

Colza (rapeseed) oil: Exports (domestic produce) from Japan, by principal markets, 1928-39

Year	All countries	Principal countries							All other countries
		United States	Germany	Australia	Norway	Belgo Luxembourg	Great Britain	Manchuria (Manchukuo)	
Quantity (100 kin)									
1928	76,665	49,362	1,424	11,169	1/	-	8,564	-	6,146
1929	170,886	88,535	6,634	7,219	1/	2,068	63,650	-	2,780
1930	239,939	84,404	28,159	11,322	2,379	3,568	101,823	-	8,284
1931	126,823	76,932	6,695	4,478	3,042	1,870	77,612	-	6,139
1932	80,787	47,063	6,880	2,985	8,298	1,944	6,657	10	10,950
Average, 1928-32	139,021	80