—	—	—	—	—	67,217
1939	83.03	16.85	—	—	—	—	—	—	78,364
PHOSPHORITE									
1937	—	—	13.58	—	25.18	—	32.55	—	30,810
1938	—	—	21.51	—	24.51	—	30.49	—	19,281
1939	—	—	15.60	—	29.00	—	23.24	—	25,412
GRUDE RUBBER									
1937	—	8.78	67.87	0.07	0.20	—	—	—	99,218
1938	—	2.75	72.53	—	0.01	—	—	—	51,374
1939	—	0.71	61.18	0.10	0.13	—	—	—	57,490
CELLULOSE PULP									
1937	—	—	—	46.86	52.95	—	—	—	116,720
1938	—	—	—	36.04	47.84	—	—	—	42,132
1939	—	—	—	34.23	36.79	—	—	—	56,537
WOOD									
1937	3.84	4.79	25.36	—	64.17	—	—	—	64,817
1938	6.28	4.39	38.88	—	48.17	—	—	—	28,178
1939	4.28	3.35	44.29	—	45.22	—	—	—	32,326
TALLOW									
1937	0.10	—	—	—	2.67	—	—	58.85	1,949
1938	—	—	—	—	—	—	—	69.84	431
1939	—	—	—	—	—	—	—	100.00	117
HIDE, SKIN & LEATHER									
1937	21.71	11.06	0.92	4.95	20.07	11.27	—	9.64	52,091
1938	19.10	4.35	0.35	2.34	37.47	23.17	—	7.63	29,701
1939	41.83	0.60	0.06	1.08	27.30	5.81	—	7.17	32,268
WOOL, SHEEP'S									
1937	0.14	—	—	0.36	—	6.72	27.73	53.96	298,407
1938	1.92	—	—	0.72	—	7.12	4.52	87.00	94,425
1939	17.77	—	—	0.85	—	0.94	2.20	76.84	72,590
COTTON, RAW									
1937	2.77	42.74	0.14	—	36.00	—	9.43	—	851,163
1938	16.43	25.95	0.10	—	38.10	—	7.50	—	436,835
1939	10.13	26.19	0.08	—	31.73	—	13.46	—	462,007
VEGETABLE FIBRE									
1937	15.61	20.35	59.77	0.11	—	—	—	—	40,995
1938	31.87	13.80	47.10	3.56	—	—	—	—	27,306
1939	62.64	15.13	28.20	0.09	—	—	—	—	38,266
OIL YEILDING MATERIALS									
1937	76.37	5.76	13.12	—	—	0.18	—	—	43,612
1938	83.59	0.59	8.27	—	—	—	—	—	28,790
1939	87.50	3.96	3.82	—	—	—	—	—	31,982
BEANS & PEAS									
1937	95.93	3.50	0.24	—	—	—	—	—	92,547
1938	99.58	0.07	0.05	—	—	—	—	—	102,176
1939	99.57	0.08	0.09	—	—	—	—	—	123,576

(Continued)

CAUSTIC SODA, SODA ASH, etc.	East Asia %	S. Asia %	S. Seas %	Europe %	America		Africa %	Australia & N.Z. %	Total Value (¥1,000)
					North %	South %			
1937	2.85	—	—	56.30	27.93	—	12.92	—	6,534
1938	10.64	—	—	0.35	3.35	—	7.81	—	1,973
1939	30.00	—	—	—	—	—	—	—	2,246
NITRATE OF SODA									
1937	—	—	—	—	12.07	83.53	—	—	3,630
1938	—	—	—	—	0.70	97.76	—	—	2,558
1939	—	—	—	—	10.82	89.18	—	—	2,864
MINERAL OIL									
1934	8.13	—	26.68	0.28	59.00	—	—	—	116,167
1935	1.53	—	29.34	0.14	60.80	—	—	—	144,089
1936	1.77	—	30.74	0.09	63.39	—	—	—	172,491
ORE									
1934	29.10	8.80	31.45	7.71	3.86	—	—	4.07	27,805
1935	26.73	8.17	0.38	19.59	1.52	—	—	11.89	44,542
1936	23.62	8.36	0.14	1.25	1.52	—	—	6.43	51,151
PIG IRON									
1934	71.55	27.49	—	0.60	0.32	—	—	—	26,528
1935	45.71	30.91	—	0.76	0.24	—	—	—	41,180
1936	34.85	84.64	—	0.57	0.16	—	—	—	42,064
RAIL, FISH PLATE & OTHER IRON									
1934	—	3.28	1.07	39.07	47.57	—	—	1.55	145,035
1935	—	2.93	1.37	34.69	54.07	—	—	1.71	165,979
1936	—	5.05	2.20	22.94	53.28	—	—	2.01	149,976
ALUMINIUM (Ingots, Slabs & Grain)									
1934	—	—	—	36.31	54.18	—	—	—	7,431
1935	—	—	—	47.96	42.10	—	—	—	14,323
1936	—	—	—	22.97	76.99	—	—	—	11,831
COPPER (Ingots & Slabs)									
1934	—	—	—	—	—	99.87	—	—	26,171
1935	—	—	—	—	—	98.47	—	—	36,444
1936	—	—	—	—	—	97.13	—	—	32,873
TIN (Ingots & Slabs)									
1934	26.19	—	70.71	—	—	—	—	—	15,317
1935	35.87	—	64.01	—	—	—	—	—	15,581
1936	37.48	0.21	59.08	—	—	—	—	—	15,082
ZINC (Ingots, Slabs & Grain)									
1934	—	1.19	—	—	66.02	—	—	31.72	7,228
1935	—	0.67	—	—	54.42	—	—	32.09	8,503
1936	—	—	—	—	53.06	—	—	31.27	10,997
LEAD (Ingots & Slabs)									
1934	—	17.03	—	0.12	79.48	—	—	3.24	17,905
1935	—	22.84	—	0.04	57.87	—	—	2.27	20,292
1936	0.01	14.01	—	0.10	53.67	—	—	0.81	26,873

East Asia=Manchoukuo, China, Hongkong, Asiatic Russia.
S. Asia=British India, Thailand, French Indo-China.
S. Seas=D.E.I., Straits Settlements, Philippines, Brit. Borneo.

FOREIGN TRADE BY COUNTRIES

Trade With United States

Among all countries the United States which held the premier position in Japan's foreign trade up to 1937 was superseded in 1938 by Kwantung Province and Manchoukuo combined. Japan's export to the United States and her possessions have been receding in recent years, that for 1932 being 33.6% as compared with 18.1% in 1939. Japanese imports from the United States, on the other hand, continued undiminished at 36% in 1939.

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 1939 imports of raw cotton from the United States were valued at ¥146,639,782, of a total import of this item of ¥462,006,980. While imports of crude and heavy oil are not publicly released since July, 1937, those for 1936 show that the United States supplied 2,879,000 kilolitres valued at ¥99,348,000 of a total import of 3,912,000 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 1939 were valued at ¥437,611,000 of a total export of ¥506,844,000. Exports of tea were ¥7,741,576, cotton tissues ¥10,162,000, tinned comestibles ¥31,991,000, silk tissues ¥7,413,000, pottery ¥11,115,000.

Trade with Manchoukuo and Kwantung Province

Sales to Manchoukuo and Kwantung again ranked first in 1939 overtaking the United States. The total exports to these two locations aggregated ¥1,291,600,000 in 1939 as compared with ¥852,640,000 in 1938, showing an increase of approximately 51%. Imports from Manchoukuo and Kwantung Province in 1939 amounted to ¥467,300,000, also showing an increase of over 16%, compared with ¥339,440,000 in 1938.

Trade with British India

Exports to British India command the fourth largest position if we regard Manchoukuo and Kwantung Province as a single unit. In 1939 Japan's exports to British India amounted to ¥210,995,000 showing an increase of 12% as compared with ¥188,040,000 in 1938. Imports from British India were ¥82,263,000 as compared with ¥172,230,000 in 1938 and ¥449,486,000 in 1937.

Principal exports to British India in 1939 continued to be cotton tissues, amounting to ¥62,363,000, while imports consisted of raw cotton valued at ¥120,997,000.

Trade with Netherlands East Indies

The Netherlands East Indies has soared to a covered position as an outlet of Japanese products and as a supplier of Japanese requirements. In 1939 exports to the Netherlands East Indies amounted to ¥137,802,000 as compared with ¥104,145,000 in 1938. Imports in 1939 were ¥71,629,000 showing a decrease of approximately 20% compared with ¥88,248,000 in 1938. This territory was in 1939 Japan's fifth largest purchaser of her products, being preceded by Manchoukuo and Kwantung Leased Territory (taken as a single unit), the United States, China, 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 export from Japan for the whole year amounted to ¥179,251,000 as compared with ¥159,691,000 in 1936. During 1939 the total exports to China amounted to ¥455,479,000 while imports from her was ¥215,662,000.

Trade by Commodities with Yen-bloc Countries

Japanese exports to yen-bloc countries are mainly composed of textile fabrics, construction materials and foodstuffs, whilst imports from

these regions are chiefly made up of such special raw products as beans, bean-cake, raw cotton and coal. There has been a noteworthy increase in exports to Manchoukuo of metals and minerals, metal manufactures, machinery and rolling stock. Main exports to China were cotton tissues, although these declined in the latter of 1938, machinery, chemicals, sugar and paper. A great expansion in the export of wheat flour, "saké," beer and canned foodstuffs was registered in 1939, reflecting the special military demand.

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 capi-

Imports from these regions are of paramount importance in view of the present war-time economy, Manchoukuo supplying beans, bean-cake, and other grains and seeds. Coal and pig iron now also constitute important items in the import trade from Manchoukuo. Imports from China are varied, the principal commodities being textile materials such as raw cotton, wool and hides, beef, bristles, as well as iron ore, coal, tin and salt. The total volume of these raw cotton and coal registered a marked expansion in 1939.

tal 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 is not made public owing to the Sino-Japanese Hostilities.

Table 13—A. 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
Receipts from foreign nationals in Japan ..	57,158	69,458	89,232	95,266	107,688
Government receipts from abroad	4,964	7,218	5,800	18,253	34,894
Others	41,268	75,711	45,876	35,204	26,612
Total	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):					
Ordinary payments:					
Interests and dividends on Japanese securities possessed by foreign nationals	118,885	140,914	124,633	134,781	121,070

	1932	1933	1934	1935	1936
Profits of foreign undertakings and remunerations for foreign services in Japan					
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—B. 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. Interests 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 Debt Movements (Imports):					
I. Merchandise	1,548.5	2,045.6	2,430.7	2,722.6	2,966.4
II. Interests 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					
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 ...					
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 79.4% of the total of both branches of trade in 1939. Kobe ranks first among these three ports. Formerly, Yokohama stood un-

rivalled 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.

In 1939 Yokohama ranked first in value of imports amounting to 929 million yen, followed by Kobe and Osaka with 686 and 611 million yen, respectively. In exports Osaka occupied 1st position with 1,034 million yen followed by Kobe and Yokohama with 960 and 951 million yen, respectively.

Table 14. Exports and Imports By Principal Ports

(Unit: in Million Yen)

	Yokohama		Kobe		Osaka		Nagasaki	
	Exports	Imports	Exports	Imports	Exports	Imports	Exports	Imports
1932	400.7	355.4	499.3	535.6	334.2	268.0	5.7	10.0
1935	626.0	616.6	910.9	821.6	620.1	546.8	4.5	15.2
1936	678.3	687.0	970.8	958.2	672.2	593.3	7.7	16.8
1937	800.0	1,047.6	1,107.6	1,119.5	853.1	835.2	10.7	24.3
1938	681.1	878.0	774.0	706.3	795.3	518.1	13.0	19.4
1939	951.0	929.1	959.9	686.5	1,034.4	611.1	15.5	20.4
1939								
Jan.-June	351.7	466.0	407.8	340.3	455.6	318.4	6.7	11.7
1940								
Jan.-June	445.3	535.8	539.1	479.2	555.3	314.6	11.2	7.7

	Moji		Hakodate		Niigata		Shimizu	
	Exports	Imports	Exports	Imports	Exports	Imports	Exports	Imports
1932	41.0	44.4	10.4	14.7	0	7.3	11.6	11.8
1935	62.8	89.4	24.0	2.0	1.3	7.7	17.3	19.0
1936	69.0	130.3	35.1	2.3	1.1	10.5	22.2	25.7
1937	69.9	233.9	33.5	2.7	2.3	14.1	38.3	26.9
1938	89.4	188.3	36.8	4.7	4.2	16.1	28.5	25.5
1939	127.2	205.8	54.7	3.2	15.0	18.4	46.2	30.4
1939								
Jan.-June	54.0	98.8	6.8	2.0	4.5	9.9	16.1	21.2
1940								
Jan.-June	72.6	128.2	7.1	3.6	-	-	25.3	14.2

	Nagoya		Yokkichi		Wakamatsu		Total incl. others	
	Exports	Imports	Exports	Imports	Exports	Imports	Exports	Imports
1932	64.5	69.6	3.4	15.6	7.8	23.5	1,410.0	1,431.5
1935	129.5	95.5	6.5	70.7	26.1	72.4	2,499.1	2,472.2
1936	131.5	108.8	7.4	67.3	22.4	74.2	2,693.0	2,763.7
1937	147.9	148.3	13.8	94.7	18.0	118.1	3,175.4	3,783.2
1938	115.1	74.1	12.3	31.0	28.5	85.8	2,689.7	2,663.4
1939	144.9	76.7	10.4	47.8	41.5	159.9	3,576.4	2,917.7
1939								
Jan.-June	60.2	43.5	4.7	25.0	22.0	72.6	1,454.4	1,478.3
1940								
Jan.-June	91.1	58.7	4.9	34.0	19.5	50.8	1,862.2	1,712.1

Table 15. Entrance of Steamers By Flags

	Japan		Kwantung		China		Great Britain		Germany	
	Ships	(1,000 tons)	Ships	(1,000 tons)	Ships	(1,000 tons)	Ships	(1,000 tons)	Ships	(1,000 tons)
1935	13,935	43,932	1,402	3,531	920	1,806	2,359	10,656	422	1,927
1936	14,317	54,573	1,530	3,941	1,635	3,340	2,338	10,497	357	1,687
1937	12,668	41,161	1,347	3,318	1,873	3,933	2,505	11,053	344	1,637
1938	11,456	36,659	874	2,065	1,110	2,311	2,198	9,943	310	1,460
1939	14,154	44,020	1,007	2,608	872	1,618	1,609	7,311	247	1,062

	Norway		Denmark		U.S.A.		Canada		Total incl. others	
	Ships	(1,000 tons)	Ships	(1,000 tons)	Ships	(1,000 tons)	Ships	(1,000 tons)	Ships	(1,000 tons)
1935	876	2,876	167	647	611	3,750	100	742	21,904	73,804
1936	946	3,138	146	552	479	3,080	81	720	22,979	76,647
1937	1,052	3,646	197	738	362	2,419	82	659	21,680	72,882
1938	966	3,377	211	748	144	1,162	64	565	18,490	62,231
1939	727	2,477	247	898	160	1,050	74	642	20,263	65,510

Table 16. World Foreign Trade Classified By Leading Customer Countries

(Unit: Percentage: Total in Million Old U.S.\$)

	JAPAN PROPER										Total Value
	To:										
	U.S.A.	Brit. India	China	D.E.I.	U.K.	Australia	France	Germany	Canada	Italy	
1932	31.6	13.6	9.2	7.1	4.3	2.6	1.5	0.6	0.6	0.4	364
1935	21.4	11.5	6.0	5.7	4.8	3.0	1.7	1.1	0.3	0.3	418
1936	20.0	10.1	5.9	4.8	5.5	2.6	1.6	1.3	0.5	0.2	452
1937	21.1	10.0	5.6	6.3	5.3	2.3	1.5	1.4	0.6	0.2	532
1938	15.8	8.1	11.7	3.9	5.0	2.6	1.4	1.2	0.6	0.1	447

	From:										Total Value
	U.S.A.	Brit. India	Germany	Australia	China	U.K.	Canada	D.E.I.	France	Italy	
1932	35.6	8.2	5.0	9.3	5.4	5.5	2.8	2.8	1.5	0.3	395
1935	32.8	12.5	4.9	9.5	5.4	3.3	2.1	3.2	0.8	0.2	413
1936	30.7	13.6	4.2	6.6	5.5	2.6	2.6	4.1	0.7	0.1	464
1937	33.6	12.0	4.7	4.4	3.8	2.8	2.8	4.0	0.7	0.1	634
1938	34.4	6.9	6.4	3.1	6.2	2.4	3.4	3.3	0.5	0.2	444

	GERMANY					Total Value	From:					Total Value
	To:						Japan	U.K.	Argentina	U.S.A.	Italy	
	Japan	Netherlands	U.K.	Italy	France		Japan	U.K.	Argentina	U.S.A.	Italy	
1932	1.4	11.0	7.8	3.9	10.0	1,367	0.4	5.5	4.1	12.7	3.9	1,112
1935	1.9	9.5	8.8	6.5	6.1	1,020	0.5	6.2	3.4	5.8	4.5	994
1936	1.6	8.3	8.5	5.0	5.4	1,136	0.6	6.2	2.8	5.5	4.9	1,005
1937	2.0	7.9	7.3	5.4	5.3	1,406	0.5	5.7	5.4	5.2	4.0	1,299
1938	1.8	8.5	6.7	5.8	4.1	1,250	0.5	5.2	4.0	7.4	4.5	1,296

	FRANCE						Total Value	From:					Total Value
	To:							Japan	U.S.A.	Algeria	U.K.	Germany	
	Japan	Algeria	Belgium	U.S.A.	Switzerland		Japan	U.S.A.	Algeria	U.K.	Germany		
1932	0.7	16.6	11.4	4.9	7.7	774	0.5	9.5	11.0	8.2	12.1	1,171	
1935	0.6	16.7	11.7	4.6	6.7	607	0.9	8.5	11.1	6.5	8.3	821	
1936	0.5	17.4	12.0	5.7	6.3	551	0.8	9.9	11.2	7.1	7.0	903	
1937	0.7	13.7	13.1	6.4	6.0	565	0.8	9.5	9.0	8.0	7.7	1,005	
1938	0.3	12.4	13.7	5.5	5.3	517	0.8	11.4	10.5	7.0	6.9	783	

	ITALY						Total Value	From:					Total Value
	To:							Japan	Germany	U.S.A.	Argentina	U.K.	
	Japan	Germany	U.S.A.	U.K.	France		Japan	Germany	U.S.A.	Argentina	U.K.		
1932	0.3	11.4	9.4	10.8	7.6	349	0.4	13.4	13.4	5.8	9.0	424	
1935	0.4	16.2	8.1	8.2	5.8	256	0.4	18.3	11.2	3.8	7.2	381	
1936	0.3	19.6	9.9	2.8	3.5	226	0.2	26.8	14.8	2.9	0.9	255	
1937	0.2	14.4	7.5	6.1	4.2	324	0.2	18.6	10.9	7.6	4.0	430	
1938	0.2	18.9	7.5	5.6	3.1	323	0.3	26.8	11.8	2.4	6.3	346	

(Continued)

UNITED KINGDOM

	To:						From:					
	Japan	Union of S.A.	Brit. India	Australia	U.S.A.	Total Value	Japan	U.S.A.	Australia	Canada	Brit. India	Total Value
1932	1.6	5.0	9.3	5.5	4.1	1,279	1.0	12.0	6.3	6.2	4.2	2,276
1935	1.0	7.9	8.9	6.9	5.4	1,239	1.3	11.6	6.9	7.5	5.0	2,042
1936	0.9	8.5	7.7	7.3	6.3	1,296	1.2	11.1	7.1	9.0	5.8	2,313
1937	0.9	8.0	7.5	7.2	6.1	1,523	1.2	11.1	6.8	8.8	6.0	2,783
1938	0.4	8.4	7.8	8.1	4.4	1,359	1.1	12.8	7.8	8.5	6.1	2,481

CHINA

	To:					Total Value	From:					Total Value
	Japan	U.S.A.	U.K.	Germany	France		Japan	U.S.A.	Germany	U.K.	D.E.I.	
1932	23.1	12.0	7.5	5.9	4.5	116	14.2	25.3	6.8	11.2	5.5	320
1935	14.7	23.1	8.5	5.0	5.0	122	15.6	18.9	11.2	10.6	6.3	200
1936	15.1	26.3	9.2	5.6	4.3	124	16.6	19.6	15.9	11.7	7.9	166
1937	10.4	27.5	9.6	8.6	3.9	154	16.1	19.8	15.3	11.7	8.4	165
1938	15.3	11.3	7.4	7.4	2.6	91	23.7	16.9	12.6	7.9	5.1	154

BRITISH INDIA

	To:					Total Value	From:					Total Value
	Japan	U.K.	Germany	U.S.A.	Belgium		Japan	U.K.	Germany	U.S.A.	Belgium	
1932	9.7	30.3	6.5	9.5	3.1	355	14.2	41.0	7.5	6.2	2.4	351
1935	13.7	31.1	5.4	9.8	3.4	345	16.0	39.3	8.4	6.6	1.6	294
1936	15.1	33.4	5.4	9.2	3.5	401	17.2	39.0	9.8	6.7	2.3	272
1937	12.4	32.6	4.8	10.2	3.8	437	14.0	31.5	9.2	6.4	2.0	363
1938	9.0	34.0	4.9	8.3	2.5	350	10.1	31.4	8.4	7.4	1.9	325

D. E. I.

	To:					Total Value	From:					Total Value
	Japan	Brit. Malay	Netherlands	U.S.A.	U.K.		Japan	Netherlands	U.S.A.	Germany	Brit. Malay	
1932	4.4	18.4	19.2	12.1	8.9	219	21.3	15.7	6.7	7.7	14.6	154
1935	4.5	16.6	22.5	14.3	6.8	180	30.1	13.4	6.9	8.1	12.2	111
1936	5.6	13.9	23.6	17.7	5.1	205	26.7	16.7	7.7	9.1	11.3	109
1937	4.5	20.4	20.1	18.7	5.3	311	25.0	18.9	10.0	8.4	8.3	163
1938	3.1	18.2	20.4	13.6	5.3	226	15.0	22.2	12.6	10.3	8.4	158

AUSTRALIA

	To:					Total Value	From:					Total Value
	Japan	U.K.	U.S.A.	Belgium	France		Japan	U.K.	U.S.A.	D.E.I.	Canada	
1932	10.8	53.3	3.8	3.3	4.3	267	5.5	40.0	16.2	6.1	3.2	186
1935	10.7	56.3	2.4	5.4	4.2	265	6.4	42.6	15.3	6.1	5.7	227
1936	13.1	50.5	6.9	5.4	4.8	302	6.0	40.7	16.7	5.9	6.5	156
1937	6.0	49.0	11.6	5.7	4.9	348	4.4	42.6	14.3	6.8	6.7	297
1938	3.7	54.8	6.9	3.6	7.0	306	4.8	41.5	15.9	6.8	7.2	305

CANADA

	To:					Total Value	From:					Total Value
	Japan	U.S.A.	U.K.	Australia	Belgium		Japan	U.S.A.	U.K.	Germany	Australia	
1932	2.2	39.2	32.6	1.3	2.7	487	1.0	58.2	20.7	2.2	1.3	384
1935	1.8	43.4	37.2	2.7	1.1	405	0.7	56.8	21.2	1.8	1.3	327
1936	1.9	40.1	39.4	2.6	2.3	608	0.7	58.1	19.4	1.8	1.4	377
1937	2.3	42.4	36.4	2.8	1.5	665	0.7	60.6	18.2	1.5	1.5	479
1938	2.3	37.9	37.2	3.6	1.0	562	0.7	62.7	17.6	1.5	1.3	399

(Continued)

U. S. A.

	To:						Total Value	From:					Total Value
	Japan	U.K.	Canada	France	Germany			Japan	Canada	Brit. Malay	U.K.	Argentina	
1932	8.4	17.9	15.0	6.9	8.3	1,576	10.1	13.2	2.6	5.7	1.2	1,325	
1935	8.9	19.0	14.2	5.1	4.0	1,331	7.5	14.0	6.4	7.6	3.2	1,210	
1936	8.3	17.9	15.7	5.2	4.1	1,429	7.1	15.5	6.9	8.3	2.7	1,430	
1937	8.6	16.0	15.2	4.9	3.7	1,948	6.6	12.9	7.9	6.6	4.5	1,778	
1938	7.8	16.8	15.1	4.3	3.5	1,805	6.5	13.2	5.7	6.0	2.1	1,152	

MEXICO

	To:					Total Value	From:					Total Value
	Japan	U.S.A.	U.K.	Germany	Belgium		Japan	U.S.A.	Germany	U.K.	France	
1935	1.7	62.8	10.1	7.1	2.7	123.6	1.2	65.3	11.9	5.8	3.9	66.9
1936	2.4	60.8	8.8	10.6	3.4	127.5	1.6	59.1	15.4	5.1	3.6	75.6
1937	1.2	56.2	11.0	9.9	4.6	146.3	1.8	62.2	16.1	4.7	3.3	100.6
1938	0.4	67.4	9.4	7.7	4.7	110.0	1.8	57.7	18.8	4.1	4.0	65.0

ARGENTINE

	To:					Total Value	From:					Total Value
	Japan	U.K.	Germany	U.S.A.	Belgium		Japan	U.S.A.	U.K.	Belgium	Germany	
1935	1.0	34.3	6.9	12.1	8.7	295.6	5.1	13.6	24.7	6.5	8.5	200.6
1936	1.6	35.1	5.8	12.2	7.8	317.4	4.0	14.4	23.5	6.9	9.3	205.4
1937	1.0	29.1	6.8	12.8	9.4	447.6	3.6	16.1	20.7	7.2	10.7	284.9
1938	1.1	31.8	11.5	8.1	6.8	258.6	3.2	17.6	18.3	5.2	10.1	261.6

BRAZIL

	To:					Total Value	From:					Total Value
	Japan	U.S.A.	Germany	U.K.	France		Japan	U.S.A.	Germany	U.K.	Argentina	
1935	0.5	39.4	16.5	9.3	8.1	160.6	0.9	23.4	20.4	12.4	12.9	133.5
1936	4.3	38.9	13.2	11.9	7.4	190.1	1.2	22.1	23.5	11.3	16.4	146.3
1937	5.0	36.2	17.1	9.1	6.4	207.0	1.6	23.0	23.9	12.1	14.0	197.6
1938	4.6	34.3	19.1	8.8	6.4	175.0	1.3	24.2	25.0	10.4	11.8	173.0

CHILE

	To:					Total Value	From:					Total Value
	Japan	U.S.A.	U.K.	Germany	Belgium		Japan	U.S.A.	Germany	U.K.	Peru	
1935	0.8	23.0	17.5	7.1	1.9	56.5	3.7	27.1	20.0	18.9	7.2	35.9
1936	1.5	19.5	16.4	9.7	2.0	66.8	2.9	25.4	28.7	13.1	7.0	42.2
1937	1.6	22.5	19.5	9.5	6.0	113.6	2.6	29.1	26.0	10.9	3.1	52.2
1938	1.6	15.7	21.7	10.0	7.8	82.0	2.5	27.7	25.8	10.5	5.8	61.0

COLOMBIA

	To:					Total Value	From:					Total Value
	Japan	U.S.A.	Germany	France	Canada		Japan	U.S.A.	Germany	U.K.	France	
1935	—	60.4	11.9	6.3	5.9	47.6	5.5	41.1	18.7	16.7	4.0	35.7
1936	0.1	54.3	16.6	4.6	5.9	53.2	0.1	41.3	22.3	18.8	3.1	40.5
1937	0.2	56.6	12.4	5.0	6.7	61.7	0.3	48.4	13.4	18.8	3.1	56.8
1938	—	59.1	12.8	4.1	—	54.0	—	51.3	17.3	12.3	3.4	52.0

PERU

	To:					Total Value	From:					Total Value
	Japan	U.S.A.	U.K.	Germany	Argentina		Japan	U.S.A.	Germany	U.K.	Argentina	
1935	2.9	20.9	21.3	11.3	3.7	44.3	5.2	32.9	14.7	13.6	7.6	26.0
1936	4.2	19.3	22.5	12.1	0.7	49.3	3.9	31.9	19.4	13.4	8.6	29.7
1937	1.1	22.2	22.8	13.7	5.1	55.1	3.4	35.4	19.7	10.3	8.1	35.5
1938	0.6	26.8	20.0	10.5	7.8	45.6	3.3	34.3	20.3	10.1	6.1	35.1

(Continued)

URUGUAY

	To:					Total Value	From:					Total Value
	Japan	U.K.	Germany	Argentine	U.S.A.		Japan	U.K.	U.S.A.	Germany	Argentine	
1935	1.9	24.9	14.0	7.2	11.4	45.4	4.6	16.9	17.2	8.8	7.2	28.1
1936	6.9	25.9	11.2	11.1	15.4	42.7	5.1	18.8	13.7	9.9	4.6	31.2
1937	9.8	24.1	13.4	9.5	14.1	46.1	4.6	16.8	13.6	10.5	7.3	37.6
1938	1.7	26.1	23.5	9.6	4.0	34.8	4.7	19.8	12.1	16.8	4.6	28.7

VENEZUELA

	To:					Total Value	From:					Total Value
	Japan	U.S.A.	Germany	U.K.	France		Japan	U.S.A.	Germany	U.K.	Belgium	
1935	—	16.1	1.6	2.7	1.2	107.6	1.8	44.3	8.4	26.8	3.8	24.5
1936	—	17.5	2.0	3.7	2.0	114.1	3.7	47.4	15.0	10.1	7.2	31.4
1937	—	13.7	2.4	5.4	1.6	149.9	3.1	52.9	13.6	9.3	5.8	53.5
1938	0.1	13.6	4.3	3.8	1.2	158.0	2.0	58.7	11.4	7.1	6.8	62.0

THAILAND

	To:					Total Value	From:					Total Value
	Japan	Brit. Malay	Brit. India	U.K.	Germany		Japan	Brit. Malay	U.K.	Germany	Brit. India	
1935	2.0	53.8	7.2	0.8	0.7	39.4	25.6	21.7	11.6	4.3	11.0	28.4
1936	2.8	56.2	3.5	2.2	0.9	47.2	25.7	24.7	10.1	5.4	5.1	28.4
1937	3.5	66.5	1.3	1.6	1.6	43.4	19.8	27.2	12.2	6.2	5.0	28.8
1938	—	—	—	—	—	45.0	—	—	—	—	—	29.0

PHILIPPINES

	To:					Total Value	From:					Total Value
	Japan	U.S.A.	U.K.	Netherlands	Germany		Japan	U.S.A.	China	U.K.	Germany	
1935	5.7	79.8	3.1	0.3	1.0	55.2	14.2	63.9	3.3	2.1	3.0	50.1
1936	5.7	80.6	2.8	1.6	1.3	80.4	13.1	61.1	2.7	2.6	3.4	59.5
1937	6.0	81.9	3.7	0.6	1.1	89.8	14.8	58.3	3.0	2.5	3.8	64.0
1938	6.5	77.6	2.6	2.2	1.3	82.2	9.6	68.4	2.3	2.1	3.1	76.2

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 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 according to Law No. 24 promulgated in 1924, 15 articles were excluded from the luxury tariff schedule 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.

Table 17. Customs Revenue

	Total exports (¥1,000)	Total imports (¥1,000)	Dutiable goods (¥1,000)	Amount (¥1,000)	Customs Revenue	
					% against total dutiable goods	% against gross imports
1929	2,148,619	2,216,240	854,320	147,336	17.25	6.87
1930	1,469,852	1,546,051	584,139	113,173	19.37	7.30
1931	1,146,981	1,235,673	463,974	111,760	24.09	9.06
1932	1,409,992	1,431,461	476,538	108,357	22.74	7.54
1933	1,861,046	1,917,220	549,388	115,598	21.04	6.05
1934	2,171,925	2,282,601	652,668	137,982	21.14	6.04
1935	2,499,073	2,472,236	763,636	152,706	20.00	6.19
1936	2,692,976	2,763,681	801,013	161,214	20.14	5.82
1937	3,175,418	3,783,177	1,052,412	196,994	18.72	5.28
1938	2,689,677	2,663,440	880,444	175,823	19.97	6.60
1939	3,576,370	2,917,666	872,212	150,710	17.28	5.16
1938 1st half	1,200,633	1,294,473	485,717	96,507	19.87	6.92
1939 1st half	1,454,403	1,478,322	477,291	83,291	17.43	5.14
1940 1st half	1,862,164	1,712,053	508,701	74,652	14.67	4.36

Modification of Export Trade Link System.—In order to safeguard the supply of raw materials for the export industries, a special link system was adopted early in 1939, which is a modification of the revolving system proposed in 1938. Ministerial ordinances relating to the procedure of application of the system and to the prohibition of domestic consumption of imported materials were promulgated on December 29, 1938, effective from January 10, 1939. Twenty-four commodities, including beer, caustic soda, ash, matches, cement, etc. have been nominated by the Ministry of Commerce and Industry for this link system whose essential features are as follows:

When goods designated by the Ministry of

Commerce and Industry are exported to countries other than yen-bloc areas, exporters or manufacturers will be authorized to receive certificates from prefectural governors in respect to imports of raw materials for such export goods. Foreign exchange permission will be automatically obtained from the Ministry of Finance by submitting permit certificates issued by prefectural governors. In special cases, permit certificates may be transferred to third persons. The most salient points of the new system are the linking of value in lieu of volume, a longer period allowed for exportation, probably from six months to one year and simpler import procedure.

RECENT TRADE AGREEMENTS

Agreement with Australia

The Japanese-Australian trade agreement was concluded in June 1939 as an extension of the second agreement between the two countries. It stipulates, as did the previous one, that Japan shall purchase Australian sheep's wool in an amount equivalent to two-thirds of her total imports of sheep's wool from all foreign countries, and that Australia shall import from Japan 51,250,000 square yards each of cotton piece-goods, including those containing staple fibre, and silk textiles.

The agreement is regarded as successful from Japan's standpoint for two reasons. First, it may be considered as indicating that a dispassionate attitude toward Japan has been adopted by Australia—a British Dominion as well as an important market for Japanese exports—at a time when Japan is in the midst of her conflict with China and in spite of the delicate status of Anglo-Japanese relations resulting from the progress of the China Affair. Second, no change has been made in quantity of Japanese exports to Australia. It will be recalled that the first trade agreement provided that Japan should purchase 800,000 bales of Australian wool against which she was entitled to export to Australia 51,250,000 square yards each of cotton piece-goods and artificial silk textiles.

Due to the outbreak of the Sino-Japanese conflict, however, Japan's imports of Australian wool failed to reach the stipulated amount. Notwithstanding this, the second trade agreement provided for the same quantity of Japanese exports, while Australia understood the special circumstances in Japan due to wartime conditions, and contented herself with Japanese pur-

chases of Australian wool to the amount of two-thirds of all the foreign wool imported in Japan. As a result of increased restrictions on imports in general, Japan's purchases of Australian wool in 1938 fell to only about 300,000 bales. Apprehension was felt that this condition might become a subject of serious controversy when the second agreements expired at the end of June 1939, but the matter was not questioned by Australia.

After all, the Japanese-Australian trade balance is still unfavorable to Japan although it is gradually improving. It is also noteworthy that a clause pertaining to the term of the agreement has been eliminated, for even though this suggests the danger of unilateral denunciation, it may be construed as an intention to keep the agreement effective indefinitely.

Agreement with India

In contrast with the Japanese-Australian agreement which was concluded between the two Governments, by mutual notification, Japan's trade agreement with India, like that with Burma, is a formal treaty that has been duly signed and ratified. The Indian agreement began operating in October 1937 and will be effective until March of 1940. Its provisions pertain to a barter arrangement for cotton and cotton piece-goods, stipulating that in case the export of cotton from India to Japan reaches a million bales in a cotton year, Japan will be entitled to export to India a basic quota of 253,000,000 yards of cotton piece-goods in the corresponding year; and that in case the import of the one country is more or less than the basic quota, the other country may accordingly increase or decrease its quota of exports. Under

the previous agreement Japan was entitled to export 400,000,000 yards of cotton piece-goods to India against her purchase of more than 1,500,000 bales of Indian cotton.

Agreement with Burma

The Japanese-Burmese trade agreement, which was concluded in June 1937 and is effective until March 1940, was entered into following the separation of Burma from India, whose trade agreement with Japan could no longer be applied to both countries. It is a barter agreement concerning cotton and cotton piece-goods resembling that between Japan and India. Against purchases of 70,000 bales of Burmese cotton, Japan is entitled to export 42,000,000 yards of cotton piece-goods.

Agreement with France

Under the Japanese-French agreement announced on June 26, 1939, France accepts an import quota of ¥1,500,000 worth of canned salmon, ¥500,000 worth of pottery and porcelain, and other imports from Japan to a value of ¥70,000,000 per annum. Although the amount of Japanese imports from France is not made public, it is expected to reach ¥50,000,000 through gradual increase.

Agreement with Venezuela

As a result of negotiations, an understanding was reached between Japan and Venezuela on July 2, 1939 whereby it was agreed that Japan shall purchase as much Venezuelan merchandise as possible while Venezuela shall impose no undue restrictive measures against the importation of Japanese goods on the ground of unbalanced trade relations between the two countries. The principal exports from Japan to Venezuela are cotton piece-goods, rayon goods, pottery, porcelain and buttons. Formerly Venezuela's exports to Japan consisted mainly of coffee, cocoa, and corned beef, but recently she has been exporting cow hides, bones and hoofs in addition, with the result that the exports have increased notably amounting to ¥1,500,000 in 1938 as compared with only ¥230,000 in 1937.

Agreement with Turkey

The trade agreement with Turkey was concluded in October 1937 and is still in force by virtue of its renewal through tacit understanding after it had existed for the prescribed term of one year. It does not stipulate a maximum amount in regard to the ratio of compensation, but provides merely that the equilibrium of

exports and imports shall be approximately maintained. In recent years the principal exports from Japan to Turkey have been cotton yarn and piece-goods, clothing, pottery and porcelain, and the principal imports from Turkey have been salt, olive oil, pharmaceutical material, copper and mercury.

Agreement with Italy

The Japanese-Manchoukuo-Italian trade agreement concluded in August 1938 was to be effective for one year, but by tacit understanding it was renewed until February 1940. It also is based on the compensation principle. Japan and Manchoukuo are treated as one unit and Italy as the other unit, and while it is prescribed that the ratios of mutual compensation shall be approximately equal, it does not stipulate the amount of the transactions. In order to assure the equality of compensation, the agreement provides that the Italian National Foreign Exchange Department and the Yokohama Specie Bank shall prepare statistical records of payments and receipts on a pound sterling basis and supply each other with the statistics thus recorded. The records are to be prepared at the end of every six months in order to ascertain the margin of accounts and thus determine the extent to which appropriate compensatory trade can be conducted.

Agreement with Germany

The Japanese-German trade agreement was under negotiation from the autumn of 1938 until July 28, 1939 when it was formally initialled in Berlin. It is noteworthy because it constitutes an innovation in Japanese trade agreements with foreign countries in that it has the character of "planned economy." The amounts and ratio of annual trade have not yet been made public, but it is understood that the agreement makes provision for German and Japanese exports far in excess of 100 million yen and 50 million yen, respectively. It is also said to contain detailed provisions for the exchange of several hundred kinds of articles, and that Japan is to furnish Germany with large quantities of important goods including aquatic and agricultural products.

The plan to bring Japan and Germany into a closer relationship has actually been in progress for some time. However, a special feature of the recently initialled agreement is that it covers the triangular trade relations among Japan, Manchoukuo and Germany en bloc and brings them under a sort of agreement for exchange settlement. It was possible to do this because

the Japanese-German trade balance is adverse to Japan, that between Manchoukuo and Germany is adverse to Germany, and that between Japan and Manchoukuo adverse to Manchoukuo. In this respect, the new agreement can be regarded as epoch-making in character.

References:

Table Nos.: 1a, 2b, 3-4a, 5c, 6a, 7a&d, 8-15a, 16c, 17a.

Key: a—Department of Finance.

b—Yokohama Specie Bank.

c—Review of World Trade.

d—Department of Commerce & Industry.

CHAPTER XXXIX

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, Niigata, Hiroshima, Okayama, Shimomoseki, 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.

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 estimates made by the each city authority.

Table 1. Population of All the Cities in Japan Proper

	No. of cities	Male	Female	Total	% against total population of Japan proper
1935*	127	11,630,800	11,030,181	22,666,307	32.7
1936	130	12,106,600	12,106,600	23,620,200	33.6
1937	145	12,849,300	12,849,300	25,109,400	25.2
1938	148	13,267,200	13,267,200	25,946,700	35.9
1939	151	13,632,600	13,043,800	26,676,400	36.6
Of which:					
Tokyo		3,420,700	3,160,400	6,581,100	9.3
Osaka		1,812,900	1,581,300	3,394,200	4.6
Nagoya		638,500	610,600	1,249,100	1.7
Kyoto		602,700	574,500	1,177,200	1.6
Kobe		514,500	491,600	1,006,100	1.4
Yokohama		440,000	426,200	866,200	1.2
Total		7,429,300	6,844,600	14,273,900	19.8

Note: * Representing census population, others estimates.

Table 2. Revenue and Expenditure of All the Cities in Japan
(Unit: in ¥1,000)

	(A) Revenue							Total incl. others
	National Tax	Prefectural Tax	Special Tax	Fees & Commissions	Loans	Balance of previous Yr.		
1936	52,917	83,935	26,780	224,240	446,998	134,457	1,142,141	
1937	58,058	83,003	29,905	233,875	231,499	48,057	859,845	
*1938	65,902	89,854	32,648	254,879	274,379	46,325	946,937	
*1939	75,918	93,787	34,782	269,619	216,395	59,863	960,129	
Of which:								
Tokyo	27,055	27,246	4,336	71,400	81,254	2,085	284,439	
Osaka	11,065	16,092	32	75,925	61,362	37,388	242,548	
Nagoya	4,212	5,413	45	13,546	7,172	992	41,522	
Kyoto	3,173	6,496	44	17,727	13,988	6,938	64,087	
Kobe	5,745	—	6,583	30,538	2,417	2,927	58,124	
Yokohama	3,794	2,594	88	11,849	8,087	764	35,032	
Total	55,044	57,841	11,128	220,985	174,280	51,094	725,752	
	(B) Expenditure							
	Office Expenses	Civil Engrs.	Education	Sanitation	Social works	Industry	Loan Sinking	Total incl. others
1936	37,131	53,304	119,752	82,479	19,304	11,224	411,972	959,693
1937	40,381	74,218	142,185	108,951	25,280	10,451	227,325	859,219
1938	42,580	81,862	159,597	122,851	29,563	11,978	250,692	946,205
*1939	46,432	91,281	154,206	141,467	30,251	12,674	207,601	959,429
Of which:								
Tokyo	14,956	37,518	41,345	48,702	9,515	1,979	70,297	284,439
Osaka	5,256	17,794	34,334	27,708	5,561	2,897	51,742	242,548
Nagoya	2,758	2,712	5,732	5,908	911	387	10,700	41,522
Kyoto	1,876	10,171	7,156	7,705	1,256	1,982	6,955	64,087
Kobe	2,423	1,771	6,014	5,447	1,007	508	9,962	58,124
Yokohama	1,294	1,494	4,083	3,950	1,232	303	14,472	35,032
Total	28,563	71,460	98,664	99,420	19,482	8,056	164,128	725,752

Table 3. Movement of Municipal Loans in 1938

(in ¥1,000)
(A) Newly Issued

	Tokyo	Osaka	Nagoya	Kobe	Yokohama	Kyoto	Total		All Cities	
							Am't	%	Am't	%
1937	75,761	54,641	4,159	6,051	9,425	4,202	154,239	95.74	161,100	100
1938	31,554	65,993	2,980	1,809	3,094	5,770	111,131	89.22	124,556	100
1939	92,867	47,950	611	7,714	10,423	1,916	161,480	91.51	176,463	100

(B) Redeemed

1937	66,917	17,972	13,607	7,148	4,604	1,865	112,113	92.19	121,601	100
1938	23,363	50,372	6,600	8,360	6,068	1,421	96,184	90.79	105,957	100
1939	30,936	42,549	5,433	5,038	5,838	2,432	92,226	82.70	111,511	100

(C) Outstanding

1937	680,083	435,308	56,122	112,667	159,775	42,964	1,486,918	94.14	1,579,519	100
1938	697,177	531,439	82,850	106,217	156,714	46,423	1,620,819	94.32	1,718,360	100
1939	759,192	536,840	72,643	108,883	154,971	45,907	1,678,436	93.79	1,789,677	100

Note: Inclusive of Cities in Taiwan and Chosen.

Table 4. Statistics of Municipal Tram and Bus

Year ending Mar. 31:	Tram				Motorbus			
	Operating Line (km.)	No. of car	Passenger		Operating Line (km.)	No. of car	Passenger	
			carried (million)	receipt (million yen)			carried (million)	receipt (million yen)
Tokyo (1938)	352.7	352.7	1,317	402.7	23.8	188.5	119.5	7.6
Osaka (1939)	213.2	213.2	796	346.2	19.2	148.2	86.6	4.9
Kyoto (1938)	70.9	70.9	440	114.2	6.9	67.8	14.6	1.3
Nagoya (1938)	84.0	84.0	316	118.3	6.2	179.3	52.5	2.9
Kobe (1938)	32.6	32.6	275	93.2	5.1	62.0	15.8	1.4
Yokohama (1937)	92.9	92.9	195	52.9	3.3	83.7	18.9	1.2

Note: * signifies estimates.

Table 5. Statistics of City-water

Year ending Mar. 31:	Volume supplied (mill. cub. meters)	No. of consuming household (1,000)	Consumption per day (1,000 cubic meters)	Year ending Mar. 31:	Volume supplied (mill. cub. meters)	No. of consuming household (1,000)	Consumption per day (1,000 cubic meters)
Tokyo (1938)	381.4	951	1,045	*Kyoto (1936)	43.0	147	118
Osaka (1936)	198.0	577	400	Kobe (1937)	47.0	185	108
Nagoya (1937)	53.0	172	145	Yokohama (1936)	46.0	...	126

Table 6. No. of Hospitals, Physicians, etc.

	Hospital*	Physician	Dentist	Pharmacist	Nurse	Population per physician
Tokyo (1939)	373‡	9,747	4,405	7,982	24,365	727
Yokohama (1938)	63	366	...	72	...	2,124
Kyoto (1938)	80	2,271	489	996	3,134	510
Osaka (1938)	166	3,354	1,372	3,093	...	909
Kobe (1938)	80	1,143	438	743	4,465	865
Nagoya (1938)	55	1,369	523	995	3,048	900

Note: † indicates figure for 1938. * representing hospitals with accommodation for in-patients only. ‡ Clinics and consulting offices are not included.

Table 7. No. of Municipal Primary Schools

	No. of Schools	No. of Teachers	No. of Pupils	No. of pupils per school
Tokyo (1939)	601	15,856	781,659	1,301
Osaka (1939)	258	7,716	381,123	1,480
Kyoto (1938)	143	3,140	133,288	932
Kobe (1939)	71	2,692	96,971	1,366
Nagoya (1938)	120	3,404	165,233	1,377
Yokohama (1939)	100	2,665	136,631	1,366

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 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.

Table 7-B. Social Work Expenditure of 6 Premier Cities (¥1,000)

Year ending Mar. 31, 1939	Direct Management	Subsides	Total
Tokyo	19,423	34	19,457
Osaka	14,786	74	14,860
Nagoya	2,473	20	2,494
Kyoto	1,773	7	1,780
Kobe	3,875	28	3,903
Yokohama	1,745	18	1,763

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 acres and expending a sum of about 750 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 completed and the auxiliary roads nearly completed in the summer of 1930.

Adjustment of Building Lots

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 aggregated 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 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, Greater Tokyo ranks fifth among the large cities of the world, covering an area of 577.9 square kilometers, as in 1939, and in respect of population Greater Tokyo with 6,457,900 inhabitants leads all large cities of the world, being second only to New York. Below is given statistics of the area and population of new Tokyo:—

Table 8. Area and Population of Tokyo Classified By Ward (Oct., 1938)

Ward	Area (Sq. Km.)	Population		Ward	Area (Sq. Km.)	Population	
		Total (1,000)	Per Sq. Km. (1,000)			Total (1,000)	Per Sq. Km. (1,000)
Kojimachi	8.3	61.5	7.4	Omori	23.4	235.0	10.0
Kanda	3.1	141.2	45.5	Kamata	22.1	178.0	8.1
Nihonbashi	3.1	117.6	37.9	Setagaya	60.8	248.6	4.1
Kyobashi	5.9	157.0	26.6	Shibuya	15.2	248.0	16.3
Shiba	9.4	200.0	21.3	Yodobashi	10.1	178.9	17.7
Azabu	4.2	88.7	20.6	Nakano	15.4	205.7	13.4
Akasaka	4.3	57.8	13.4	Suginami	34.1	224.6	16.6
Yotsuya	3.2	77.1	24.1	Toshima	13.3	287.4	21.6
Ushigome	5.2	131.1	25.2	Takinogawa	5.2	123.0	23.6
Koishikawa	6.1	144.4	23.7	Arakawa	10.6	354.4	33.4
Hongo	4.6	144.0	31.3	Oji	16.0	198.5	12.4
Shitaya	5.0	200.7	40.1	Itabashi	80.7	173.9	2.1
Asakusa	5.3	293.5	55.4	Adachi	53.8	199.0	3.7
Honjo	6.5	304.8	46.9	Mukojima	7.9	205.9	26.1
Fukagawa	10.2	237.2	23.3	Johto	10.2	188.4	18.5
Shinagawa	11.2	219.6	19.6	Katsushika	36.1	123.5	3.4
Meguro	14.8	179.4	12.1	Edogawa	46.8	149.2	3.2
Ebara	5.8	180.2	31.1	Total	578.0	6,457.9	11.2

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 rehabilitation 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-buses, harbour works and waterworks, etc.

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.

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 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. The two road-makings were originally designated for completion in nine years beginning 1921, but the period was 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 treated totaled 348,000 tsubo. The materials used are wood-blocks, asphalt, concrete and cut stones.

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.

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.

Subways.—The city of Tokyo commands two systems, one connecting Asakusa with Shimbashi, via Ueno and Nihombashi, a total distance of 8 kilometers; and the other connecting Shimbashi with Shibuya, a distance of 6.3 kilometers. The former is operated by the Tokyo Underground Railway Company and the latter by the Tokyo Rapid Transit Company. A through service on these two systems was inaugurated in the autumn of 1939. The total number of passengers carried on the subways for the year ending September, 1939 amounted to 54,955,992, realizing ¥3,538,000 in passenger revenue.

Electric Lighting.—The Municipality 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 mono-

poly so far held by the private electric companies, and in lowering the tariff.

Tokyo Harbour.—With the rapid development and progress made by the City of Tokyo and the increase of population to over 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 ¥34,000,000 over the space of eleven years, commencing with the year 1930. In 1938 about 44% of the work had already been completed. In 1922, the total tonnage of vessels which entered Tokyo Harbour was only 300,000 tons, as compared with 7,941,221 tons in 1938. Incoming cargo handled in 1938 was 6,335,044 tons and outgoing cargo 904,532 tons. This was about equal to the aggregate railway freight hauled into and from Tokyo.

The maritime installation of the harbour has accommodation 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 1941, the port will be able to receive 80 vessels of the 6,000 ton class at the same time.

Tokyo Harbour is a non-treaty port. No vessels of foreign origin are allowed to enter the port but in accordance with Article 98 of the Customs Law, vessels can enter after obtaining special permission. During the year 1937, 137 vessels of foreign origin were allowed to enter the port.

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.

OSAKA

By the absorption of the outlying districts in 1926 and with the realization of the Greater Osaka plan effected in 1928 with a fund of 200 million yen, the city of Osaka has expanded in an impressive manner.

To mention the principal features of improvement, the main thoroughfares have been widened; all wooden bridges replaced by new struc-

tures 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 1938 amounting to ¥2,630,994,000.

Table 9. Area and Population of Osaka Classified By Ward

Ward	Area* (sq. km.)	Population†	
		Total (1,000)	Per sq. km. (1,000)
Aita	8.8	275.3	31.3
Konohana	11.5	236.9	20.6
Higashi	6.6	175.1	26.5
Nishi	4.3	135.6	31.5
Minato	9.3	361.4	38.8
Taisho	9.2	152.3	16.5
Tennoji	4.4	130.3	29.5
Minami	2.7	118.6	43.9
Naniwa	3.8	156.0	41.1
Nishiyodogawa ..	21.4	222.0	10.4
Higashiyodogawa ..	29.0	264.6	9.1
Higashinari	11.0	372.5	33.9
Asahi	18.6	214.3	11.5
Sumiyoshi	39.9	348.9	8.7
Nishinari	7.1	230.4	32.5
Total	187.4	3,394.2	18.1

Note: As per Estimate of October 1st, 1938.

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. In 1933 the municipal authorities undertook the fifth expansion work in view of the fast increasing demand in recent years. During 1938 it supplied 577,000 households with 145,994,000 cubic meters of water.

Since January, 1930 the Municipality has been

constructing a high speed railway partly for the purpose of relieving unemployment. On May 20, 1938 a section of the railway was opened to traffic. In 1938 the line was further extended and at present operation is in effect between Osaka Station and Nankai.

As an auxiliary transport organ in the city the Municipality is running the auto service in different sections, the total length of lines being 148 kilometers as in May, 1938, the daily average of passengers carried being 230,000.

3. **Harbour Works.**—The harbour works was first started in 1897 on an 8-year programme at the estimated cost of ¥22,570,400, which was followed by a 10 year program commencing 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 and with subsequent extensions, the whole was completed in March, 1938 at a total expenditure of 182 million yen.

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-third 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 1946 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.

Table 10. Area and Population of Kyoto Classified By Ward

Ward	Area* (sq. km.)	Population†	
		Total (1,000)	Per sq. km. (1,000)
Kami-kyo	45.0	277	6.2
Sakyo	31.5	134	4.3
Chu-kyo	7.5	193	25.6
Higashiyama ...	35.7	132	3.7
Shimo-kyo	18.9	249	13.2
Ukyo	99.3	90	0.9
Fushimi	50.8	96	1.9
Total	288.7	1,160	4.0

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 11. Area and Population of Yokohama Classified By Ward

Ward	Area (Sq. km.)	Population
Tsurumi	26.69	138,700
Kanagawa	19.78	155,699
Naka	48.78	365,500
Hodogaya	52.49	71,100
Isogo	38.12	57,200
Totsuka	59.63	36,300
Minato-kita	119.48	51,800
Total	400.97	866,200

Note: As in October, 1939.

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:

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 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

Table 12. Area and Population of Kobe Classified By Ward

(Oct. 1939)			
Ward	Area (Sq. km.)	Household	Population
Nada	19.5	35,590	160,000
Fukiai	7.6	27,680	129,400
Kobe	7.8	18,530	92,700
Minato Higashi ..	2.0	14,570	67,300
Minato	7.0	11,820	52,800
Hyogo	4.0	52,570	242,200
Hayashida ...	10.6	34,210	152,100
Suma	24.7	24,230	109,600
Total	83.2	219,200	1,006,100

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).

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 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. Upon its completion the harbour will have capacity for 15 more large steamers.

NAGOYA

Table 13. Area and Population of Nagoya Classified By Ward (October, 1939)

Ward	Area (Sq. km.)	Population	Household
Chigusa	16.43	97,200	20,093
Higashi	13.09	197,600	40,827
Nishi	17.65	188,500	68,946
Nakamura ..	12.53	115,400	23,843
Naka	7.77	194,500	40,186
Showa	21.73	169,300	34,979
Atsuta	7.08	93,000	19,315
Nakagawa ..	21.15	77,400	15,992
Minato	24.57	44,300	9,153
Minami	18.15	71,900	14,855
Total ...	229.94	1,249,100	258,079

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, as in December, 1938 had a capacity of 62 million cubic meters, accommodating a population of over one million.

Municipal Bus Service.—The municipal bus served routes aggregating 179 kilometers, carrying 17 million passengers as in 1939.

Street Tramways.—The street tramways formerly conducted by a private concern was municipalized in 1922 at the cost of ¥11,927,364. The lines as in 1939 covered 84 kilometers, and the number of passengers carried was 47 millions.

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 14. 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
	1938	681,063	170	25.5	877,981	247	33.0
	1939	950,977	237	26.6	929,127	262	31.1

CHAPTER XL

SPORTS

Swimming

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 Rikujō Kyōgi Renmei (Japan Amateur Track and Field Federation), the Nippon Suijō Renmei (Japan Swimming Federation), and the Japan Student League of Track and Field Sports. Headquarters of these organizations are located in Tokyo.

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 grammar schools up to the universities. Thus is seen the reason why talent is discovered and then developed.

Performances at the recent aquatic meets are shown below:—

Table 1. Results of The All-Japan Aquatic Meet (held at the Meiji Shrine Pool, Aug. 17-19, 1940)

Men's Contest			
Event	Time	Winner	Attached
100 m. free-style	59.2	S. Arai	Rikkyo University
200 m. " "	2:14.2	S. Arai	Rikkyo University
† 400 m. " "	4:50.0	Miyamoto	Toei Kai (Waseda)
† 1,500 m. " "	19:31.6	Tsuda	Nippon University
50 m. back-stroke	30.8	Kojima	Sansui Kai (Keio)
100 m. " "	1:08.4	Yashida	Toei Kai (Waseda)
100 m. breast-stroke	1:16.2	Oura	Rikkyo University
† 200 m. " "	2:43.4	Hamuro	Nippon University
Women's Contest			
100 m. free-style	1:16.8	Takuma	Osaka Sogo
* 200 m. " "	2:44.8	Hatano	Tokyo Furitsu 4th Girls' High School
400 m. " "	5:52.0	Hatano	Tokyo Furitsu 4th Girls' High School
50 m. back-stroke	39.8	Yasude	Dohi Girls' High School
100 m. " "	1:29.2	Itoh	Joshi Tai-iku Semmon-gakko
100 m. breast-stroke	1:32.8	Nonaka	Tokyo Furitsu 4th Girls' High School
200 m. " "	3:18.2	Amano	Kure Seika Girls' High School

Note: † Represents world's highest record in 1940.
* Represents highest Japanese record in 1940.

Table 2. Japan's Best Five in 1940 Contest

(A) MEN'S CONTEST

50 meter free style

Ranking	Name	Time	Attached
1.	Taguchi, Masaharu	26.2	Man-Den
2.	Sasaki, Takeshi	26.8	Nippon Univ.
3.	Honda, Takeji	27.4	Rikkyo Univ.
4.	Hasegawa, Koichi	27.4	Waseda Univ.
5.	Tsubota, Juzo	27.8	Waseda Univ.
Average of best ten (1940)		27.54	
" (1939)		27.12	

100 meter free style

Ranking	Name	Time	Attached
1.	Yusa, Masanori	58.4	Nippon Univ.
2.	Arai, Shigeo	58.8	Rikkyo Univ.
3.	Sasaki, Takeshi	59.6	Nippon Univ.
4.	Honda, Takeji	60.8	Rikkyo Univ.
5.	Makino, Hyogo	61.2	Nippon Univ.
Average of best ten (1940)		60.64	
" (1939)		60.69	

200 meter free style

Ranking	Name	Time	Attached
1.	Miyamoto, Shigeru	2:13.8	Waseda Univ.
2.	Arai, Shigeo	2:14.0	Rikkyo Univ.
3.	Goto, Tatsumi	2:16.8	Meiji Univ.
4.	Yusa, Masanori	2:17.5	Nippon Univ.
5.	Makino, Hyogo	2:17.6	Nippon Univ.
Average of best ten (1940)		2:17.3	
" (1939)		2:15.8	

400 meter free style

Ranking	Name	Time	Attached
1.	Miyamoto, Shigeru	4:47.0	Waseda Univ.
2.	Tanaka, Eisaku	4:50.6	Toei-kai
3.	Tsuda, Kunio	4:51.6	Nippon Univ.
4.	Homma, Toshio	4:54.0	Rikkyo Univ.
5.	Goto, Tatsumi	4:54.2	Meiji Univ.
Average of best ten (1940)		4:54.4	
" (1939)		4:51.6	

800 meter free style

Ranking	Name	Time	Attached
1.	Tsuda, Kunio	10:11.0	Nippon Univ.
2.	Amano, Tomitatsu	10:19.4	Nippon Univ.

SIX PREMIER CITIES

Through the Ports of:	Exports			Imports			
	Amount	Index	% to Total	Amount	Index	% to Total	
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
	1938	774,038	149	28.8	706,257	132	26.5
1939	959,909	192	26.9	686,534	128	23.5	
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	523,290	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
	1938	795,329	239	29.5	518,076	194	19.4
1939	1,034,351	390	28.9	611,086	228	29.4	
Nagoya	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
	1938	115,101	178	4.3	74,126	140	2.7
1939	144,872	224	4.4	76,705	111	2.7	
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
	1938	2,689,677	190	100	2,663,337	186	100
1939	3,576,370	253	100	2,917,666	204	100	

References:

- Table Nos.: 1 a, 2 b, 3 c, 4-7 d, 8-13 e, 14 b.
 Key: a—Cabinet Statistics Bureau.
 b—Department of Finance.
 c—Industrial Bank of Japan.
 d—Reports of each Municipality.
 e—Department of Home Affairs.

(Continued)

Ranking:	Name	Time	Attached
3.	Homma, Toshio	10.21.2	Rikkyo Univ.
4.	Kurihara, Tetsu	10.23.4	Nippon Univ.
5.	Matsuyama, Shoichi	10.25.6	Meiji Univ.
Average of best ten (1940)		10.25.0	
" (1939)		10.19.5	

1,500 meter free style

1.	Tsuda, Kunio	19.31.6	Nippon Univ.
2.	Tanaka, Eisaku	19.31.6	Toei-kai
3.	Homma, Toshio	19.41.8	Rikkyo Univ.
4.	Sakai, Koichi	19.51.6	Gifu Shogyo
5.	Takeuchi, Sadao	19.66.2	Toho Shogyo
Average of best ten (1940)		19.56.0	
" (1939)		19.54.6	

100 meter breast stroke

1.	Oura, Seiichiro	1.16.0	Rikkyo Univ.
2.	Tabata, Saburo	1.16.2	Waseda Univ.
3.	Furukawa, Toshi	1.16.6	Waseda Univ.
4.	Obayashi, Tsuguji	1.17.2	Waseda Univ.
5.	Iwasaki, Kumeo	1.17.8	Keio Univ.
Average of best ten (1940)		1.17.6	
" (1939)		1.16.8	

200 meter breast stroke

1.	Hamuro, Tetsuo	2.43.4	Nippon Univ.
2.	Oura, Seiichiro	2.43.8	Rikkyo Univ.
3.	Yoshimura, Kiyozo	2.47.2	Nippon Univ.
4.	Fujigaki, Kyotaro	2.47.8	Ebaragi M. S.
5.	Suzuki, Juichi	2.50.4	Toho Shogyo
Average of best ten (1940)		2.49.9	
" (1939)		2.49.5	

50 meter back stroke

1.	Kojima, Yasuhiko	30.8	Mita
2.	Yoshida, Kiichi	31.2	Waseda Univ.
3.	Taniguchi, Toshihiro	31.8	Nippon Univ.
4.	Nakano, Taro	31.8	Waseda Univ.
5.	Hiraga, Takeshi	33.2	Rikkyo Univ.
Average of best ten (1940)		32.1	
" (1939)		32.2	

100 meter back stroke

1.	Yoshida, Kiichi	1.08.0	Waseda Univ.
2.	Kojima, Yasuhiko	1.08.8	Keio Univ.
3.	Taniguchi, Toshihiro	1.09.8	Nippon Univ.
4.	Nakano, Taro	1.11.4	Toei-kai
5.	Hiraga, Takeshi	1.12.6	Rikkyo Univ.
Average of best ten (1940)		1.11.2	
" (1939)		1.11.3	

200 meter relay

1.	Arai, Honda, Ohta, Hiraga	1.48.6	Rikkyo Univ.
2.	Makino, Sasaki, Kohno, Hayashida	1.49.6	Nippon Univ.
3.	Makino, Sasaki, Hamada, Hayashida	1.49.8	Toei-kai
4.	Hasegawa, Tsubota, Ohno, Yoshida	1.50.0	Waseda Univ.
5.	Takano, Hori, Terada, Kojima	1.50.4	Keio Univ.
Average of best ten (1940)		1.51.1	
" (1939)		1.52.1	

800 meter relay

1.	Miyamoto, Uda, Sugita, Yoshida	9.05.0	Waseda Univ.
2.	Sasaki, Tsuda, Makino, Koshido	9.09.0	Nippon Univ.
3.	Arai, Homma, Shiroyama, Honda	9.13.8	Rikkyo Univ.
4.	Miyamoto, Sugita, Tanaka, Yoshida	9.15.0	Waseda Univ.

Ranking:	Name	Time	Attached
5.	Arai, Homma, Honda, Uto	9.15.4	Rikkyo Univ.
Average of best ten (1940)		9.21.3	
" (1939)		9.15.6	

300 meter medley

1.	Sakamoto, Oura, Arai	3.27.0	Rikkyo Univ.
2.	Taniguchi, Morita, Sasaki	3.28.8	Nippon Univ.
3.	Inagaki, Suzuki, Koyanagi	3.35.2	Aichi Shogyo
4.	Inagaki, Tsutsumi, Kawamura	3.36.6	Nagoya Shogyo
5.	Tashiro, Yoshida, Nakagawa	3.37.8	Kawasaki Kogyo
Average of best ten (1940)		3.37.1	
" (1939)		3.31.3	

(B) WOMEN'S CONTEST

50 meter free style

1.	Yasumori, Masae	33.8	Kyoto 2nd
2.	Fujita, Yoshiko	34.0	Tosa
3.	Ema, Ranko	34.5	Taihoku
4.	Igarashi, Sawako	34.8	Tokuyama
5.	Shindo, Reiko	35.0	Tokyo 8th
Average of best ten (1940)		34.8	
" (1939)		34.4	

100 meter free style

1.	Fujita, Yoshiko	1.16.0	Tosa
2.	Yoshida, Tsuneko	1.16.8	Joshi Taiiku
3.	Takuma, Mie	1.16.8	Sogo
4.	Ando, Masae	1.17.4	Kyoto
5.	Hatano, Fumi	1.17.4	Tokyo 4th
Average of best ten (1940)		1.17.5	
" (1939)		1.17.5	

200 meter free style

1.	Hatano, Fumi	2.44.0	Tokyo 4th
2.	Miura, Hana	2.49.2	Yokohama
3.	Shibata, Setsuko	2.53.8	Aichi Shukutoku
4.	Fujita, Yoshiko	2.53.8	Kochi
5.	Yoshida, Michiko	2.54.0	Najima
Average of best ten (1940)		2.54.0	
" (1939)		2.55.8	

400 meter free style

1.	Hatano, Fumi	5.52.0	Tokyo 4th
2.	Miura, Hana	6.04.6	Yokohama
3.	Matsuhara, Hiroko	6.07.8	Tokyo 4th
4.	Ozawa, Hatsuko	6.14.0	Tokyo 4th
5.	Yoshida, Michiko	6.14.4	Kure Seika
Average of best ten (1940)		6.14.3	
" (1939)		6.17.6	

100 meter breast stroke

1.	Goto, Hisako	1.31.2	Taihoku 1st
2.	Kono, Noriko	1.32.4	Kyoto 1st
3.	Nonaka, Kimiko	1.32.6	Tokyo 4th
4.	Mieda, Mikiko	1.33.4	Nippon
5.	Amano, Keiko	1.33.6	Kure Seika
Average of best ten (1940)		1.33.7	
" (1939)		1.34.3	

200 meter breast stroke

1.	Goto, Hisako	3.17.4	Taihoku 1st
2.	Kawauchi, Kimiko	3.17.4	Doi
3.	Kono, Noriko	3.18.2	Kyoto
4.	Amano, Keiko	3.18.2	Kure Seika
5.	Nonaka, Kimiko	3.19.8	Tokyo 4th
Average of best ten (1940)		3.19.9	
" (1939)		3.20.9	

(Continued)

50 meter back stroke

Ranking:	Name	Time	Attached
1.	Hodehama, Masako	39.6	Doi
2.	Ito, Satoshi	40.2	Joshi Taiiku
3.	Kanamori, Hitoko	40.4	Kure Seika
4.	Aojima, Hiroko	40.6	Nakaizumi
5.	Sano, Keiko	40.8	Tokyo 4th
Average of best ten (1940)		40.6	
" (1939)		40.9	

100 meter back stroke

1.	Kanamori, Shitoko	1.27.0	Kure Seika
2.	Iijima, Tomiko	1.28.8	Furukawa Denki
3.	Sano, Keiko	1.28.8	Tokyo 4th
4.	Iwamoto, Shigeiko	1.29.1	Doi
5.	Ito, Satoshi	1.29.2	Joshi Taiiku
Average of best ten (1940)		1.29.6	
" (1939)		1.30.0	

200 meter relay

1.	Suzuki, Moriwaki, Kamimura, Fujita	2.20.4	Kochi
2.	Yoshida, Hatano, Miura, Tatematsu	2.20.4	Pickup team

Ranking:	Name	Time	Attached
3.	Nakajima, Yada, Onishi, Ishihashi	2.21.0	Aichi
4.	K. Sano, Ozawa, Hatano, N. Sano	2.21.4	Tokyo 4th
5.	Hatano, Matsubara, Hattori, Ozawa	2.21.6	Tokyo 4th
Average of best ten (1940)		2.21.7	
" (1939)		2.22.7	

300 meter medley

1.	Kanamori, Amano, Yoshida	4.19.8	Hiroshima
2.	K. Sano, Nonaka, Hatano	4.21.2	Tokyo 4th
3.	Ariga, Kono, Yasutomi	4.21.8	Kyoto
4.	Matsumura, Yaida, Fujita	4.24.2	Kochi
5.	Ariga, Okawa, Yasutomi	4.24.8	Kyoto
Average of best ten (1940)		4.24.9	
" (1939)		4.25.2	

Table 3. Japanese Swimming Records Compared With World Records

Men's Free Style				World Records		
Distance	Time	Japanese Records		Time	Holder	Year
		Time	Holder			
50 meters	23.8	N. Takahashi	1934	56.4	Fick (U.S.)	1936
100 "	57.2	M. Yusa	1938	2:07.2	Medica (U.S.)	1935
200 "	2:09.6	S. Arai	1938	3:21.7	"	1935
300 "	3:30.8	"	1938	4:38.7	"	1934
400 "	4:45.2	H. Negami	1935	5:57.8	"	1933
500 "	6:09.0	T. Amaro	1938	9:55.8	Makino (Japan)	1936
800 "	9:55.8	S. Makino	1935	12:33.8	Amano (Japan)	1938
1,000 "	12:33.8	T. Amano	1938	18:58.8	"	1938
1,500 "	18:58.8	"	1938			

Men's Breaststroke				World Records		
Distance	Time	Japanese Records		Time	Holder	Year
		Time	Holder			
50 meters	33.8	T. Hamuro	1939	1:07.3	R. Hough (U.S.)	1939
100 "	1:12.4	"	1939	2:37.2	Kasley (U.S.)	1936
200 "	2:40.4	"	1937	5:43.8	Heina (Germany)	1938
400 "	5:58.4	R. Fujigaki	1938	7:13.0	"	1939
500 "	8:30.8	Y. Tsuruta	1926			

Men's Backstroke				World Records		
Distance	Time	Japanese Records		Time	Holder	Year
		Time	Holder			
50 meters	30.6	Y. Kojima	1939	1:04.8	Keifer (U.S.)	1936
100 "	1:07.2	S. Kiyokawa	1936	2:24.0	"	1935
200 "	2:31.0	K. Yoshida	1937	5:13.4	"	1936
400 "	5:23.2	"	1936*			

Men's Relay				World Records		
Distance	Time	Japanese Records		Time	Holder	Year
		Time	Holder			
400 meter	3:55.6	{ Arai, Shimura, Hirano, Yusa	1935	3:39.6	U.S. { Hirose, Jaretz, Wolf, Fick	1938
800 "	8:51.5	{ Yusa, Sugiura, Taguchi, Arai	1936	8:51.5	{ Yusa, Sugiura, Taguchi, Arai	1936

Women's Free Style				World Records		
Distance	Time	Japanese Records		Time	Holder	Year
		Time	Holder			
50 meters	31.6	H. Matsuzawa	1933	1:04.6	Ouden (Holland)	1936
100 "	1:11.0	K. Kojima	1936	2:21.7	Hvegar (Denmark)	1938
200 "	2:45.0	"	1933	3:46.9	"	1938
300 "	4:22.6	H. Morioka	1935	5:06.1	"	1938
400 "	5:43.1	K. Kojima	1936			

Japanese Records				World Records			
	Time	Holder	Year	Time	Holder	Year	
500 "	7:44.8	H. Morioka	1935	6:34.3	Caluen (Belgium)	1939	
800 "	12:31.8	"	1935	11:11.7	Hvegar (Denmark)	1936	
1,000 "	15:57.0	"	1933	14:12.3	"	1936	
1,500 "	24:08.6	"	1933	21:45.7	"	1938	

Women's Breaststroke

	Time	Holder	Year	Time	Holder	Year
50 meters	40.6	H. Maehata	1935	—	—	—
100 "	1:25.7	"	1935	1:20.2	Hölnzer (Germany)	1936
200 "	3:01.9	"	1936	2:56.0	Laenk (Brazil)	1937
400 "	6:37.6	"	1933	6:15.8	Laenk (Brazil)	1939
500 "	8:03.8	"	1933	7:58.8	Sörensen (Denmark)	1939

Women's Backstroke

	Time	Holder	Year	Time	Holder	Year
50 meters	39.0	S. Ito	1938	—	—	—
100 "	1:25.1	H. Yokota	1932	1:10.9	Kind (Holland)	1939
200 "	3:10.4	"	1933	2:38.8	Kind (Holland)	1938
400 "	—	—	—	5:41.4	Feggelen (Holland)	1938

Women's Relay

	Time	Holder	Year	Time	Holder	Year
400 meters	5:06.7	{ Kojima, Yokota, Morioka, Araita	1936	4:27.6	Denmark (Arndt, Kraft, Petersen, Hvegar)	1938

BASEBALL

Baseball is without question the most popular sport 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 synonymous of the world series of the American major leagues with crowds of more than 50,000 seeing each game.

Golfing in Japan dates back to 1907 when the first All-Japan amateur championship was played and won by Mr. Lawson. While the game has been played chiefly by the moneyed classes, there is no doubt that it is growing in popularity. Waseda, Meiji and Keio universities, for instance, have organized a Kantō Students Golf Federation. 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 4. 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
1938	Rin	294
1939	Toda	297
1940	Miyamoto	285

Past title-holders of the All-Japan amateur and professional crowns are as follows:—

Table 5. 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	M. Kubota
1939	S. Harada	7-6	G. Sato

Table 6. 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
1938	T. Toda	7-5	S. Inoue
1939	T. Toda	3-2	T. Miyamoto

Leading golf links in and about Tokyo, Yokohama and other places are as follows:—

Table 7. 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 Gountry 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, Hoyogo 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.

In November 1939, Japan was visited by the San Jose State College (U.S.A.) boxing team. Results of the contest held at Tokyo against Kwanto University teams were as follows:

Bantamweight: Kisso Ri (Senshu Univ.) won a decision over William Sellers (U.S.); Featherweight: Conrad Lacy (U.S.) won by decision over Heigoku Kin (Nihon Univ.); Lightweight: Katsuo Mori (Meiji Univ.) knocked out Don Taylor (U.S.) in the 2nd round and Charles Kerwin (U.S.) fought Jinshaku Ko (Rikkyo Univ.) to a draw; Welterweight: James Kincaid (U.S.) won a decision over Keikan Ri (Waseda Univ.).

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 today to provide interesting competition for the best clubs in the world.

Table 8. Holders of the Inter-College Basketball Championship

Year	Winners	Score	Losers
1931	Rikkyo 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
1938	Kyoto Imperial University	2-1	Rikkyo University
1939	Rikkyo University	2-0	Kyoto Imperial University
1940	Rikkyo University	2-0	Kyoto Imperial 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.

Table 9. Japanese Track and Field Records Compared with World Records

(a) Men's Field & Track

	Japanese Records			World Records		
	Time	Holder	Year	Time	Holder	Year
100 m. dash	10.3	R. Yoshioka	1935	10.2	Owens (U.S.)	1936
200 "	21.2	R. Yoshioka	1933	20.3	Owens (U.S.)	1935
400 "	49.0	I. Nakashima	1932	46.1	Williams (U.S.)	1936
800 "	1:54.0	K. Aoji	1934	1:49.9	Robinson (U.S.)	1937
1,000 "	2:31.8	K. Nakamura	1937	2:23.6	Ladoumegue (France)	1930
1,500 "	3:56.8	K. Nakamura	1937	3:47.8	Lovelock (New Zealand)	1936
3,000 "	8:36.2	K. Murakoso	1937	8:14.8	Heleket (Finland)	1936
5,000 "	14:30.0	K. Murakoso	1936	14:17.0	Lehtinen (Finland)	1932
10,000 "	30:25.0	K. Murakoso	1936	30:05.6	Salminen (Finland)	1937
110 m. hurdle	14.6	T. Murakami	1935	13.7	Towns (U.S.)	1936
200 "	24.3	Y. Fukui	1926	22.6	Owens (U.S.)	1935
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.	1936	39.8	Owens, Metcalf, Draper, Wykoff.	1936
800 "	1:28.0	T. Takano, B. Kondo, M. Taniguchi, B. Suzuki.	1934	1:25.0	Stanford Univ. (U.S.)	1937
Running High Jump	2.01	K. Tanaka	1935	2.07	Johnson (U.S.)	1936
Running Broad Jump	7.98	Z. Asakuma	1935	8.13	Albritton (U.S.)	1936
Hop, Step & Jump	16.00	C. Nambu	1931	16.00	Owens (U.S.)	1935
Pole-Vault	4.35	N. Tajima	1936	4.54	N. Tajima (Japan)	1936
Shot Put	14.13	S. Oye	1937	17.40	Sefton (U.S.)	1937
Discus throw	44.76	Meadows (U.S.)	1934	53.10	Torrance (U.S.)	1934
Javelin throw	68.59	S. Takata	1935	77.23	Schroder (Germany)	1935
Hammer	51.27	K. Kikumoto	1934	57.77	Jarvinen (Finland)	1936
		S. Nagao	1936		Ryan (U.S.)	1913

(Continued)

(b) Women's Field & Track

	Japanese Records			World Records		
	Time	Holder	Year	Time	Holder	Year
50 m. dash	6.4	K. Hitomi	1927	6.4	Meizlikova (Czecho.)	1922
100 "	12.2	K. Hitomi	1928	11.5	Walasiewicz (Poland)	1932
200 "	24.7	S. Watanabe	1933	23.6	Stephens (U.S.)	1936
800 "	2:28.6	K. Hitomi	1929	2:12.4	Walasiewicz (Poland)	1935
1,000 "	3:23.3	K. Idota	1936	2:52.4	Koubkova (Czecho.)	1939
400 m. relay	50.1	H. Onishi	1935	46.4	Lunn (England)	1936
800 m. relay	1:49.2	Yamauchi, Koshiyama, Yoshino, Idota.	1938	1:45.8	National Team (Germany)	1932
80 m. hurdle	11.9	Kato, Nakajima	1936	11.6	National Team (Germany)	1932
	(meters)	Manabe, Idota.		(meters)		
Running High Jump	1.56	Y. Yamashita	1938	1.65	Engelhardt (Germany)	1933
Running Broad Jump	5.98	R. Yamanouchi	1938	6.12	Didrickson (U.S.)	1932
Hop, Step & Jump	11.42	K. Hitomi	1928	14.38	Shiley (U.S.)	1932
Shot put	12.64	S. Watanabe	1932	48.31	Schultz (Germany)	1939
Discus throw	41.46	F. Kojima	1937	46.74	Mauermeyer (Germany)	1934
Javelin throw	44.51	F. Kojima	1938		Mauermeyer (Germany)	1936
		S. Yamamoto	1936		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.

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 Com. Univ.
4th (1938)	Waseda University	4-1	Keio University
5th (1939)	Keio University	3-2	Waseda University
6th (1940)	Keio University	1-0	Waseda W.M.W.

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.

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 be-

tween various Japanese teams and the visiting students rugby team from Australia, the matches being held in Tokyo and Kyoto.

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 outweighed 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 35 American collegiate football stars, comprising blue and red teams under

the management of Alber 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.

Table 11. Rugby Results

Year	Victor over:	Score (matches)	Defeated by:	Japanese Players
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	"	
1939	"	56—11	"	
1940	"	41—16	"	

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.

Table 13. Japan's Performance in the Davis Cup Tournaments

Year	Victor over:	Score (matches)	Defeated by:	Japanese Players
1921	Philippines, Belgium & Australia	5:0	U.S.A.	Shimizu, Kumagai
1922	(Japan not represented)			
1923	Canada	4:1	Australia	Shimizu, Fukuda & Kashio
1924	Canada	5:0	Australia	Shimizu, Okamoto, Harada
1925	China, Spain	4:1	Australia	Shimizu, Harada & Fukuda

The annual inter-collegiate record is as follows:—

Table 12. All-Japan Hockey Championship

Year	Victor over:	Score (matches)	Defeated by:	Japanese Players
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.			
1938	Keio Univ.			
1939	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 1932, 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.

Owing to the China Incident, Japan did not send any players in 1939. The annual standing of the Japanese team in the Davis Cup Tournament is as follows:

Year	Victor over:	Score (matches)	Defeated by:	Japanese Players
1926	Mexico, Philippines & Cuba	3:2	France	Tawara, Harada
1927	Mexico, Canada	5:0	France	Harada, Ohta & Toba
1928	Cuba, Canada	5:0	U.S.A.	Abe, Ohta, & Toba
1929		4:1	U.S.A.	Abe, Ohta
1930	Portugal, India, Spain & Czechoslovakia	3:2	Italy	Ohta, Harada & Abe
1931	Jugoslavia, Egypt	5:0	England	J. Sato, H. Sato & Kawaji
1932	Greece, Denmark	3:2	Italy	J. Sato, Nunoi
1933	Hungary, Ireland, Germany	3:2	Australia	Fujikura, Yamagishi & Nishimura
1934		4:1	Australia	Nishimura
1935	Holland	4:1	Czechoslovakia	Nishimura, Yamagishi
1936	(Japan not represented)			
1937		5:0	U.S.A.	Nakano, Yamagishi
1938	Canada	3:2	Australia	Yamagishi, Nakano
1939	(Japan not represented)			

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 outriggered 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 the late 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 heats.

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, 15 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 15 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 hundreds.

Wrestling is also popular among college boys and several times a year they hold matches at either Tokyo or Osaka to contest the championship.

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 skating records compared with world records are as follows:

Table 14. Japanese Highest Skating Records Compared with World Records

Men's Speed Events				World Records			
Japanese Records				World Records			
Distance	Time	Name	Year	Time	Name	Year	Year
500 meters	43.5s	S. Ishiwara	1936	41.8s	Engnestangen (Norway)	1938	
1,500 "	2:25.0	S. Kin	1935	2:13.8	Engnestangen (Norway)	1939	
3,000 "	5:02.0	Ri Kosho	1940	4:49.6	Ballangrud (Norway)	1935	
5,000 "	8:47.0	Cho Yushoku	1938	8:17.2	Ballangrud (")	1936	
10,000 "	18:02.7	S. Kin	1936	17:17.4	Ballangrud (")	1938	

Women's Speed Events				World Records			
Distance	Time	Name	Year	Time	Name	Year	Year
500 meters	50.6	M. Nawate	1940	46.4s	Shou Nilsen (Norway)	1937	
1,000 "	1:48.4	K. Nakagawa	1939	1:38.8	Shou Nilsen (")	1937	
3,000 "	5:55.6	K. Nakayama	1939	5:29.6	Shou Nilsen (")	1937	
5,000 "	10:14.9	Y. Bunyo	1937	9:28.3	Shou Nilsen (")	1937	

SKIING

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 Cki 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.

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 races of 1937 there were altogether

1,991,424 admissions, prizes awarded amounting to ¥29,554,448, tickets sold ¥132,263,000 and amount distributed ¥111,617,000.

The fastest records are as follows:—

Table 15. Highest Japanese Record

(a) Gallop			
Distance (meters)	Name	Record	Year
1,600	Yae-hikari	1'42.0"	1934
1,800	King II	1'52.4"	1932
2,000	Yamayasu	2'05.3"	1932
2,000	Efford	2'05.3"	1934
2,200	General	2'18.2"	1937
2,400	Banryu	2'32.0"	1934
2,600	Asahagi	2'45.3"	1934
3,200	Hakuko	3'26.0"	1933
3,400	Tokumasa	3'40.2"	1937
4,000	Hakuryu	4'23.4"	1932

(b) Trot			
Distance (meters)	Name	Record	Year
3,400	Riyo	5'11.1"	1934
3,600	King-sport	5'31.4"	1934
3,800	King-sport	5'58.0"	1934
4,000	Clean-hit	6'19.1"	1934
4,200	My-father	6'31.4"	1936
4,400	Ontario	6'53.4"	1935
4,800	King-sport	7'20.3"	1934
5,000	Best-neck	7'44.0"	1935
5,200	Idaho	8'11.1"	1935
6,000	Ontario	9'35.1"	1935

(c) Steeplechase			
Distance (meters)	Name	Record	Year
2,000	Royal Cup	2'12.1"	1933
2,200	Pin-o	2'39.2"	1933
2,400	Shadainoboru	2'38.0"	1934
2,600	Yamamichi	2'52.2"	1934
2,800	"	3'06.1"	1933
3,200	Asbel	3'35.0"	1933
3,600	Shadainoboru	3'59.2"	1934
4,100	Oasis	5'02.2"	1935

Table 16. Horse Race Clubs

Club	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 (18 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 17. Peaks

Northern Alps:		Central Alps:		Height (meters)
Ontake	3,063	Tsurugidake	3,003	
Norikuradake	3,026	Kiso-Komagatake		
Yakedake	2,458	take	2,956	
Hodakadake	3,190	Enadake	2,190	
Yarigatake	3,180			
Tateyama	3,015	Southern Alps:		
Shirouma	2,933	Kai-Komagatake	2,966	
Jonendake	2,857	Jizodake	2,841	
Dai-tenjodake	2,922	Senjogatake	3,033	
Arakawadake	3,083	Akaishidake	3,120	
Taubakurodake	2,763	Shirane-Kita-ake	3,192	

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.), Shirahone (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.

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 explorers have in the winter season extensively covered Shirouma, the Tateyama range and other peaks.

NATIONAL PARKS

The following 12 places were designated as National Parks in October 1932 by the Department of Home Affairs:

Akan:—A famous active volcano in Hokkaido, situated between Kushiro and Kitami occupying an area of 75,372 hectares. It is surrounded by many beautiful lakes and forests, with several hot spring resorts.

Daizensuzan:—(literally Great Snow Mountain) located at the centre of the mountain ranges of Hokkaido, is often called the Roof of Hokkaido. Its 203,306 hectares of territory which includes grand canyons and beautiful plains is considered as one of the most suitable places for natural research, mountaineering, sight-seeing, and skiing, etc.

Lake Towada:—Extending over Akita and Aomori prefectures, the lake being the second deepest in Japan, is 378 meters in depth and 401 meters above the sea level. The total area of the park is 49,587 hectares including beautiful hills, valleys, etc. and is highly regarded by those who love fishing, boating and winter sports.

Nikko:—"One can't say 'kekko' (wonderful) without visiting Nikko" is a Japanese proverb. This park occupies 53,553 hectares bordering Gunma, Fukushima, Tochigi and Niigata Prefectures. The gorgeous shrines, Lake Chuzenji, and the famous waterfall "Kegon" are some of the spot no visitor can miss among the many places of interest.

Fuji-Hakone:—This park occupies 82,281 hectares including Mt. Fuji, the famous five lakes at its foot, and the wellknown hot spring resort, Hakone. It is located within a few hours by train from Tokyo.

The Japan Alps (Chubu Sangaku):—Occupies 173,554 hectares of mountainous zone, the so-called north Japan Alps. Among the many peaks in the region the Shirouma, Hodaka, Tsubakuro and Yari are very popular. Kamikochi and Kurobe add further beauty to the park.

Yoshino-Kumano:—Extending over three prefectures, Nara, Miye and Wakayama, its size is 69,429 hectares including the Yoshino mountain ranges, rivers and craggy coastline of Kumano. Yoshino is not only known for its famous cherry blossoms, but is also a spot of historic interest.

Seto Inland Sea:—The only sea park in Japan, dotted with many beautiful isles, it is 102,149 hectares in size. It is generally conceded that such scenery is unique in the world.

Daisen:—Mt. Daisen, the highest mountain facing the Japan Sea in the Chugoku district,

is in the centre of the park, occupying 17,852 hectares, commanding a wonderful view of Shikoku peninsula. The park which has several hot spring resorts is the centre of skiing in western Japan.

Unzen:—Located near Nagasaki, it is famous for its sulphide hot springs, and is also noted for its azaleas in Spring and "Silver Thaw" in Winter, when trees are coated with ice. The size of the park is 9,917 hectares.

Aso:—Extending over Oita and Kumamoto Prefectures, Mt. Aso, an active volcano with the largest crater in the world, consists of five peaks. Being double-cratered, it has a huge depression measuring 20 kilometres from south to north and 16 kilometres from east to west. There are 11 villages with a population of over 50,000 within the large crater. The total area of the park is 30,741 hectares.

Kirishima:—Located between the prefectures of Kagoshima and Miyazaki, occupying an area of 18,735 hectares, it consists of 22 volcanic mountains with beautiful lakes, plains, forests, etc.

GAME LAW

Formerly, no regular rules existed for the protection of useful birds. The crane was then the only protected bird, and that chiefly from curiosity. Afterwards about 200 species of birds were either placed under absolute protection, or protected during the breeding season. In September, 1919 the old game act was superseded by a new and revised one that was passed by the 40th session of the Imperial Diet. Instead of specifying protected birds the new law singles out about 50 species of birds and kinds of beasts as regular game open to sportsmen, although protection is given to some of them for a limited period. The shooting season extends from October 15 to April 15 the following year. For scientific and other specific purposes forbidden game may be captured or killed with the special permission of the Minister of Agriculture and Forestry. Permission to hunt in forbidden areas and season must be applied for.

Shooting licenses are of two classes: "A" is issued to those who use firearms while "B" is issued to those who adopt other methods of killing or capturing game. Each is of three grades classified according to property and income of the applicant, the fees ranging from ¥45 to ¥5. The lowest fee is allowed only to professional hunters. Game preserves such as exist

in the West are few in number in Japan. There are only about 40 common game preserves which have come down from the old regime. The principal game birds are wild ducks, pheasants,

grouse, snipes, brown-eared, bulbuls, dusky ouzels, etc. It should be noted that damage done to crops by insects is roughly estimated at ten million yen.

Table 18. List of Game Birds & Beasts in Japan

Japanese name	Birds	Japanese name	Birds
Ahodori	Albatross	Mamichajinai	Grey-headed Thrush
Aiso	Goosander, Merganser	Mashiko	Rose-finch
Aoji	Japanese Bunting	Misago	Opey
Aosagi	Gray Heron	Miyamahojiro	Yellow-throated Bunting
Atori	Brambling	Munaguro	Golden Plover
Ban	Moorhen & Coot	Nojiko	Japanese Yellow Bunting
Chidori	Plover	Nyunai-suzume	Russet Sparrow
Daizen	Grey Plover	Shigi	Snipe & Woodcock
Ezoyamadori	Hazel Grouse	Shime	Hawfinch
Gan	Wild Goose	Shirohara	Pale Ouzel
Goisagi	Night Heron	Suzume	Sparrow
Hato	Pigeon & Dove	Tsugumi	Dusky Thrush
Hayabusa	Peregrine Falcon	U	Cormorant
Hiwa	Siskin & Linnet	Uso	Bullfinch
Hiyodori	Brown-eared Bulbul	Uzura	Quail
Hojiro	Meadow Bunting	Washj	Eagle
Ikaru	Grosbeck	*Yamadori	Copper Pheasant
Isuka	Crossbill		
Kakesu	Jay		Beasts:
Kamo	Wild Duck	Anaguma	Budger
Karasu	Crow	Itachi	Weasel
Kashiradaka	Rustic Bunting	Kamoshika	Japanese Serow
Kawarahiwa	Greenfinch	Kawaoso	Otter
Keri	Lapwing	Kitsune	Fox
Kuina	Water-Rail, Crake	Musasabi	Flying Squirrel
*Kiji	Pheasant	Risu	Squirrel
Kumataka	Hawk-Eagle	Shika	Deer
Kuroji	Gray Bunting	Tanuki	Raccoon-like Dog

Note: * Those marked with asterisks are protected for 8 months, from March to October.

References:

- Table Nos.: 1-3 a, 4-7 c, 8 d, 9 e, 10 f, 11 g, 12 h, 13 i, 14 j, 15-16 k, 17 l, 18 m.
 Key: a—Japan Swimming Federation.
 c—Japan Golf Assn.
 d—Dai-Nippon Basketball Assn.
 e—Japan Athletic Fed.
 f—Japan Football Assn.
 g—Japan Rugby Assn.
 h—Dai-Nippon Hockey Assn.
 i—Japan Tennis Assn.
 j—Dai-Nippon Skating League.
 k—Japan Horse Race Assn.
 l—Cabinet Statistics Bureau.
 m—Dept. of Agriculture & Forestry.

CHAPTER XLI

CHOSEN (Korea)

GEOGRAPHY

POSITION, AREA, CLIMATE, ETC.

Position—33° 6' 40"—43° 00' 36" N.L.; 124° 11'—130° 56' 23" E.L.

Area—220,769 sq. kms. 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. Weather Condition (Average for 1906-1938)

	Fusan	Moppo	Jinsen	Koryo	Gensan
Temperature (C)					
Highest	25.7	26.1	24.9	24.5	23.5
Lowest	1.7	0.8	-4.0	-1.4	-3.9
Yearly Ave.	13.5	13.1	10.7	12.0	10.2
Atmospheric Pressure					
Highest	767.4	768.9	769.5	767.0	767.8
Lowest	755.9	755.4	755.6	755.5	755.6
Yearly Ave.	761.9	762.3	762.7	761.5	761.9
Precipitation (mm.)					
Monthly Ave.					
Highest	284	205	277	235	313
Lowest	31	37	20	54	31
Whole Year	1,413	1,072	1,031	1,283	1,332
Humidity (%)					
Highest	83	86	85	81	82
Lowest	50	70	65	53	52
Whole Year	65	75	72	66	66

POPULATION

Table 2. Area & Population of Chosen

Year	Area (sq. kms.)	Total No. of Households (1,000)	Total Population	Japanese	Chosenese	Foreigners	per sq. km.
1910	220,794	2,804	13,313,017	171,543	13,128,780	12,694	60.3
1933	220,794	3,952	20,791,321	543,104	20,205,591	42,626	94.2
1934	220,794	4,011	21,125,827	561,384	20,513,804	50,639	95.7
1935	220,794	4,143	21,891,180	583,428	21,248,864	58,888	99.2
1936	220,794	4,179	22,047,836	608,989	21,373,572	65,275	99.9
1937	220,794	4,227	22,355,485	629,512	21,682,855	43,118	101.3
1938	220,792	4,271	22,633,751	633,320	21,950,616	49,815	102.5
Male			11,489,113	323,210	11,128,074	37,829	....
Female			11,144,638	310,110	10,822,542	11,986	....
1938:							
Keiki-do	12,821	484	2,528,829	163,114	2,360,611	5,104	197.2
Chusei Hoku-do	7,418	169	905,284	9,157	895,803	324	122.0
Chusei Nan-do	8,106	278	1,518,552	27,049	1,490,615	888	187.3
Zenra Hoku-do	8,552	296	1,553,106	35,007	1,517,301	798	181.6
Zenra Nan-do	13,887	487	2,482,438	44,341	2,437,591	506	178.8
Keisho Hoku-do	18,989	467	2,479,662	48,570	2,430,591	501	130.6
Keisho Nan-do	12,305	426	2,225,467	92,295	2,132,801	371	180.9
Kokai-do	16,744	330	1,695,858	22,385	1,671,983	1,490	101.3
Heian Nan-do	14,939	285	1,507,579	41,849	1,462,552	3,178	100.9
Heian Hoku-do	28,441	299	1,648,041	24,006	1,601,821	22,214	57.9
Kogen-do	26,263	293	1,566,375	18,346	1,547,162	867	59.6
Kankyo Nan-do	31,978	296	1,662,369	55,719	1,600,960	5,618	52.0
Kankyo Hoku-do	20,347	162	860,191	51,410	800,825	7,956	42.3

CHOSEN (Korea)

Table 3. Population by Occupation

	Agriculture, forestry & fishery	Mfg. ind.	Commerce & Transport	Civil & professional	Others	Without occupation	Total
1931							
Japanese	54,251	74,151	148,182	182,660	32,832	22,590	514,666
Chosenese	16,047,149	434,880	1,247,619	547,541	1,082,978	350,001	19,710,168
Others	9,235	5,136	16,245	1,660	5,067	781	38,124
Total	16,110,685	514,167	1,412,046	731,861	1,120,877	373,372	20,262,958
1937							
Japanese	44,581	98,624	177,759	260,566	24,182	23,800	629,512
Chosenese	16,925,516	659,724	1,524,535	684,283	1,518,811	370,986	21,682,855
Others	10,230	7,987	13,549	1,774	9,327	251	43,118
Total	16,980,327	765,335	1,715,843	946,623	1,552,320	395,037	22,355,485
1938							
Japanese	43,175	105,190	185,351	241,263	33,092	25,249	633,320
Chosenese	16,940,082	585,589	1,619,192	646,248	1,788,915	370,590	21,950,616
Others	10,519	7,180	16,007	4,562	11,399	148	49,815
Total	16,993,776	697,959	1,820,550	892,073	1,833,406	395,987	22,633,751

Table 4. Movement of Population per 1,000 Inhabitants

	Birth		Still-Birth		Death		Marriage		Divorce	
	Japanese	Chosenese	Japanese	Chosenese	Japanese	Chosenese	Japanese	Chosenese	Japanese	Chosenese
1928	33.23	38.06	1.42	0.16	17.69	22.75	2.85	10.28	0.28	0.44
1934	24.04	30.01	1.46	0.19	15.05	19.43	4.16	5.80	0.15	0.25
1935	24.23	29.46	1.60	0.18	15.23	19.83	3.59	5.71	0.16	0.25
1936	23.92	28.79	1.67	0.19	15.56	19.84	3.95	5.79	0.16	0.25
1937	23.74	28.97	1.79	0.20	15.13	17.84	3.63	5.75	0.08	0.24
1938	26.08	36.12	0.91	1.96	14.62	17.50	3.23	10.31	0.18	0.37

Table 5. Population in Principal Cities

	(1937)	(1938)	(1937)	(1938)
Keijo (Seoul)	706,396	737,214	Gen-san (Wonsan)	63,996
Jinsen (Chemulpo)	102,473	108,774	Moppo	62,457
Gunsan	42,851	44,284	Kaijo	56,595
Taikyu	110,866	172,040	Seishin	66,958
Fusan	213,142	213,744	Shingishu	51,347
Heijo (Pyongyang)	185,419	234,726	Kanko	61,430
Chinnanpo	48,838	61,457		

ADMINISTRATION

THE GOVERNMENT-GENERAL

Korea is under the rule of the Governor-General, 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 6. Provinces and Seats of Government

Province	Seat of Office
Keiki-do (Kyongki)	Keijo (Seoul)
Chusei Hoku-do (N. Choong-chong)	Seishyu
Chusei Nan-do (S. Choong-chong)	Taiden
Zenra Hoku-do (N. Chonla) ..	Zenshyu
Zenra Nan-do (S. Chonla) ...	Koshyu
Keisho Hoku-do (N. Kyong-sang)	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. Ham-kyong)	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 7. Revenue & Expenditure

(Year ending March 31; in ¥1,000)

	(a) Revenue					
	1935 (Settled)	1936 (Settled)	1937 (Settled)	1938 (Settled)	1939 (Settled)	1940 (Budget)
Ordinary:						
Taxes	56,129	64,364	74,306	81,590	97,947	84,898
Stamp receipts	16,870	18,870	20,939	19,787	22,390	18,791
Receipts from Government undertakings and properties	160,606	175,927	198,142	235,939	285,695	308,357
Miscellaneous receipts	3,121	3,401	3,680	3,945	4,355	4,127
Total	236,527	262,362	297,067	341,263	410,387	416,173
Extraordinary:						
Proceeds from sale of State property	589	466	358	127	120	1,292
Receipts from the issue of public loans or borrowings	27,926	20,923	26,122	51,004	83,320	164,768
National treasury grants	12,825	12,826	12,918	12,914	12,909	12,904
Transfer of the surplus from preceding year	22,849	32,593	46,261	60,021	63,681	26,613
Special Profits tax	—	438	1,086	2,840	7,902	8,448
Travelling tax	—	—	—	—	780	1,029
Taxes on commodities	—	—	—	—	5,929	9,868
Temporary borrowings	—	—	—	—	—	6,000
Taxes on foods, drinks and amusements	—	—	—	—	—	3,030
Total including others	64,415	67,857	87,426	129,446	179,888	239,927
Total Revenue	300,942	330,219	384,493	470,709	590,274	656,100

(b) Expenditure

	1935 (Settled)	1936 (Settled)	1937 (Settled)	1938 (Settled)	1939 (Settled)	1940 (Budget)
Ordinary:						
Royal Household of Ri	1,800	1,800	1,800	1,800	1,800	1,800
Government-General	4,002	4,532	5,237	6,055	7,226	6,836
Judicial courts, and office consignments	3,553	3,698	3,794	4,186	4,517	4,587
Prisons	5,064	5,716	5,854	6,376	7,366	7,090
Local governments	26,092	26,777	27,355	28,431	29,174	29,687
Educational Institutions and libraries	3,147	3,315	3,543	4,032	4,585	5,069
Corn Experiment station	1,212	1,638	1,762	1,879	1,975	2,332
Customs-houses	1,250	1,394	1,514	1,488	1,639	1,802

(Continued)

	1935 (Settled)	1936 (Settled)	1937 (Settled)	1938 (Settled)	1939 (Settled)	1940 (Budget)
Forestry stations	4,796	5,565	6,032	7,094	9,310	10,796
Communications	13,992	14,878	15,999	18,437	21,176	23,754
Monopoly bureau	27,980	30,058	32,063	34,286	37,380	42,582
Railways	62,313	65,980	76,393	94,281	116,072	138,123
Transferred to national debt consolidation fund special account	25,022	27,015	31,011	29,670	29,755	35,220
Total including others	192,305	205,979	226,827	253,755	288,903	336,382
Extraordinary:						
Subsidies	19,702	21,781	21,717	25,584	29,762	41,032
Expenses for repairs and constructions	3,310	4,464	4,708	5,558	5,867	7,461
Expenses for public works	10,169	12,035	12,935	18,744	16,087	20,265
Railway construction and improvement	18,498	23,880	34,425	63,042	94,351	150,128
Improvement expenses on lands ..	4,414	3,850	3,877	3,687	2,278	1,522
Encouragement and adjustment funds for gold mining	—	—	—	121	10,119	21,145
Disasters relief funds	5,679	1,935	8,004	3,343	4,780	6,698
Transferred to temporary National Defense Special Account	—	—	1,900	11,034	26,978	41,291
Total including others	76,044	77,979	97,646	153,272	211,624	319,718
Total Expenditure	268,349	283,959	324,472	407,027	500,526	656,100

PUBLIC DEBTS

Table 8. Government Loans Outstanding

(Year ending March 31; in ¥1,000)

	1935	1936	1937	1938	1939
Drought relief loan	7,750	6,250	2,300	300	—
Chosen peers relief fund loan	1,600	1,420	1,240	1,060	880
4% loan (1st series)	637	637	637	637	637
4½% Exchequer bonds	109,465	107,677	101,999	96,094	89,758
5% loan	23,871	23,871	23,871	23,871	23,871
5% Exchequer bonds	229,114	206,374	—	—	—
4% Exchequer bonds	118,249	162,335	162,335	162,335	162,335
4% loan	8,146	8,146	8,146	8,146	8,146
3½% Exchequer bonds	—	—	238,193	290,113	378,193
Total	498,831	516,708	549,731	593,646	674,848

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 9. Statistics on Schools
(End of May, 1939)

	No. of schools	Teaching staff	Enrollment	Annual Expenditure (¥)
Elementary Schools	{ Government	2	18	634
	{ Public	511	2,540	92,357
Middle Schools	{ Public	17	358	8,320
Girls' High Schools	{ Public	31	466	12,059
	{ Private	1	23	711
Common Schools	{ Government	8	74	3,044
	{ Public	2,599	14,265	1,002,327
Higher Common Schools	{ Public	20	410	9,951
	{ Private	13	279	7,551

		No. of school	Teaching staff	Enrollment	Annual Expenditure (¥)
Girls' Higher Common Schools..	Public	11	148	3,561	402,302
	Private	10	194	4,330	426,627
Agricultural Schools	Public	36	428	8,347	1,708,853
	Private	17	302	6,984	923,007
Commercial Schools	Public	8	127	3,820	283,447
	Private	1	24	267	92,273
Engineering School	Government	3	34	270	73,214
Fishery Schools	Public	6	89	1,453	247,019
	Private	3	45	906	76,819
Vocational Schools	Public	123	369	6,646	1,312,550
	Private	9	28	638	112,267
Supplementary Technical Schools.	Government	38	254	1,388	1,240,105
	Public	2	35	577	135,157
Technical Schools	Private	8	245	2,408	1,283,057
	Government	1	624	501	1,974,853
College Preparatory School	Government	1	45	514	304,403
Normal Schools	Government	8	257	4,959	1,641,550

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 Edu-

cation 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 Taikyū 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, 1939 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 10. State of Religious Propagation (End of 1938)

	Missions	Missionaries	Adherents
Christianity	5,185	4,529	500,842
Buddhist	924	1,108	504,616
Shinto	301	613	95,991

SANITATION

The total number of physicians in Chosen as in December, 1938 was 2,931 or one physician to every 7,722 inhabitants.

Table 11. Number of Hospitals Physicians, etc. in Chosen

	No. of Hospitals				Physicians	Dentists	Pharmacists	Midwives	Nurses
	Government	Public	Private	Total					
1927	3	38	67	108	1,508	295	157	1,047	938
1935	4	46	86	136	2,368	732	386	1,869	1,873
1936	4	47	89	140	2,522	801	430	1,814	1,742
1937	4	49	98	151	2,906	837	472	1,772	1,971
1938	4	50	95	149	2,931	879	494	1,935	1,848

Table 12. Number of Convicts and Accused

	No. of Convicts		Criminal Defendants		Detained		Infants under Protection	
	Male	Female	Male	Female	Male	Female	Male	Female
1930.....	14,195	449	1,822	53	651	45	7	10
1931.....	14,193	402	1,976	66	666	56	11	7
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
1937.....	16,576	482	1,829	86	331	36	9	9
1938.....	16,315	493	2,059	87	327	29	9	9
1938:								
Japanese	418	15	77	4	—	—	—	1
Chosenese	15,697	466	1,967	79	322	29	8	8
Foreigners	200	12	15	4	5	—	1	—
Total	16,315	493	2,059	87	327	29	9	9

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 over 20,000 men, distributed among 254 police stations, 2,574 sub-stations and in border patrolling offices which numbered 197 at the end of 1938.

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 1940 with the total outlay of ¥31,119,000. In connexion with road-making, a number of bridges have been constructed. The total length of roads at the end of 1938 was 27,887 kilometers.

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, Daido-

ko 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 1937 a total amount of ¥19,785,000 was added as a five year continuing plan to repair Sankyo-sen, Toshin-ko, Eizan-ko and Nanke, thus the expenditure totalled ¥74,500,000.

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 annexation. On the promulgation of the Bank of Chosen Act in March, 1911, the Bank of Korea was renamed the Bank of Chosen.

Chosen Industrial Bank (Chosen Shokusan Ginko).—The Chosen Industrial Bank was established in 1906 chiefly for the purpose of mak-

ing advances on real estate to help promote the industry of the peninsula.

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 ¥60,000,000, of which ¥37,500,000 is paid up at the end of 1939. Its head office is situated in Seoul and branch offices at Fusan, Heijo and Jinsen.

Table 13. Principal Accounts of Bank of Chosen

Authorized Capital: ¥40,000,000
Paid-up Capital: ¥25,000,000
(Unit: ¥1,000)

Year Ending Mar. 31:	Reserves	Deposits	Loans	Bills discounted	Net profits	Dividends
1929	2,101	151,150	290,462	24,260	1,865	900
1930	2,901	98,785	248,758	17,796	1,828	940
1931	3,701	111,462	273,673	23,726	1,835	940
1932	4,501	193,932	303,785	33,683	1,849	940
1933	5,301	215,105	322,950	31,558	1,853	940
1934	6,101	228,193	373,171	47,363	1,847	940
1935	6,901	292,122	374,248	48,566	1,859	940
1936	7,701	411,142	414,653	69,696	1,872	940
1937	8,501	293,944	432,895	72,907	1,866	940
1938	9,401	539,654	530,787	70,851	2,187	1,175

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 (Kanjō 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 June, 1939 there were six ordinary banks in Chosen with a combined paid-up capital of ¥13,181,000 excluding three banks which have their head offices in Japan Proper.

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.

Bankers' Clearing House.—The first bankers' clearing house in Korea was established in Seoul

in July, 1909. In 1939 there were similar insans, Keijo, Gensan, Taikyu, Moppo, Gunzan, Chinnampo and Seishin.

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, 1939 there were 64 city associations and 659 village associations with a total membership of 1,793,616 and with total paid-up capital of ¥14,477,000 and reserves of ¥28,890,000.

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 June, 1939 there were 16 mutual loan concerns, with the total paid-up capital of ¥4,660,000.

Table 14. Principal Accounts of Ordinary Banks in Chosen

Year Ending Mar. 31:	No. of Banks	Capital		Reserves	Deposits	Loans	Bills discounted	Net profits	Dividend
		Nominal capital	Paid-up capital						
1930	13	26,425	14,721	3,457	109,566	90,545	13,802	1,387	731
1931	12	26,425	14,721	3,513	106,863	92,876	12,833	1,194	609
1932	12	26,425	14,721	3,793	112,793	83,727	16,207	1,183	575
1933	8	26,075	14,371	3,717	128,144	99,126	16,879	1,412	487
1934	8	25,675	14,231	4,029	144,547	115,925	23,927	1,131	490
1935	7	24,175	13,481	4,006	159,349	131,152	26,400	1,597	452
1936	7	24,175	13,481	4,419	158,454	148,771	26,213	1,585	471
1938	6	22,175	13,181	5,250	227,974	170,330	22,261	2,071	266

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 Chosen has gradually developed. Its pace of development since the World War is especially remarkable.

Chosen 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, Chinnampo, 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 Chinnampo, Gunsan, Shingishu, Moppo, Seishin and imports by Shingishu, Chinnampo, Seishin, Gensan and Keijo.

Table 15. Chosen's Foreign Trade
(Unit: ¥1,000)

	To and from foreign countries				To and from Japan proper and other colonies			
	Exports	Imports	Total	Excess of imports	Exports	Imports	Total	Excess of imports
1929	35,773	107,768	143,541	71,995	309,891	315,326	625,217	5,435
1930	25,852	88,855	114,707	63,002	240,695	278,194	518,889	37,499
1931	12,772	52,696	65,468	39,924	249,727	217,770	466,797	-31,256
1932	29,210	61,686	90,896	32,476	282,144	258,670	540,814	-23,474
1933	52,773	64,368	117,142	11,595	315,854	339,817	655,672	23,963
1934	57,674	79,528	136,201	21,853	407,694	439,623	847,316	31,929
1935	64,902	100,590	165,492	35,687	485,894	558,814	1,044,708	72,920
1936	75,266	114,499	189,764	39,233	518,047	647,918	1,165,965	129,871
1937	113,098	128,139	241,237	15,041	572,445	735,414	1,307,859	162,968
1938	169,067	134,583	303,650	-34,484	710,540	921,346	1,631,886	210,806
1939	269,911	157,396	427,307	112,515	786,883	1,229,417	1,993,300	492,594

Table 16. Imports and Exports of Gold Specie and Bullion
(Unit: ¥1,000)

	To and from foreign countries				To and from Japan proper and other colonies			
	Imports	Exports	Total	Exports Excess	Exports	Imports	Total	Exports Excess
1929	—	246	246	246	6,097	640	6,737	5,457
1930	2	11,594	11,597	11,592	26,801	137	26,938	26,664
1931	22	21,904	21,926	21,881	39,525	53	39,579	39,472
1932	30	754	784	723	28,285	9,851	38,136	18,434
1933	20	41	61	21	24,375	3,807	28,182	20,568
1934	19	67	85	48	36,331	335	36,667	35,992
1935	11	69,371	69,382	69,359	210,582	3,847	214,429	206,735
1936	2	7,221	7,225	7,217	63,466	823	64,289	62,643
1937*	0	685	685	685	40,159	6,857	47,015	33,302

Note: * January to June.

Table 17. Staple Exports
(¥1,000)

Items	To Japan Proper and Other Colonies							
	1932	1933	1934	1935	1936	1937	1938	1939
Rice & paddy	144,796	152,693	222,289	240,434	249,426	231,090	302,053	149,366
Soya beans	20,484	19,260	18,142	17,401	23,460	23,343	22,111	21,074
Fresh fish	4,649	5,269	5,316	5,202	4,173	5,671	6,818	8,062
Dried fish	4,336	4,247	5,543	4,453	3,440	3,619	5,159	6,427
Apples	1,288	1,609	1,996	1,624	2,169	2,534	2,355	.....
Ginned cotton	3,504	6,487	8,137	13,471	11,457	8,266	7,993	11,872
Raw silk	11,666	14,009	11,473	14,189	15,420	18,962	15,831	24,169
Cocoon	1,267	1,762	784	1,179	1,390	1,434	978	1,521
Wild silk yarn	7,763	9,175	6,542	5,714	4,431	6,229	6,646	7,945
Cotton fabrics	605	734	913	1,187	1,218	4,920	4,319	.....
Coal	3,841	4,549	6,003	6,460	6,259	6,794	11,791	14,258
Black lead	634	957	1,228	2,068	1,999	2,006	3,233	5,553
Iron ore	1,081	1,907	985	4,229	1,104	2,140	2,562	3,035
Pig iron & Steel ingot	9,178	5,085	7,325	12,313	9,621	.....	.....	.....
Cows	3,238	4,237	4,113	4,617	4,279	4,553	6,981	.....
Cement	427	387	118	2,797	4,770	2,343	1,915	.....
Paper	2,572	3,726	3,922	3,284	3,464	3,660	5,443	.....
Timber	1,024	696	1,145	2,506	1,744	2,161	1,899	2,223
Fish oils	1,207	1,177	1,183	5,454	8,176	7,755	.....	.....
Fertilizer	18,433	18,749	25,188	32,004	38,390	37,676	39,996	53,229
Total incl. others	282,144	315,854	407,693	485,893	518,047	522,445	710,540	736,883

To Foreign Countries

Items	1932	1933	1934	1935	1936	1937	1938	1939
Rice & paddy	540	2,013	1,977	3,649	1,527	1,382	11,015	25,272
Fresh fish	822	978	1,156	941	948	1,180	1,924	4,356
Dried fish	233	296	376	448	488	544	1,124	2,376
Refined sugar	2,350	2,292	2,521	3,143	4,017	4,467	3,810	2,060
Apple	413	939	487	888	765	469	1,778	4,413
Hide	107	73	108	215	313	645	509	1
Ginseng	23	187	1,144	1,056	1,821	700	640	1,518
Cotton yarn	1,242	974	1,330	559	654	1,560	667	0
Cotton fabrics	5,901	5,470	5,584	3,531	6,322	18,182	27,866	..
Rayon fabrics	..	..	..	1,080	3,132	9,452	4,949	..
Iron	912	3,061	4,486	5,939	3,955	..	..	..
Cement	168	1,203	1,702	942	1,145	885	3,282	4,497
Timber	1,614	5,059	6,185	5,615	4,703	7,228	3,423	9,518
Fertilizers	51	3,857	68	148	2,036	229	331	..
Re-exports	1,300	798	1,138	1,733	2,055	5,701	2,213	..
Total incl. others	29,209	52,773	57,673	64,902	75,265	113,097	169,066	269,911

Table 18. Staple Imports
(¥1,000)

Items	From Japan Proper and Other Colonies							
	1932	1933	1934	1935	1936	1937	1938	1939
Rice & paddy	1,528	1,512	3,062	7,021	4,998	4,910	2,109	13,492
Flour	3,766	3,983	5,403	10,949	7,828	5,934	5,979	7,903
Wheat	220	232	966	1,948	2,873	364	1,827	7,171
Sugar	7,426	4,272	5,066	5,949	5,824	6,333	9,706	12,085
Saké	1,160	1,118	1,513	1,656	1,974	1,983	2,669	3,429
Beer	1,730	2,110	1,542	857	803	945	971	924
Ginned & whipped cotton	6,488	8,553	11,804	16,237	24,317	33,905	4,554	713
Cotton yarn	5,884	5,993	9,490	9,621	5,737	3,827	1,775	305
Jeans	1,899	2,881	2,029	1,304	1,003	1,249	449	20
Woolen tissues	5,863	8,164	9,608	10,235	12,600	11,841	14,742	22,303
Silk tissues	3,327	18,440	24,950	31,993	36,564	40,825	75,102	125,863
Gunny bags	645	1,100	1,143	1,212	1,395	2,053	2,781	.....
Paper	6,547	7,562	8,796	11,896	13,426	16,866	16,859	17,200
Timber	2,063	4,530	7,756	9,128	12,113	14,227	21,536	39,184
Fertilizers	4,878	7,745	14,239	17,226	28,256	21,297	29,153	.....
Crude rubber	1,032	2,049	4,370	5,428	4,682	6,583	599	.....

(Continued)

Items	1932	1933	1934	1935	1936	1937	1938	1939
Iron & steel	14,285	20,148	26,813	39,561	44,691	.....	.....	.....
Coal	4,084	5,504	6,193	8,007	10,119	12,057	20,420	28,432
Cement	2,360	3,348	5,472	4,916	7,400	4,917	2,523	5,827
Watch, clock, scientific machines, arms, and parts thereof.	4,667	6,389	7,471	9,537	11,362	14,916	13,595	8,204
Vehicles, vessels, and parts thereof	6,386	11,753	15,811	21,420	26,748	29,829	35,321	.....
Other Machineries	8,273	11,762	16,728	31,368	40,862	54,520	79,731	131,636
Total incl. others	258,670	339,817	439,622	558,813	647,918	735,413	921,346	1,229,417

From Foreign Countries

Items	1932	1933	1934	1935	1936	1937	1938	1939
Millet	16,025	12,874	15,736	19,623	22,457	14,111	13,534	19,655
Soya bean	1,814	2,736	3,469	2,610	6,086	11,769	5,404	11,475
Refined Sugar	218	1,579	1,248	1,632	3,221	3,561	795	45
Salt	2,091	2,713	2,423	2,501	1,971	2,339	2,863	2,750
Leaf tobacco	980	310	3,070	4,563	2,871	3,445	1,475	.....
Crude oil and heavy oil	1,444	1,979	2,396	4,801	10,484	.....	.....	.....
Volatile oil	1,891	2,497	2,388	3,624	2,201	.....	.....	.....
Fuel oil	4,036	1,174	1,576	1,475	746	.....	.....	.....
Pongee yarn	7,944	9,412	6,679	3,563	4,468	6,618	5,721	5,775
Chinese linen	1,204	1,147	1,776	1,510	1,472	1,859	0	0
Coal	3,788	5,231	6,973	6,589	7,110	8,278	10,825	11,753
Iron and steel	364	329	1,437	2,822	1,734	.....	.....	.....
Fertilizers	2,915	3,709	6,255	8,936	13,134	7,032	9,502	.....
Sewing machine	223	343	1,197	2,597	2,938	3,587	1	.....
Timber	2,033	1,605	2,044	3,739	3,457	3,828	3,526	1,784
Re-imports	1,400	2,249	2,421	2,535	2,093	4,225	3,011	4,524
Total incl. others	61,685	64,368	79,527	100,589	114,499	128,138	134,582	159,031

Table 19. Imports and Exports By Countries
(¥1,000)

Items	Exports								
	1931	1932	1933	1934	1935	1936	1937	1938	1939
Asia:									
China	12,086	947	1,598	2,007	3,312	3,702	4,842	22,155	33,567
Manchoukuo	..	22,867	40,588	48,358	50,034	55,533	71,527	122,003	205,149
Hongkong	21	108	394	543	499	601	656	73	192
British India	8	20	115	110	343	388	750	429	476
Straits Settlements	155	114	222	289	223	244	414	131	121
D. E. I.	64	48	103	215	200	265	1,021	477	636
French Indo-China	33	4	4	20	29	38	11	7	36
Asiatic Russia	22	67	79	3	587	33	2	1	..
Total incl. others	12,487	28,601	48,104	56,839	63,494	71,308	101,138	164,673	264,098
Europe:									
Great Britain	3	2	11	3	197	197	343	156	171
Germany	4	3	810	2	11	10	2,261	1,062	337
Total incl. others	11	7	743	35	328	292	2,869	1,340	800
American Countries:									
U. S. A.	121	406	2,764	312	546	993	1,474	1,280	3,646
Canada	1	1	1	0	1	11	96	256	200
Total incl. others	123	408	2,747	313	575	1,599	2,068	1,617	3,971
*Grand total including others.	12,771	29,209	52,773	57,673	64,902	75,265	113,097	169,066	269,911

Imports

Items	1931	1932	1933	1934	1935	1936	1937	1938	1939
Asia:									
China	39,509	3,772	5,858	7,796	16,448	15,148	10,367	12,217	10,334
Manchoukuo	..	39,723	40,765	46,681	49,016	59,402	62,227	58,050	80,459
Hongkong	21	8	17	31	7	6	14	6	66
British India	357	220	763	2,619	565	208	255	10,788	8,846
Straits Settlements	184	259	127	75	1,724	1,313	1,523	3,480	1,245
D. E. I.	1,487	616	2,137	1,431	3,511	9,726	8,277	4,269	3,392
French Indo-China	25	197	70	70	60	437	206	412	909
Asiatic Russia	252	1,020	1,144	113	538	335	7	10	2
Total incl. others	42,089	48,940	55,102	64,756	79,205	94,519	93,699	103,449	118,367

Table 24. Farming Households and Arable Lands Under Cultivation

(In Cho)

	No. of Farming household	Paddy			Upland	
		One crop	Two crops	Total		Total
1929	2,815,277	1,264,182	344,706	1,608,888	2,783,228	4,392,116
1930	2,869,957	1,261,775	355,921	1,617,696	2,770,968	4,388,664
1931	2,881,689	1,263,045	365,939	1,628,984	2,755,526	4,384,510
1932	2,931,088	1,263,945	383,064	1,647,009	2,743,434	4,390,443
1933	3,009,560	1,265,482	394,773	1,660,255	2,751,549	4,411,804
1934	3,013,104	1,258,462	412,927	1,671,389	2,760,094	4,431,483
1935	3,066,489	1,248,581	432,759	1,681,340	2,750,939	4,432,279
1936	3,059,503	1,240,266	449,520	1,689,786	2,736,983	4,426,770
1937	3,058,755	1,241,693	462,142	1,703,835	2,723,334	4,427,169
1938	3,052,392	1,260,081	457,151	1,717,232	2,719,593	4,436,825

As for cotton, with the exception of Kankyo 1930, increased to 235,562 cho at the end of Hokudo and a portion of Kankyo Nando, all parts of Korea are well suited for cotton cultivation. Since 1906 the authorities have encouraged the cultivation of the American upland variety with considerable success. The area under cotton crops, which stood at 192,873 cho in 1938. The authorities have been encouraging the cultivation of native species in the four provinces of Keiki, Kokai, Heian Nando and Heian Hokudo and a portion of Keisho Hokudo which are not suited for the cultivation of upland variety.

Table 25. Demand and Supply of Rice
(Unit: 1,000 Koku)

	Production	Imports	Balance from previous year	Total supply	Exports			Consumption
					Abroad	Japan	Total	
1930	13,702	585	...	14,287	7	5,426	5,433	8,584
1931	19,181	67	322	19,569	3	8,409	8,412	10,537
1932	15,873	106	620	16,598	16	7,570	7,586	8,392
1933	16,346	111	620	17,077	102	7,972	8,074	8,508
1934	18,346	124	495	18,811	65	9,426	9,501	8,710
1935	18,193	293	601	16,510	145	8,857	9,001	8,134
1936	16,717	157	476	17,077	102	7,972	8,074	8,508
1937	17,885	200	495	20,106	40	7,162	7,202	12,579
1938	19,411	44	325	27,166	294	10,703	10,997	15,784
1939	26,797	309	386	24,834	843	6,052	6,894	17,647
1940	...	...	...	...	...	...	...	...

Note: * Represents production of the year, as rice produced in each year is generally consumed during the following year.

Table 26. Output of Staple Crops
(Quantity in 1,000 Koku: Value in Million yen)

	Rice		Barley		Wheat		Oat		Rye		Millet	
	Qty.	Val.	Qty.	Val.	Qty.	Val.	Qty.	Val.	Qty.	Val.	Qty.	Val.
1931	15,873	369	7,812	35	1,729	11	666	4.8	947	2.3	4,590	31
1932	16,346	309	8,004	42	1,778	16	837	7.0	896	2.0	5,539	44
1933	18,193	342	7,585	48	1,762	18	1,023	10.1	485	2.6	5,145	40
1934	16,717	416	7,994	55	1,838	19	1,285	14.6	453	2.6	3,772	42
1935	17,885	490	8,752	73	1,933	25	1,627	21.2	419	2.6	4,861	58
1936	19,411	540	6,814	65	1,605	25	1,963	26.3	515	3.3	5,065	62
1937	26,797	777	9,795	95	2,031	32	2,772	37.8	567	3.6	5,840	70
1938	24,139	762	7,417	—	2,062	—	2,205	—	503	3.3	5,237	71.6

Table 27. Other Minor Crops

	Soya Beans		Red Beans		Sweet Potatoes		Potatoes		Burdock	
	(1,000 koku)	Val.	(1,000 koku)	Val.	(1,000 kwan)	Val.	(1,000 kwan)	Val.	(1,000 kwan)	Val.
1931	4,132	32	863	8.1	34,405	6.2	119	10.5	148,053	10.2
1932	4,410	46	877	11.3	35,686	6.0	184	15.8	154,195	10.9
1933	4,556	44	915	11.4	43,285	5.8	150	13.6	156,865	12.1
1934	3,812	45	873	11.7	44,367	6.1	114	13.1	160,706	11.9
1935	4,375	60	934	14.3	56,543	8.5	161	19.8	163,720	13.7
1936	3,784	63	759	15.0	53,118	8.3	195	23.8	142,215	13.9
1937	4,263	69	890	16.4	66,906	9.4	214	24.8	161,416	14.1
1938	3,868	68	795	15.8	82,253	11.9	186	24.9	162,767	16.6

Table 28. Principal Industrial Crops
(Value in ¥1,000)

	Cotton		Native		Hemp		Ramie	
	(Mill. kin)	Val.	(Mill. kin)	Val.	(1,000 kwan)	Val.	(1,000 kwan)	Val.
1931	79	4,977	37	4,200	5,238	4,879	..	..
1932	112	15,230	42	5,140	5,275	5,163	..	..
1933	114	14,478	45	5,389	5,267	5,389	58	8
1934	121	20,558	34	5,160	4,828	5,503	168	21
1935	170	29,126	44	7,190	5,075	6,218	..	..
1936	89	15,043	48	7,454	4,795	6,456	334	31
1937	200	26,957	40	5,162	4,810	6,806	..	128
1938	180	...	30	...	4,255	8,684	..	..

	Tobacco		Ginseng		Perilla		Sesame	
	(1,000 kwan)	Val.	(1,000 kin)	Val.	(1,000 koku)	Val.	(1,000 koku)	Val.
1931	4,384	4,802	882	1,950	52	569	37	676
1932	5,310	5,858	986	2,268	54	707	38	769
1933	4,414	4,862	731	1,983	55	732	39	799
1934	4,108	5,222	936	2,158	50	729	37	862
1935	5,846	7,349	1,017	2,639	59	934	39	960
1936	5,659	6,241	1,125	2,767	47	853	35	957
1937	7,117	11,113	1,084	2,995	49	953	39	1,101
1938	7,807	12,154	924	2,724	45	1,070	35	1,241

Sericulture.—The climate of Korea is suitable for sericulture owing to the scarcity of rainfall in the rearing season. A subsidy has been yearly granted to the industry to the amount of ¥46,290, commencing 1937. The cocoon crop is swiftly increasing.

With the recent development of sericulture, the time-honoured method of hand-reeling is

being fast replaced by machine-reeling. In consequence, the output of high grade silk for export is increasing.

In August, 1935 the Government-General promulgated the Korean Silk Reeling Industry Act with the object of strengthening the control and direction of the industry, thereby promoting it as far as possible.

Table 29. Statistics of Cocooning

	Rearing family		Cocoon output (M. tons)			Output of raw silk (M. tons.)
	Spring crop	Summer crop	Spring crop	Summer crop	Total	
1934	839,314	558,222	15,882	7,107	22,989	2,126
1935	821,573	576,470	14,697	6,622	21,319	1,909
1936	826,109	588,221	14,883	7,688	22,572	1,885
1937	815,278	623,522	14,760	7,779	22,538	1,910
1938	817,476	632,466	14,246	7,647	21,893	2,160

Stock-farming.—Cattle reared in Kankyo-do, Northern Korea are noted for strong build and perfect flesh development. Every house there keeps a head or two, and as the region is well suited for pasture, the preserved meat business in Northern Korea has a great future. The

number of cattle, which was only about 700,000 at the time of the inauguration of the Government-General, was up to 1,717,000 in 1938. A considerable number of cattle are exported to Japan proper.

Table 30. Number of Cattle, Horses, etc.
(Unit: 1,000 heads)

	Cattle	Horse	Swine	Sheep	Goat	Fowls
1930	1,612	55.5	1,387	1.6	13.8	6,146
1931	1,637	54.1	1,348	1.6	25.6	6,295
1932	1,664	53.9	913	2.2	27.4	6,601
1933	1,663	52.9	977	2.7	28.7	6,868
1934	1,671	53.8	1,584	5.5	31.2	7,179
1935	1,679	52.6	1,616	9.4	34.4	7,117
1936	1,703	51.6	1,574	12.1	39.5	7,118
1937	1,713	50.9	1,625	20.0	43.0	7,221
1938	1,717	49.1	1,507	27.4	44.4	7,165

FISHERIES

Bounded by sea on three sides, Korea has a coast-line extending over 9,000 nautical miles, and is rich in fish, shell-fish and sea-weeds. Mackerels, sardines, Alaska pollacks, Sciaena Sp., herrings, sea-brems, cod, yellow tails, whales, and ear-shells are the principal catches. The encouragement by the Government-General and the improved methods introduced have

brought about the rapid development of the industry of late. The recent situation of the business is as follows:—

The coast from the River Tumen downwards is noted for Myngtai, Alaska pollacks, and cod fishing, the western sea for the Guchi, Sciaena Sp. fishing and the southern sea near Fusan for cod, herrings, etc.

Table 31. Statistics of Fishery in Chosen
(Unit: ¥1,000)

	Fishing household	Catch					Aquatic culture	Manufactures
		Fish	Shell	Weeds	Others	Total		
1933	146,362	.....	.....	.....	.....	51,378	2,904	35,589
1934	155,461	49,408	2,042	2,377	3,951	57,778	2,846	45,533
1935	159,750	56,541	2,984	2,717	4,624	65,967	2,902	65,014
1936	167,329	70,137	1,806	3,044	4,891	79,879	4,747	79,377
1937	174,856	80,203	2,004	2,697	5,017	89,920	4,586	93,447
1938	172,233	76,957	2,207	2,793	5,126	87,083	5,924	96,818

MINING

Despite rich mineral resources and its very old origin, the mining industry of Korea had long remained quite insignificant. In July, 1906 the Government of Kankoku, as Chosen was then called, promulgated the Mining Law and Regulation for placer mining. Then in 1915 after the annexation the Government-General instituted the Chosen Mining Act and in April the following year put in force regulations for the enforcement of the Chosen Mining Act and Regulations for the Chosen Mining Registration. This Act was intended to accelerate the development of the mining industry by stabilizing the security of mining rights. Later the act was amended more than once with the resultant promulgation of the legislation concerned.

General Survey of Mining Industry.—In the first year of Taisho, or 1912 the number of ap-

plications for mining operations was 633. The number of mining lots for which permission had been given, as at the end of 1938 was 8,623. The output of minerals for 1936 was valued at ¥110,429,655, showing an increase of over five folds as compared with that for 1931.

Table 32. Number of Mining Lots and Mine Output

	Total	No. of mining lots		Production (Yen)
		Total	Of which worked	
1930	2,262	456	24,654,463	
1931	2,390	497	21,741,519	
1932	2,719	939	33,746,958	
1933	3,343	1,471	48,301,468	
1934	4,454	2,262	69,172,840	
1935	5,596	3,368	88,039,201	
1936	6,513	3,902	110,429,655	
1937	7,454	4,523	.....
1938	8,623	5,346	.....

PRINCIPAL MINERALS

Gold.—The output of gold in 1936 was 17,490 kilograms valued at ¥59,353,700. Progress in gold mining has been spectacular due to the advance in the price of this metal, and the volume of output has practically tripled in the seven years from 1930 to 1936.

Iron.—Owing to the prosperity of the heavy industry and the accompanying great increase in the demand for iron, the Kenji-ho Iron Foundry, the only iron plant in the peninsula, was in full swing increasing iron output and manufacturing steel. Pig-iron production for 1936 was

155,500 metric tons. The output of steel was 87,000 metric tons.

Graphite.—Market for scaly graphite, which had long been under the harrow of depression due to pressure brought to bear on it by the Ceylon description, had more or less revived since 1933. The output of the metal for 1936 was 40,914 metric tons.

Not only is the black-lead of Chosen superior in quality but the richness of the deposits is of world-wide character. So this mining may be said to hold out bright prospect.

Coal.—Partly because of the industrial activity in Japan and partly because of the activity of various industries in the peninsula, the demand for coal has appreciably increased. Coal production for 1936 was 2,282,000 metric tons.

Table 33. Output Value and Volume of Principal Minerals

	Gold & Alluvial Gold		Silver		Gold & Silver Ore		Copper Ore	
	Kgs.	¥1,000	Kgs.	¥1,000	M. tons	¥1,000	M. tons	¥1,000
1930	6,186.5	6,618.7	2,101.1	58.2	13,411	1,070.4	5,647	45.9
1931	9,031.1	9,584.0	11,404.0	206.6	12,858	553.5	6,156	35.5
1932	9,700.7	19,633.2	18,351.3	552.7	10,401	944.3	6,543	33.8
1933	11,508.2	26,066.8	21,864.6	721.7	21,683	1,906.4	5,914	42.0
1934	12,427.6	38,538.3	31,287.2	1,468.7	27,968	2,511.5	—	—
1935	14,710.3	45,457.7	39,345.5	2,558.1	58,146	6,503.0	1,627	10.1
1936	17,490.0	59,353.7	58,820.9	2,830.1	79,029	9,373.6	2,590	58.1

(Continued)	Copper		Iron ore		Pig Iron		Steel	
	M. tons	¥1,000	1,000 m. tons	¥1,000	1,000 m. tons	¥1,000	1,000 m. tons	¥1,000
1930	589.3	1,398.2	532.5	2,808.2	151.4	5,923.1	—	—
1931	698.4	224.9	164.7	824.1	147.9	4,588.9	—	—
1932	694.0	307.0	151.4	749.3	163.7	4,114.0	—	—
1933	784.8	417.4	258.3	1,287.8	163.9	5,605.7	—	—
1934	1,434.4	933.0	176.0	879.8	175.5	7,722.1	59.7	4,178.9
1935	2,169.5	1,535.8	228.2	1,279.3	147.8	7,332.3	97.4	6,764.1
1936	3,636.6	3,272.9	234.4	1,429.8	155.5	7,866.6	87.0	6,533.0

(Continued)	Lead		Silica		Sulphide Iron Ore		Tungsten Ore	
	M. tons	¥1,000	M. tons	¥1,000	M. tons	¥1,000	Kgs.	¥1,000
1930	129.7	49.9	47,346	42.5	0	0.3	11.6	6.2
1931	97.2	5.8	40,659	39.0	0	0.3	16.1	7.2
1932	492.8	64.4	43,856	55.3	7,130	44.0	57.1	29.8
1933	783.5	120.8	68,818	96.5	14,518	75.6	152.5	117.2
1934	1,805.7	306.3	72,279	110.6	40,024	243.1	360.3	734.2
1935	1,728.1	388.8	38,692	68.2	55,611	308.0	875.7	1,389.0
1936	2,737.9	794.0	50,955	89.4	78,036	520.7	1,707.0	2,293.8

(Continued)	Arsenic Acid		Coal		Graphite		Fluor-spar	
	M. tons	¥1,000	1,000 M. tons	¥1,000	M. tons	¥1,000	M. tons	¥1,000
1930	—	—	884.1	5,328.0	20,073.5	423.3	2,297	11.5
1931	—	—	936.4	5,190.1	14,049.7	232.0	2,648	11.9
1932	—	—	1,104.2	5,970.1	16,813.6	255.8	7,577	94.7
1933	152.7	15.8	1,306.7	7,205.4	22,677.0	465.7	9,076	122.6
1934	332.0	32.0	1,688.6	9,940.6	31,294.0	524.8	12,099	131.1
1935	373.0	46.7	1,999.2	11,925.1	45,118.0	1,207.6	9,722	116.4
1936	230.1	26.3	2,282.0	13,301.0	40,914.0	1,010.8	8,740	107.1

(Continued)	Magnesite		Barytes		Alum Stone		Molybdenite		Total value incl. others (¥1,000)
	M. tons	¥1,000	M. tons	¥1,000	M. tons	¥1,000	M. tons	¥1,000	
1930	—	—	6,096	61.0	11,708	50.3	26.2	29.0	24,654.5
1931	—	—	5,460	54.6	14,183	63.8	23.9	25.3	21,741.5
1932	—	—	6,569	51.7	16,320	50.2	44.7	55.6	33,747.0
1933	—	—	4,969	58.5	27,220	129.9	105.2	218.6	48,301.5
1934	3,160	3.6	5,935	80.6	56,330	259.9	103.5	263.5	69,172.8
1935	2,410	7.2	11,027	126.4	81,510	381.5	105.5	264.7	88,039.2
1936	14,258	37.8	5,113	72.0	114,569	729.4	79.9	203.1	110,429.7

Note: Later figures are not officially released.

FORESTRY

The total area of Korea is 220,794 square kilometers. Of this area, about 73 per cent. is occupied by forests and plains. As a large part of these forests and plains was in a state of desolation at the time of annexation, the Government-General has since made efforts for

afforestation. As a result, forestry enterprises have sprung up in various localities. The principal species recently planted are the Akamatsu (*Pinus Thunbergii*) the Chosen-karamatsu (*Larix dahurica*, var. *coreana*), the Chosen-matsu (*Pinus koraiensis*), the Kuromatsu (*Pinus densiflora*), the Manshu-kuromatsu (*Pinus funebris* Komar), the Rigida-matsu (*Pinus rigida* Mill.), the Kunugi (*Quercus serrata*), the Niseakashia (*Robinia pseudoacacia*), and the Hannoki (*Alnus japonica*).

The principal state forests lie in the districts forming the sources of the River Yalu, Tumen, Taidong, Han and other main rivers. The an-

nual amount of the fell from forests amounted to 2,436,000 cubic meters in 1937, valued at ¥25,891,000 cubic metres. The principal trees used for various purposes are the Akamatsu, Chosen-matsu, Chosen-karamatsu, Ezomatsu (*Picea ajanensis*, Fisch), fir trees, and varieties of deciduous oak. The Akamatsu and other acerose trees are used chiefly for buildings, telegraph poles, bridges and ship-buildings, and Onoorekanba (*Betula Schmidtii*) called Danboku is valued as timber for vehicles.

The total forest area classified according to localities for the latest year available is tabulated below:

Table 34. Area of Forests By Localities

(End of 1938)

(Unit: Cho)

Localities	Area with trees	Area under saplings	Area without trees	Total incl. others
Keiki-do (Kyongki)	568,889	70,048	36,359	770,937
Chusei Hoku-do (North Choongchong)....	399,623	77,865	25,938	537,945
Chusei Nan-do (South Choongchong).....	349,149	93,069	33,654	497,746
Zenra Hoku-do (North Chonla).....	444,714	45,511	16,907	549,818
Zenra Nan-do (South Chonla)	691,172	81,336	44,885	822,475
Keisho Hoku-do (North Kyongsang).....	1,147,626	80,146	70,340	1,378,533
Keisho Nan-do (South Kyongsang).....	607,826	98,585	41,222	846,411
Kokai-do (Whanghai)	738,906	145,609	43,826	993,085
Heian Nan-do (South Pyong-an).....	788,513	32,929	42,926	990,613
Heian Hoku-do (North Pyong-an).....	1,494,779	364,504	154,665	2,310,101
Kogen-do (Kwan-won)	1,267,810	432,903	291,091	2,175,543
Kankyo Nan-do (South Hamyong)	1,758,589	380,195	271,617	2,685,672
Kankyo Hoku-do (North Hamkyong).....	1,255,053	199,894	94,288	1,698,771
Total	11,512,149	2,102,594	1,167,718	16,317,650

Table 35. Area of Forest By Ownership

(In 1,000 cho)

	State		Public		Private		Total		
	Forest	Wild land	Forest	Wild land	Forest	Wild land	Forest	Wild land	Total
1930	7,206	634	794	72	7,245	650	15,244	1,356	16,661
1931	6,411	603	857	79	7,842	696	15,110	1,378	16,488
1932	6,108	523	904	90	8,127	706	15,139	1,319	16,458
1933	5,723	487	959	89	8,348	830	15,030	1,405	16,436
1934	5,379	486	950	108	8,524	898	14,854	1,492	16,346
1935	5,743		901		9,693		16,337		
1936	5,657		928		9,754		16,340		
1937	5,529		983		9,612		16,312		
1938	5,497		1,000		9,634		16,318		

Table 36. Forestry Products

(Unit: ¥1,000)

	Timber (1,000 cub. mtr.)		Bamboo	Fagot	Branches & leaves	Green Manure	Compost Materials	Charcoal	Total incl. other
	Forest	Wild land							
1933	1,990	13,679	291	23,106	24,591	3,180	8,503	2,208	94,330
1934	2,299	17,854	320	24,508	26,679	2,540	7,802	2,863	106,031
1935	2,265	18,137	246	26,412	28,127	2,611	8,560	2,686	114,005
1936	2,269	18,941	314	28,752	24,625	2,624	9,966	3,309	118,065
1937	2,436	25,891	428	30,653	23,847	2,742	16,530	3,687	138,709
1938	2,649	32,928	360	34,227	25,250	3,348	24,729	5,692	166,750

MANUFACTURING INDUSTRY

A marked development in the manufacturing industries of Chosen has been attained in recent years. In 1937 the value of output amounted to ¥1,140 million, representing an increase of roughly four folds over that for 1932. The country is favoured with a large variety of important raw materials for the manufacturing industry which has contributed in a large measure for the spectacular expansion witnessed in this branch of enterprise.

Electric and Gas Enterprises.—At the end of March 1939 there were 15 electric companies with a combined capital of ¥277,263,000 of which ¥245,507,805 was paid up. They represented a generating power of 954,580 K.W.

At the same date there were five gas companies capitalized at ¥62,433,000 (¥48,919,650 paid up). They had a combined daily production capacity of 56,456 cubic metres.

Table 37. Yearly Comparison of Value of Manufacturing Industry

(Unit: in 1,000 Yen)

Year Ending March 31.	Textile	Metallic	Machinery	Ceramic	Chemical
1932	24,439	16,106	2,308	7,291	31,913
1933	30,612	21,524	2,280	7,582	35,361
1934	38,731	29,238	3,010	8,729	51,992
1935	49,681	41,277	5,054	9,970	68,233
1936	71,165	21,338	6,619	14,997	117,983
1937	90,378	28,366	7,399	19,032	162,462
1938	122,743	45,283	10,504	21,253	267,178
1939*	164,821	91,966	26,699	35,877	392,819

	Lumbering & Woodworking	Printing & Bookbinding	Provision	Gas & Electricity	Total incl. Others
1932	6,381	8,381	156,480	16,128	275,151
1933	6,754	9,179	192,064	11,069	323,271
1934	9,951	9,549	201,331	10,987	384,822
1935	11,556	10,696	259,261	12,831	486,522
1936	14,393	12,169	325,727	39,803	643,987
1937	19,230	12,427	320,580	39,989	720,319
1938	26,335	15,539	393,490	40,076	967,365
1939*	15,054	16,948	277,207	24,501	1,140,119

Note: * Inclusive of factories with less than 5 regular hands.

Table 38. Value of Production in the Manufacturing Industries

(¥1,000)

	1932	1933	1934	1935	1936	1937
Spinning & Weaving:						
Reeling	15,621	17,856	17,303	18,319	19,732	21,626
Spinning .....	.....	6,147	8,971	15,047	22,890	37,662
Cotton Fabric	14,600	15,864	20,781	27,053	32,019	50,972
Silk Fabric	3,339	3,723	5,012	5,724	5,238	6,534
Rayon Fabric	433	408	879	1,671	3,813	3,793
Linen Fabric	5,909	7,062	7,329	7,438	7,058	8,793
Knitted goods	1,736	2,464	3,417	3,957	4,803	5,746
Total including others	47,197	55,327	67,791	82,328	99,477	141,154
Metal:						
Pig Iron	4,114	5,606	7,722	7,332	9,616	11,704
Casting	1,609	2,331	2,523	2,907	2,418	4,059
Gold-silver-platinum ware	1,152	1,582	2,148	3,279	1,308	2,511
Total including others	10,346	14,714	17,383	34,321	28,366	50,766
Machinery & Tools:						
Vehicles	5,060	3,190	3,907	4,352	1,616	5,536
Other machineries	3,253	4,323	5,575	7,156	5,476	10,697
Total including others	8,313	7,513	9,481	11,525	7,399	16,565
Ceramics:						
Potteries & porcelains	1,825	2,154	2,703	2,323	2,259	3,438
Brick & other fire proofs	859	963	1,212	1,643	2,360	.....
Cement	5,335	5,625	5,515	9,545	11,258	12,319
Cement manufactures	578	789	1,027	1,276	2,042	.....
Enamelled ironware	89	337	662	1,340	1,892	2,984
Total including others	9,840	11,142	12,472	17,563	21,876	25,072

	1932	1933	1934	1935	1936	1937
Chemicals:						
Drugs	5,013	4,459	4,153	4,768	4,593	4,111
Mineral oils	539	1,099	1,748	2,674	6,639	21,546
Vegetable oils & fats	2,981	3,938	4,391	4,576	5,782	6,952
Animals and fish oils and fats ..	2,323	4,388	6,490	20,251	22,281	28,056
Rubber manufactures	4,854	7,041	8,200	10,668	12,740	17,036
Paper	3,817	4,939	5,549	7,248	7,420	9,200
Chemical, others	20,487	9,293	13,750	36,728	48,371	111,604
Fertilizers	5,292	31,225	41,558	55,046	73,274	90,558
Total including others	49,555	70,519	91,151	147,834	195,431	304,948
Woodworking:						
Furnitures	3,418	4,429	5,312	5,984	6,958	7,405
Total including others	5,021	1,550	1,959	2,259	9,936	11,737
Printing & Bookbinding	9,676	9,549	11,238	12,744	13,133	16,304
Provisions:						
Alcoholic liquors	42,446	50,491	55,249	71,957	85,047	98,790
Soy and Miso	14,787	18,871	25,085	29,782	33,319	41,909
Flours	2,667	3,404	2,360	2,348	2,569	4,218
Sugar (incl. molasses)	106	6,541	6,195	8,522	8,992	10,547
Tinned goods	989	1,949	2,500	2,752	3,261	4,465
Total including others	104,259	122,730	137,670	169,420	199,883	238,033
Gas & Electricity	11,069	10,987	12,831	39,804	39,989	40,076
Others:						
Paperwares	888	957	836	1,292	1,369	.....
Straw manufactures	9,238	9,855	12,152	16,560	11,251	19,317
Hide & leather manufactures ...	1,563	1,890	2,019	2,284	2,710	2,885
Clothings, etc.	4,442	5,082	5,842	6,988	7,849	8,189
Tobacco	32,452	34,277	41,791	43,181	50,094	53,271
Total including others	59,675	64,382	78,835	91,027	103,842	114,653
Grand Total	310,837	367,236	438,402	607,477	730,807	959,308

Note: Above figures include government factories, railway factories and prisons.

TRADE

Markets.—From old times the greater part of business transactions in Chosen have been done in regular markets. Of late traders have increasingly established shops as their permanent seats of business. But, still the markets are important local organs of trading. As at the end of 1938 there were throughout the peninsula 1,458 of these markets, transactions thereon amounting to ¥375,000,000 and upwards a year. These markets are generally open five or six times a month.

Trades by Japanese.—Prior to the annexation of the peninsula, trades by Japanese were confined chiefly to those places on which Japanese residents were concentrated such as Jinsen, Fusan, Masan, Gunsan, Gensan, Heijo, Chinnanpo, Shingishu, etc. Since the annexation, however, trading by Japanese has spread to all parts of the country. Principal trades by Japanese con-

sists of exports (inclusive of shipments to Japan) of cereals, aquatic products, cow-hide, and other special products of Korea and imports (inclusive of consignment from Japan) of various kinds of miscellaneous goods, cotton yarn and cloth, fertilizer, petroleum, sugar, matches, etc. Besides, there are many wholesale and retail dealers in various lines of goods. Such goods as the necessities of life, piecegoods, saké, soy, stationery, sweets, coarse wares, vegetables, etc., are generally supplied by wholesalers in Seoul, Jinsen and Fusan to retailers in various other places.

Companies.—In sympathy with recent industrial developments, companies on a large scale especially for industrial purposes have been increasingly established. The table given below will show the situation in recent developments of companies in Chosen:—

Table 39. Number of Companies in Chosen by Business

	Those with Head Office in Chosen			Those with Head Office in Japan Proper or others		
	No. of Cos.	Authorized Capital (¥1,000)	Paid-up Capital (¥1,000)	No. of Cos.	Authorized Capital (¥1,000)	Paid-up Capital (¥1,000)
1911	152	39,766	15,910	25	79,546	65,196
1931	2,035	656,045	359,232	116	2,353,359	1,978,126
1932	2,158	679,562	375,250	165	2,360,284	1,994,680
1933	2,280	682,476	393,241	162	2,385,199	1,960,562
1934	2,302	713,814	431,507	169	2,486,311	1,957,122
1935	2,359	912,553	591,276	128	2,285,441	1,682,950

(Continued)

	Those with Head Office in Chosen			Those with Head Office in Japan Proper or others		
	No. of Cos.	Authorized Capital (¥1,000)	Paid-up Capital (¥1,000)	No. of Cos.	Authorized Capital (¥1,000)	Paid-up Capital (¥1,000)
1933	2,280	713,814	393,241	162	2,385,199	1,960,562
1934	2,302	713,814	431,507	169	2,486,311	1,957,122
1935	2,359	912,553	591,276	128	2,285,441	1,682,950
1936	2,721	1,184,011	723,261	183	4,399,563	2,892,615
1937	3,217	1,472,438	934,671	168	2,863,485	2,336,305
1938	3,382	1,641,389	1,028,140	179	3,505,501	2,564,043
1938:						
Agriculture and Forestry	176	95,437	59,462	22	48,650	38,733
Commerce	929	108,676	62,774	33	359,670	281,125
Manufacturing						
Industry	1,086	418,054	257,820	44	1,527,851	1,137,382
Mining	117	238,152	172,266	26	805,545	595,195
Fishery	63	20,002	9,375	5	108,260	88,498
Banking	149	147,602	94,014	5	379,075	265,687
Transport	345	180,052	85,124	9	127,500	83,300
Gas & Electricity ...	16	309,963	218,103	.....	.....	.....
Civil Engrg.	179	25,010	19,412	11	35,800	31,050
Others	322	98,421	49,790	24	113,150	43,073
Total	3,382	1,641,369	1,028,140	179	3,505,501	2,564,043

RAILWAYS

Chambers of Commerce and Industry.—In accordance with the provisions of the Korean Chambers of Commerce and Industry Act promulgated in 1930 the Chambers of Commerce, which had hitherto existed, were renamed as Chamber of Commerce and Industry. These institutions exist in nineteen places including Jinsen, Gunsan, Moppo, Fusan, Heijo, etc. Besides, there is an associated chamber of commerce and industry styled "The Korean Chamber of Commerce and Industry."

The first railway enterprise in Korea dates back to 1899 when a railway line between Keijo (Seoul) and Jinsen (Chemulpo) covering a distance of 29 kilometres was laid and opened to traffic by the Kei-jin Railway Company. The outbreak of the Russo-Japanese War caused the Department of War in Japan to build the Keijo-Fusan, Keijo-Shingishu and the Masan lines

which were respectively opened to traffic in 1904 and 1905. In 1906 the Imperial Government of Japan nationalized the Keijo-Fusan and also took over the Keijo-Shingishu and the Masan lines from the Department of War, placing all those lines under the control of the Railway Bureau of the Korean Resident-General. Meanwhile the work of construction was steadily pushed on and in 1910 the Heijo-Chinnanpo line was completed. On the spanning of the River Yalu with an iron bridge in 1911 the peninsula railway was brought into connexion with the South Manchuria Railway line. In 1914 the Taiden-Moppo and Keijo-Gensan lines were completed, while in 1915 part of the Gensan-Kwanei line was opened. In 1930 the total length of the State-owned lines in Korea was 4,214 kilometres. The railway lines of the peninsula are as follows:—

Table 40. Principal Railways in Chosen

Line System	Line Name	Connection	(1940)	
			Distance (Kms.)	No. of Daily roundtrip
Keifu	Keifu Honsen	Keijo-Fusan	450.5	7
	Keijin	Minami Keijo—Jinsen ...	31.0	15
	Taikyu	Taikyu—Eisen	38.4	..
	Keigin Honsen	Keijo—Antung	499.3	5
	Kenjiho	Kokaikoshu—Kenjiho	13.1	..
Keigi	Heian	Heijo—Chinnanpo	55.2	9
	Heijo Tanko	Daidoko—Shokori	23.3	..
	Hakusen	Reibi—Hakusen	9.3	..
Konan	Konan Honsen	Moppo—Taiden	261.1	3
	Kunsan	Kunsan—Riri	24.7	..
Keizen	Keizen Southern	Reishu—Sanryoshu	110.1	2
	Chinkai	Chinkai—Shogen	20.6	..
	Keizen Western	Junten—Shoteiri	134.6	2
	Koshu	Koshu—Tanyo	21.5	..

Line System	Line Name	Connection	Distance (Kms.)	No. of Daily round trip
Zenra		Riri-Reisuiko	198.8	2
Kyogen		Ryuzan-Genzan	223.7	4
Kankyo	Kankyo Honsen	Genzan-Yujo	532.8	3
	"	Yujo-Kainei	84.8*	..
	Seishin	Seishin-Yujo	9.0	..
	Kainei Tanko	Kainei-Keirin	11.0*	..
Mampo	Hokusei	Hokusei-Shin Hokusei	9.4	..
	Mampo Honsen	Junsen-Kokai	250.6	..
	Kaisen	Shinanshu-Kaisen	29.5	..
Keizan		Keizanchin-Kisshu	141.7	..
Hakumo		Kakugan-Rinkodo	100.5†	..
Heigen	Heigen Eastern	Kogen-Jonai	30.0	..
	Heigen Western	Saiho-Yotoku	123.9	..
Tokai	Tokai Southern	Fuzanchin-Keishu	112.3	..
	Tokai Central	Taikyu-Eisen	38.4	..
	"	Eisen-Kakuzan	73.3†	..
Tomon	"	Anpen-Joyo	192.6	..
	"	Kainei-Yuki	220.4*	..
Total including others			4,214.6	

Note: * The asterisk indicates lines whose operation are entrusted with the S.M.R. and others, totalling 328.5 kilometers.
† Indicates light railways.

Table 41. Results of State Railways

Year Ending Mar. 31:	Mileage of Railway open to traffic (Kms.)	Rolling stock			No. of Passengers carried		Volume of goods carried	
		Locomotives	Passenger carriages	Freight wagons	Number (1,000)	Fare (¥1,000)	(1,000 m. tons)	Freight (¥1,000)
1930	2,751.5	331	828	3,522	23,226	21,054	6,160	20,766
1931	2,792.5	334	829	3,632	20,650	17,658	5,936	19,164
1932	3,008.5	347	867	3,763	19,674	16,856	6,025	19,645
1933	3,142.8	360	900	3,992	20,592	18,111	6,249	20,576
1934	2,935.4	..	..	..	22,238	20,802	7,255	22,445
1935	3,077.4	..	..	..	25,615	24,358	7,682	25,791
1936	3,389.5	..	..	..	29,344	28,172	8,668	28,305
1937	3,575.9	..	..	..	33,708	32,143	9,980	32,893
1938	3,737.3	..	..	..	35,906	37,167	11,370	39,741
1939	3,881.0	..	..	..	46,054	48,765	13,924	46,362

PRIVATE RAILWAYS AND TRAMWAYS

For the encouragement of private railway enterprises, the Government-General promulgated the Chosen Light Railway Regulation in 1912, making provisions for their supervision and protection. Since then the authorities have yearly inspected the projected private railway lines. The total length of private railway and tramway lines open to traffic as at the end of September 1939 was 1,457.1 kilometres.

Motor Transport.—The motor transport service in Korea has of late made such swift developments as to be assuming an important position as a land transport organ together with the railway and tram services. In the field of the regular service the operators of the pas-

senger traffic as at the end of September, 1939 numbered 152, operating lines aggregating 26,197 kilometres in length.

Communications

The postal, telegraph and telephone services of Chosen follow in the main the same system as obtains in Japan proper. The network of these services has been extended to all of the important points in the country. In the number of mails handled, in the number of telegraphic messages sent and received, and in the number of new telephone subscribers, steady increases have been witnessed.

Table 42. Statistics of Communications

Year Ending Mar. 31:	No. of post office	Mail routes (Km.)	No. of mail handled		Parcel post handled	
			Accepted (millions)	Delivered (million)	Accepted (1,000)	Delivered (1,000)
1935	843	72,634	694	322	2,415	3,578
1936	872	75,444	327	359	2,506	3,729
1937	926	76,953	344	382	2,593	3,823
1938	993	77,249	341	359	2,879	4,295
1939	1,031	77,590	350	385	3,259	4,632

Year Ending Mar. 31:	No. of Telegraph Office	Total routes (1,000 kilo meters)	Length of wire (1,000 kilo meters)	Despatched			Arrived			Transmitted (1,000)
				Japanese language	Code	Foreign language	Japanese language	Code	Foreign language	
1935	853	8,793	42,575	6,582	537	39	6,505	531	44	12,694
1936	878	8,815	44,250	7,312	647	34	7,219	656	47	13,962
1937	910	8,747	45,069	8,232	720	30	8,151	717	43	16,117
1938	967	8,863	47,721	9,475	778	32	9,487	765	33	18,399
1939	1,019	9,010	51,625	10,793	896	22	10,588	874	25	23,905

(C) Telephone Service

Year Ending Mar. 31:	No. of Telephone Office	Total routes	Length of wire	No. of subscribers	No. of calls (1,000)	
					Ordinary	Long-distance
1935	750	9,586	173,369	37,694	239,171	3,892
1936	766	9,681	190,153	39,763	266,096	4,294
1937	791	10,546	219,289	42,605	288,697	3,911
1938	829	11,115	256,527	48,972	274,859	4,253
1939	858	11,494	281,264	53,306	303,451	4,850

Postal Money Orders and Post Office Savings Banks

Year Ending Mar. 31:	Domestic Money Orders		Foreign Money Orders		Savings Banks	
	Issued (¥1,000)	Paid (¥1,000)	Issued (¥1,000)	Paid (¥1,000)	No. of depositors (1,000)	Amount (¥1,000)
1931	92,966	82,627	366	275	2,118	38,853
1932	87,126	77,217	241	237	2,285	41,433
1933	93,585	85,226	205	370	2,494	40,939
1934	108,254	99,723	303	701	2,841	44,807
1935	122,063	110,910	466	1,044	3,156	52,632
1936	130,567	115,487	522	1,746	3,571	54,821
1937	145,140	126,148	362	3,566	3,861	60,423
1938	157,217	135,069	294	8,054	4,247	68,303
1939	185,874	158,157	497	15,831	5,381	87,270

ORIENTAL DEVELOPMENT COMPANY, LIMITED.

(Toyo Takushoku Kabushiki Kaisha)

The Oriental Development Company is the first joint undertaking by Japanese and Koreans for exploiting the resources of Korea. It was organized in 1908 with a capital of ¥10,000,000. The capital in 1938 was ¥50,000,000, of which ¥35,000,000 was paid-up.

The scope of the business of the Company as provided for by Article 11 of the Oriental Development Act is as follows:—

- (1) Supplying funds necessary for colonization.
- (2) Engaging in agriculture, riparian work, acquirement, management and disposal of land necessary for colonization.

- (3) Collecting and distributing immigrants for colonization.

- (4) Constructing, buying and selling and renting buildings necessary for the immigrants.

- (5) Supplying immigrants and agriculturists with things necessary for colonization and distributing their products.

- (6) Managing and supervising land on trust.

- (7) Carrying on other businesses, necessary for colonization.

Besides the above forms of business the Company makes loans as an agency of the Hypothec Bank of Japan.

Sphere of Business Activity.—The sphere of the business activity of the Company is so extensive as to cover Korea, Kwantung Province, Manchoukuo, Mongolia, East Asiatic Russia, Hopei Province, Shantung Province and Kiangsu Province of China, the Philippines, the South Seas, the Malay Peninsula.

The Company has its head office at Tokyo, to which it was removed in 1917 from Seoul, and branch offices in nine places in Korea and five places in Manchoukuo and agencies in Tsingtao and Tientsin.

Statistics of the business of the Company are tabulated below:—

Table 44. Results of Oriental Development Company

(In 1,000 yen)

	Capital Subscribed	Capital p.u.	Reserves	Profits	Loss	Net profits	Divid- ends	Ratio of dividends %
1930 1st half	50,000	35,000	1,619	8,744	7,974	770	640	4.0
1931 1st half	50,000	35,000	1,733	8,671	8,052	619	480	3.0
1932 1st half	50,000	35,000	1,878	9,200	8,991	209	—	—
1933 1st half	50,000	35,000	1,900	11,670	11,670	—	—	—
1934 1st half	50,000	35,000	1,900	10,709	10,709	—	—	—
1935 1st half	50,000	35,000	1,936	10,437	9,673	765	—	—
1936 1st half	50,000	35,000	2,140	12,328	10,773	1,556	700	4.0
1937 1st half	50,000	35,000	2,422	12,552	11,279	1,273	875	5.0
1938 1st half	50,000	35,000	2,682	14,764	13,445	1,320	1,050	5.0
1939 1st half	50,000	35,000	3,339	18,628	16,971	1,657	1,225	7.0
1940 1st half	50,000	42,500	3,555	19,931	18,085	1,845	1,426	7.0

Table 45. Various Loans Outstanding By the Oriental Development Company

Classified by Purposes

(Unit: ¥1,000)

1st half	Chosen		Manchoukuo		North China		South Sea Isls.		Total
	Amount	%	Amount	%	Amount	%	Amount	%	
1933	84,921	72%	25,473	22%	2,122	2%	4,216	4%	116,732
1934	88,236	74	25,905	21	1,995	2	3,188	3	119,364
1935	81,233	70	26,892	23	1,537	1	6,184	5	115,846
1936	89,036	67	29,298	22	2,716	2	12,425	9	133,474
1937	94,982	66	34,772	24	4,386	3	13,063	7	147,203
1938	105,208	64	34,870	23	5,649	4	15,373	9	161,100
1939	103,951	61	44,095	26	6,235	4	14,739	9	169,020
1940	142,532	66	57,630	27	8,849	4	7,213	3	216,225

Table 46. Work of Oriental Development Co.

(Area in hectares)

	Paddy	Upland	Forest & miscella- neous	Total incl. others	No. of house- holds of settlers	Area allotted			Area allotted average per household		
						Paddy	Upland	Total	Paddy	Upland	Total
1929	46,682	16,944	41,709	105,336	3,967	9,234	942	10,176	2.32	0.24	2.56
1930	46,584	16,887	60,092	123,565	3,943	9,059	933	9,992	2.29	0.23	2.52
1931	46,284	16,804	90,085	153,175	3,921	9,138	938	10,076	2.33	0.24	2.57
1932	46,194	16,926	92,344	155,464	3,905	9,070	935	10,005	2.32	0.24	2.56
1933	46,157	16,940	101,491	164,588	3,896	9,040	933	9,973	2.32	0.24	2.56
1934	44,521	18,211	103,686	166,418	3,893	9,051	934	9,985	2.32	0.24	2.56
1935	42,895	17,300	105,753	165,948	3,891	9,050	934	9,984	2.32	0.24	2.56
1936	40,950	16,968	87,858	145,776	3,885	9,030	936	9,966	2.32	0.24	2.56
1937	35,161	18,404	114,934	173,989	3,880	8,931	931	9,862	2.32	0.24	2.53
1938	35,041	18,663	114,948	176,789	3,883	2,917	288	3,940	0.75	0.07	1.02
1939	35,340	19,338	117,056	180,276	3,883	..	..	10,806	..	..	..
1940 1st half	35,407	17,062	119,536	179,705	3,883	..	..	10,348	..	..	..

References:

Table Nos.: 1-12 a, 13-14 a & b, 15-42 a, 43-45 c.

Key: a—Chosen Govt-General.

b—Dept. of Finance.

c—Oriental Development Co.

CHAPTER XLII

TAIWAN (Formosa)

GEOGRAPHY

Position—119° 18'—122° 6' E. L.; 21° 45'—25° 38' N. L.

Area—Main island 35,834 sq. kms. Bo ko-to (Pescadores) 64 sq. kms.

The island was ceded to Japan by China as the result of the Sino-Japanese War (1894-5) by virtue of the Shimonoseki Treaty.

The total area of this insular territory almost equals that of Kyushu. The seaboard extends nearly 290 "ri," but with no good indentation except the ports of Keelung and Tamsui in the north and that of Takao in the south.

The main island is traversed from north to south by the Taiwan range, the eastern half thus formed being steep and craggy, but the western half flat and fertile. Highest peaks are Mt. Niitaka (Morrison) (13,035 ft.) and Mt. Tsugitaka (Sylvia) (12,743 ft.). The rivers are short with swift current.

(The Shin-Nan Islands, proclaimed as a territory of the Japanese Empire is placed under the jurisdiction of the Taiwan Government General. Their position is as follows: 7°-12° N.L., 111° 30'-117° E.L. They consist of a string of islands, the area of which is under investigation).

Table 1. Average Temperature

(In Centigrade)

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year
Taihoku	15.2	14.8	16.9	20.6	24.1	26.6	28.2	27.9	26.2	22.0	19.8	16.8	21.7
Keelung	15.4	15.1	16.6	20.2	25.0	26.5	28.2	28.0	26.5	23.3	19.7	16.6	21.0
Taichu	15.7	15.5	18.1	21.9	25.2	26.8	27.7	27.4	26.4	23.7	20.3	17.2	22.2
Karenko	17.3	17.4	18.9	21.5	24.4	26.0	27.2	27.1	25.9	23.4	20.9	18.6	22.4
Tainan	16.9	16.9	19.6	23.3	26.2	27.3	27.8	27.5	27.0	24.7	21.5	18.4	23.1
Taito	18.9	18.9	20.6	23.2	25.2	26.9	27.4	27.3	26.4	24.4	22.1	20.0	23.4
Koshun	20.3	20.4	22.2	24.6	26.4	27.3	27.5	27.2	26.7	25.2	23.3	21.3	24.4
Bokoto													
(Pescadores)	16.2	15.7	18.2	22.0	25.0	27.0	28.0	27.8	27.0	24.6	21.5	18.3	22.6

INHABITANTS AND POPULATION

The inhabitants or population of the island is mainly classified into three, i.e., Japanese, natives and foreigners. The first named, namely, Japanese are those who have come over from Japan proper and settled in the island since its occupation by Japan; the bulk of the foreign population are Chinese, the number of European and American residents being quite limited. The native inhabitants are classified into the Han race and the aboriginal race. The former is again divided into those settlers from Fukien and neighbourhood and those from Canton and neighbourhood, and occupy about 93 per cent. of the total number of the native inhabitants. The natives, the original and oldest inhabitants of the island, are again divided into

uncivilized and civilized. In the accompanying statistics the figure of aborigines is the estimate of those residing in the aboriginal district, while the number of aborigines residing in the districts within the jurisdiction of the insular administration is included in the number of natives.

The total population (excluding the aborigines dwelling in the aboriginal districts) for 1935 is returned as 5,212,426 which figure, when compared with the similar figure at the end of 1905 when the census in the islands was taken soon after the island became Japanese territory, indicated an increase of 2,172,675. The following figures represented the census population enumerated quinquennially:—

Table 2. Census Population By Sex

	*1935	*1930	1925	1920	1915	1905
Male	2,659,819	2,353,288	2,052,669	1,893,541	1,813,053	1,610,816
Female	2,552,607	2,289,249	1,940,739	1,761,767	1,666,869	1,428,935
Total	5,212,426	4,592,537	3,993,408	3,655,308	3,479,922	3,039,751

Noted: * Including aborigines.

Table 3. Census Population in Principal Cities in 1935

Taihoku	278,446	Tainan	111,959
Shinchiku	52,107	Kagi	72,984
Keelung	84,978	Takao	83,735
Taichu	70,467	Shoka	51,236

The population as classified according to Japanese, natives and foreigners is as follows:—

Table 4. Population Classified by Nationality

(Unit: 1,000)

	Japanese			Natives			Foreigners*			Grand Total
	Male	Female	Total	Male	Female	Total	Male	Female	Total	
1905	35.9	23.7	59.6	1,570.2	1,408.8	2,979.0	7.7	0.5	8.2	3,046.9
1910	58.6	39.5	98.0	1,626.3	1,479.9	3,106.2	13.3	1.4	14.8	3,219.1
1914	82.3	39.5	141.8	1,718.8	1,588.5	3,307.3	16.9	2.7	19.6	3,468.7
1931	131.6	112.3	243.9	2,251.3	2,174.8	4,426.1	30.7	14.6	45.3	4,715.3
1932	131.6	116.9	248.5	2,361.8	2,277.4	4,639.2	27.9	14.3	42.2	4,930.0
1933	136.3	121.3	257.5	2,421.9	2,337.3	4,759.2	29.0	14.8	43.8	5,060.5
1934	139.2	125.0	264.3	2,484.8	2,397.5	4,882.3	32.0	16.4	48.4	5,195.0
1935	142.3	129.1	271.4	2,536.7	2,453.4	4,990.1	35.9	18.3	54.1	5,315.6
1936	148.8	135.0	283.7	2,596.5	2,512.5	5,108.9	39.2	20.0	59.2	5,451.9
1937	158.1	141.2	299.3	2,673.0	2,588.6	5,261.5	30.0	16.2	46.2	5,609.0
1938	162.4	146.5	308.9	2,737.2	2,656.0	5,393.2	27.7	15.4	43.0	5,747.0

Note: * Consists mostly of Chinese.

The number of births, deaths, marriages, etc., and their rate per 1,000 population are as follows, excluding aborigines:—

Table 5. Movement of Population per 1,000 Inhabitants

	Marriage		Divorce		Birth		Still-birth		Death	
	Japanese	Natives	Japanese	Natives	Japanese	Natives	Japanese	Natives	Japanese	Natives
1932	3.1	9.3	0.1	0.9	31.4	45.0	1.6	1.6	10.8	21.0
1933	3.5	9.2	0.0	0.8	31.1	45.4	1.5	1.6	10.7	20.3
1934	2.9	8.9	0.0	0.8	29.4	45.8	1.6	1.6	11.3	21.1
1935	2.9	9.2	0.0	0.8	29.6	46.1	1.3	1.5	10.9	21.0
1936	2.9	8.9	0.0	0.7	28.1	44.6	1.2	1.4	10.5	20.3
1937	3.3	9.2	0.0	0.7	28.5	45.9	1.2	1.5	9.6	20.4

ABORIGINES

There are nine different tribes ethnologically all more or less allied to the Malay race. The natives may be broadly classified into Northern and Southern aborigines. The former are savage headhunters, the latter more submissive and civilized. The Northern aborigines almost exclusively belong to the Taiyol tribe and occupy a little under half the whole extent of the unexplored regions. The Southern tribes are Tsaissetto, Vonum, Tsoo, Tsarien, Taiwan, Puyuma, Amis, Peipo and Yami (this on Botel Tobago island alone) and they are about four times as numerous as the other. These together occupy the region covering about one half the total area of the island, where natural resources abound.

Subjugation and Pacification.—The program of subjugation and pacification at the cost of ¥15,000,000 was completed in about five years ending 1915. The tribesmen were made as

mark of allegiance to surrender their firearms, and the number thus captured amounted to 31,523 pieces till the end of 1927. The victims of violence by the savages markedly fell off. The total till the end of 1927 reached 6,918. The heaviest toll was 761 in 1912 as against 41 in 1918, 2 each in 1925 and 1926 and 9 in 1927.

There remain one or two communities to be accounted for; and the peaceful policy of subjugating them by clearing up the wild land is being pursued.

The tendency to engage in various peaceful occupations is steadily growing among the tribesmen. In addition, even the good habits of industry and thrift are in evidence among them.

Principal occupations are rice plantation on paddy fields, stockfarming, sericulture and cultivation of other farm products such as sugar canes, tobacco, jute, tea, etc.

ADMINISTRATION

New Local Administration

In August, 1920 five prefectures, Taihoku, Shinchiku, Taichu, etc., were created much on the same lines of local administration as in Japan proper, each under a civil governor, and with it the municipal and village self-government has come into existence. The prefecture, municipality, and village conduct their respective affairs regarding taxation, revenue, management of enterprises, etc., as assigned to each

by the new legislation. Advisory council, prefectural, municipal and village, have also been created to deliberate on the financial and legislative affairs, taxation, etc., in their respective commissions. The members of the prefectural council are appointed by the Governor-General, and those of the municipal and village members by the governor of the prefecture to which they belong, each for a term of two years and as gratuitous duty.

Table 6. Revenue and Expenditure

(Unit: ¥1,000)

Year Ending Mar. 31:	Revenue			Expenditure		
	Ordinary	Extraordinary	Total	Ordinary	Extraordinary	Total
1929	104,378	43,146	147,524	76,922	32,189	109,109
1930	107,582	42,659	150,241	82,804	39,492	122,295
1931	98,517	31,241	129,758	78,363	31,608	109,971
1932	93,352	22,620	115,972	76,647	22,413	99,060
1933	96,583	23,720	120,303	74,400	22,840	97,240
1934	100,664	30,148	130,812	78,989	23,231	102,221
1935	110,615	31,003	141,618	87,269	24,908	112,177
1936	123,408	33,142	156,549	94,025	29,921	123,944
1937	138,144	37,628	175,772	98,882	35,057	133,939
1938	153,455	49,381	202,837	109,274	47,170	156,445
1939	176,714	57,104	233,817	120,768	62,639	183,407
1940 (Budget)	175,046	33,556	208,602	130,327	78,275	208,602
1941 (")	214,794	45,736	260,530	157,241	103,289	260,530

Table 7. Summary of Revenue & Expenditure

(a) Revenue (In ¥1,000)

Ordinary:	Year ending Mar. 31:	1937	1938	1939	1940	1941
					(Budget)	(Budget)
Taxes and Duties		24,713	31,553	34,480	33,426	41,069
State Undertaking and Property ..		104,876	113,462	132,582	133,803	165,101
Stamp Receipts		7,271	7,220	7,653	5,926	5,999
Miscellaneous Receipts		1,284	1,221	1,998	1,890	2,616
Total		138,144	153,455	176,714	175,046	214,794
Extraordinary:						
Proceeds from sale of State Property		833	911	1,075	646	904
Special Profit Tax		1,376	2,761	4,979	2,444	5,189
China Incident Special Tax .....		..	1,070	868	—	—
Surplus of preceding year transferred		32,605	41,833	46,392	18,373	25,934
Public Bonds		—	—	—	6,400	6,000
Total incl. others		37,628	49,381	57,104	33,556	45,736
Total Revenue		175,772	202,837	233,817	208,602	260,530
Ordinary:	Year ending Mar. 31:	1937	1938	1939	1940	1941
Administration Office		3,112	3,715	3,672	2,940	4,409
Local Governments		13,959	14,808	14,737	15,393	16,271
Judicial Courts		1,348	1,416	1,423	1,495	1,590
Prisons		1,338	1,371	1,481	1,326	1,489
Hospitals		1,273	1,323	982	948	1,033
Research Institute		1,407	1,514	1,487	1,728	2,627
Education		4,854	5,215	3,486	4,276	5,686
Communication & Transportation ..		26,580	30,585	36,876	39,158	49,657
Monopoly Bureau		28,001	31,752	35,344	35,591	44,932
Forestry		3,403	3,733	3,879	5,151	5,884
Sinking Fund		6,681	6,682	6,571	6,556	6,681
Total including others		98,882	109,274	120,768	130,327	157,241

(Continued)

Extraordinary:	Year ending Mar. 31:	1937	1938	1939	1940 (Budget)	1941 (Budget)
Government Undertakings		15,127	16,969	18,284	24,470	36,421
Repairs		3,716	6,189	7,332	9,657	9,316
Inspection		1,005	1,173	1,669	1,869	1,697
Subsidies		8,337	8,299	10,352	11,746	17,664
Industrial encouragement		2,234	2,810	3,685	4,593	7,410
Transferred to the Special De- fence Account		—	6,315	14,538	17,658	23,362
Transferred to Ordinary Account.		1,900	5,250	—	—	—
Total including others		35,057	47,170	62,639	78,275	103,289
Total expenditure		133,939	156,445	183,407	208,602	260,530

EDUCATION

By the regulation promulgated in 1932 both Japanese and natives were placed under a uniform system of education. In the primary grade, however, the native children mostly attend the public schools which formerly admitted only natives to teach them Japanese.

With the creation of the normal schools in 1919 the Language School, which consisted of two departments, Japanese and native, was abolished. The High School established in April 1922 is under the same regulation as that in Japan proper.

Table 8. Statistics on Educational Institutions

(End of April, 1939)

	No. of Schools	Teaching Staffs	Pupils or Students			Yearly Expenses (1939: ¥1,000)
			Japanese	Natives	Others	
Elementary Schools	147	1,190	46,877	—	—	2,311
Public Schools	812	8,763	—	564,682	—	13,322
Middle Schools	15	438	5,123	4,117	12	1,209
Girls' High Schools	15	361	5,312	2,541	17	1,109
Agricultural & Forestry Schools.....	6	125	588	1,426	6	1,814
Technical Schools	2	115	963	460	8	
Commercial Schools	6	126	1,791	724	2	1,207
Supplementary Vocational Schools ..	63	289	1,822	5,537	214	
Normal Schools	4	165	1,788	—	—	844
Higher Commercial School	1	45	238	26	—	233
Higher Technical School	1	62	201	28	—	782
*Higher Agr. & Forestry School	1	45	181	5	—	
*Higher Medical School	1	40	80	82	—	3,468
Imperial University	1	—	192	90	1	
Deaf & Dumb Schools	2	27	—	328	—	61
Private Schools	17	143	—	5,316	—	—
Kindergartens	88	216	2,151	4,621	5	24

Note: * Attached to the Taihoku Imperial University.

Table 9. Number of Hospitals, Physicians, etc. in Taiwan

	Hospitals				Physicians	Dentists	Pharmacists	Midwives	Nurses
	Government	Public	Private	Total					
1927	13	16	80	109	1,112	117	105	1,071	..
1935	15	18	202	235	1,518	336	158	1,661	68
1936	15	17	217	249	1,650	370	178	1,667	81
1937	15	18	221	254	1,845	402	190	1,747	127
1938	14	18	238	270	1,983	407	213	1,796	170

Taihoku Imperial University

This was inaugurated in April 1928 and consists of Literary and Political, Agricultural Science and Medical Departments. The number of students was 283 at the end of April 1939, of whom 90 were Formosans. The Medical

Department was established towards the end of 1935-36 and opened in 1936-37.

As at the end of March, 1939 the library attached to the University contained 156,322 foreign books and 234,876 Japanese and Chinese books.

JUSTICE AND PRISONS

The law courts as they exist now in Taiwan of Final Appeal and Revision, and three Local are the High Court, with the two Departments Courts with three branches.

Table 10. Statistics of Law Courts

	Civil Suits							
	1st instance		Appeal		Supreme		Total	
	No. of cases newly accepted	Cases disposed of	No. of cases newly accepted	Cases disposed of	No. of cases newly accepted	Cases disposed of	No. of cases newly accepted	Cases disposed of
1932	11,839	10,300	1,572	1,433	321	392	13,732	12,125
1933	11,258	11,167	1,724	1,388	222	207	13,204	12,762
1934	9,659	11,789	2,113	1,879	330	338	12,102	14,006
1935	9,150	9,510	1,526	1,883	336	354	11,012	11,747
1936	9,471	9,175	1,506	1,649	298	313	11,275	11,137
1937	9,490	9,372	1,503	1,347	253	257	11,246	10,976
1938	9,218	9,256	1,566	1,744	303	269	11,087	11,299

	Criminal Suits						
	Prosecutors' visits		Preliminary Trial		Suits Classified		
	No. of cases newly accepted	Cases disposed of	No. of cases newly accepted	Cases disposed of	1st instance	Appeal	Supreme
1932	26,332	25,680	174	127	3,375	364	51
1933	26,670	26,356	160	159	2,998	388	104
1934	26,152	25,589	138	167	3,179	272	45
1935	27,340	26,390	144	132	2,907	297	48
1936	31,344	31,583	165	154	3,258	308	44
1937	27,958	27,902	133	150	3,142	292	36
1938	24,206	24,271	130	123	3,288	296	38

MANUFACTURING INDUSTRIES

As the result of the completion of the Nichi-getsu-tan Generating Power Station, accompanied by a brisk demand of war-materials, the total production of all the manufacturing industries combined in 1938 established the highest record, amounting to ¥379,900,000 or an increase over the previous year of roughly ¥6,000,000. Compared with the year 1912

when its total was only ¥47,000,000 that for 1938 shows an advance of some 8 folds. Classified by industries, the provisions industry ranked first with ¥265,816,000 or 70% of the total production value, followed by the chemical industry with ¥39,746,000. Details of the manufacturing industries are given in the following tables:

Table 11. Industrial Production in Taiwan

(Unit: ¥1,000)

	Agriculture	Pastoral	Forestry	Fishery		Mining	Mfg. Ind.
				Catch	Products		
1929	261,479	32,641	13,887	14,446	2,775	14,847	263,745
1932	249,486	23,816	10,475	9,197	1,545	14,223	227,713
1933	205,586	26,676	10,487	10,807	1,909	15,475	224,504
1934	257,034	28,564	12,667	11,452	2,291	19,470	234,149
1935	319,971	32,713	12,731	13,640	2,293	22,839	293,431
1936	342,277	36,000	15,147	14,934	2,500	28,727	296,984
1937	353,780	49,167	16,664	14,513	2,324	..	374,931
1938	405,282	54,889	19,330	15,608	2,359	..	379,900

Table 12-A. Output Value of Manufacturing Industries Classified

(¥1,000)

	Textile		Metal		Machinery		Ceramic		Chemical		Provision		Total incl. mis. industries
	¥	%	¥	%	¥	%	¥	%	¥	%	¥	%	
1932	2,446	1.8	5,768	2.5	4,403	1.9	6,974	3.0	15,778	6.9	172,522	76.0	227,713
1933	2,785	1.2	6,351	2.7	5,695	2.5	7,735	3.5	20,231	9.0	158,905	70.0	224,504
1934	3,100	1.3	7,069	3.0	5,884	2.5	8,072	3.4	23,672	10.0	161,966	69.0	234,149
1935	3,609	1.2	8,777	3.0	6,812	2.3	8,827	3.0	27,172	9.2	212,640	72.0	293,431
1936	4,127	1.5	11,170	3.7	5,964	2.0	8,414	2.8	30,231	10.1	208,634	70.0	296,984
1937	4,527	1.2	11,970	3.2	7,964	2.1	9,414	2.5	35,251	9.4	273,180	73.0	374,931
1938	6,140	1.7	20,890	5.6	..	..	9,978	2.3	39,746	10.5	265,816	70.0	379,900

Table 12-B. Output of Manufacturing Industrial Products
Textile Industry

	Hemp Yarn		Cotton Textile (¥1,000)	Linen (¥1,000)	Other (¥1,000)	Total incl. others (¥1,000)
	Volume (1,000 kgs.)	Value (¥1,000)				
1932	462	506	585	686	669	2,446
1933	503	531	700	887	667	2,785
1934	446	515	740	1,127	718	3,100
1935	538	715	941	1,243	711	3,609
1936	672	705	820	1,984	619	4,408
1937	..	..	..	..	..	5,048
1938	397	610	3,297	1,233	..	631

Metallic Industry

	Gold-Silver Grains		Alloys		Casting (¥1,000)	Tin-plate Goods (¥1,000)	Gold-Silver ware (¥1,000)	Total incl. others (¥1,000)
	Volume (kg.)	Value (¥1,000)	Volume (M. ton)	Value (¥1,000)				
1932	..	1,527	..	..	563	1,470	1,804	5,768
1933	..	1,485	..	..	615	2,209	1,688	6,351
1934	..	3,187	..	..	576	1,790	1,601	7,609
1935	..	3,525	..	90	693	2,133	1,893	8,777
1936	1,644	4,517	8,658	1,212	618	1,083	2,039	10,906
1937	..	4,401	..	1,442	..	..	2,526	14,363
1938	1,461	200	..	20,890

Machine & Tool Industry

	Machine and motors for sugar ind. (¥1,000)	Agricultural instruments (¥1,000)	Ships (¥1,000)	Other machine & tools (¥1,000)	Total (¥1,000)
1933	3,464	1,143	672	416	5,695
1934	3,680	1,179	732	294	5,884
1935	4,288	1,211	890	423	6,812
1936	4,004	560	900	499	5,964
1937	3,908	..	..	..	7,964
1938	..	864	..	958	..

Ceramic Industry

	Brick		Roofing tiles		Cement		Cement ware (¥1,000)	Lime		Total incl. others (¥1,000)
	Volume (Mill. pcs.)	Value (¥1,000)	Volume (Mill. pcs.)	Value (¥1,000)	Volume (1,000 m. tons)	Value (¥1,000)		Volume (Mill. kgs.)	Value (¥1,000)	
1932	179	1,976	140	614	122	3,230	216	52	387	6,974
1933	194	2,197	146	643	143	3,870	287	49	395	7,735
1934	211	2,205	156	688	141	3,811	230	55	401	8,072
1935	267	3,058	170	888	146	3,639	345	56	451	8,827
1936	316	3,527	99	744	143	3,182	390	63	453	8,414
1937	..	3,809	..	..	143	3,291	..	..	..	9,414
1938	291	3,424	137	1,131	..	..	856	25	352	9,978

Chemical Industry

	Alcohol		Soap		Vegetable oil		Refined Camphor		
	Volume (1,000 hectolitres.)	Value (¥1,000)	Volume (M. ton)	Value (¥1,000)	Volume (1,000 kgs.)	Value (¥1,000)	Volume (1,000 kgs.)	Value (¥1,000)	
1932	1,036	146	3,678	5,086	842	4,092	933	1,575	1,297
1933	446	142	5,753	4,496	849	5,767	1,222	1,357	1,117
1934	628	149	7,945	5,407	1,026	6,292	1,309	1,418	1,242
1935	783	189	7,278	5,358	1,018	6,737	1,700	1,330	1,329
1936	506	178	6,037	4,679	953	6,002	1,788	1,348	1,346
1937	..	..	6,903	..	..	4,010	1,832	611	1,515
1938	480	351	7,588	1,716	669	4,772	2,351	609	1,480

Fertilizers

	Paper		Super-phosphate of Lime		Mixed		Coke		Total incl. others (¥1,000)
	Volume (M. ton)	Value (¥1,000)	Volume (Mill. kin)	Value (¥1,000)	Volume (Mill. kin.)	Value (¥1,000)	Volume (Mill. kin)	Value (¥1,000)	
1932	9,642	649	26	436	73	2,148	14	73	15,778
1933	10,638	749	29	400	98	3,688	12	69	20,231
1934	11,152	892	30	420	91	3,652	15	102	23,672
1935	12,997	1,474	29	472	98	3,886	10	86	27,172
1936	11,979	1,828	38	716	113	4,920	15	102	30,231
1937	12,432	1,881	..	..	..	..	..	..	35,251
1938	21,668	3,870	23	1,173	91	9,696	..	..	39,746

(Continued)

Provision Industry

	Beer		Soy		Table Water (¥1,000)	Flour		Salt	
	Volume (Hectolitre)	Value (¥1,000)	Volume (Hectolitre)	Value (¥1,000)		Volume (1,000 kgs.)	Value (¥1,000)	Volume (M. ton)	Value (¥1,000)
1932	15,621	543	170,701	1,893	392	21,187	1,750	17,053	405
1933	15,409	543	163,397	1,844	406	22,366	2,075	20,635	483
1934	14,285	527	168,324	2,860	508	25,781	2,315	28,573	637
1935	16,962	580	193,279	2,314	689	23,757	2,452	29,275	653
1936	19,286	688	179,415	2,247	1,145	22,977	2,441	25,583	558
1937	..	..	180,302	2,304	1,199	22,770	2,491	..	..
1938	25,604	916	648,390	2,473	1,715	10,844	2,416	17,878	1,450

	Sugar		Molasses		Tinned Pineapples		Tea		Total Value (¥1,000)	
	Volume (1,000 kgs.)	Value (¥1,000)	Volume (Mill. kin)	Value (¥1,000)	Sweets (¥1,000)	Volume (Mill. pcs.)	Value (¥1,000)	Volume (Mill. kin)		Value (¥1,000)
1932	1,648	143,194	307	2,612	4,527	32	4,631	12	4,352	172,522
1933	1,056	126,597	167	2,707	4,659	40	6,172	13	4,644	158,905
1934	1,078	119,726	149	4,442	4,923	37	6,250	17	10,894	161,966
1935	1,609	164,068	280	6,671	5,231	41	7,828	16	10,594	212,640
1936	1,903	158,668	284	5,715	5,150	38	7,032	17	11,486	208,634
1937	1,679	202,240	..	..	9,390	48	12,040	18	11,921	273,180
1938	990	192,254	206	7,817	5,636	59	18,891	12	14,237	265,816

Miscellaneous Industry

	Wood & Woodworking			Printing & Bookbinding (¥1,000)	Paper ware (¥1,000)	Bamboo ware (¥1,000)	Footwear (¥1,000)	Headgear (¥1,000)	Total (¥1,000)
	Lumbering (¥1,000)	Wooden Mfr. (¥1,000)	Total (¥1,000)						
1932	3,055	3,964	7,019	3,316	1,170	1,283	1,019	2,924	9,487
1933	3,372	4,001	7,372	3,566	1,204	1,445	1,029	4,363	11,868
1934	3,100	4,179	7,279	3,704	1,239	1,434	1,116	5,066	12,864
1935	4,743	4,484	9,227	4,364	1,247	1,674	1,175	3,337	12,003
1936	5,725	5,028	10,753	4,766	1,131	1,958	2,246	3,336	12,926
1937	6,101	5,652	11,753	4,966	1,026	2,093	2,246	..	15,906
1938	6,843	6,466	13,309	6,843	503	1,749	50	2,371	22,198

FORESTRY

The forest area is roughly put at 2,428,000 hectares, of which one half is the aborigine district noted for vast primeval forests. Reckless felling has devastated the other half. So the authorities have instituted protection forests and are encouraging reforestation. Afforestation area at the end of March, 1938 totalled 39,787 ko.

Table 13. Area of Forests By Ownership
(Unit in 1,000 Ko: 1 Ko=0.97 hectare)

	State		Public		Private		Total		Combined Total
	Forests	Shrubs	Forests	Shrubs	Forests	Shrubs	Forests	Shrubs	
1932	1,744	525	14	4	200	53	1,957	581	2,539
1933	1,732	521	15	3	204	50	1,951	574	2,525
1934	1,732	518	11	2	207	49	1,951	570	2,520
1935	1,707	513	12	3	220	48	1,939	564	2,503
1936	1,712	504	12	4	221	45	1,944	552	2,497
1937	1,705	491	12	3	221	45	1,933	537	2,470
1938	1,655	500	13	2	216	42	1,884	544	2,428

Table 14. Forestry Output

	Timber		Firewood		Charcoal		Bamboo		Total Value incl. others (¥1,000)
	Volume (1,000 cu ft)	Value (¥1,000)	Volume (1,000 M. tons)	Value (¥1,000)	Volume (1,000 M. tons)	Value (¥1,000)	Volume (1,000 pieces)	Value (¥1,000)	
1932	179	3,893	478	2,192	55	1,233	26,736	1,318	10,475
1933	196	4,020	439	2,090	57	1,264	29,513	1,200	10,487
1934	220	4,237	455	2,229	64	1,550	48,797	1,849	12,667
1935	232	4,607	414	2,102	61	1,628	44,462	1,797	12,731
1936	274	5,598	431	2,711	65	1,890	48,768	1,743	15,147
1937	272	6,651	443	3,013	65	1,970	38,242	1,757	16,664
1938	327	9,756	407	2,719	53	1,927	39,344	1,614	19,331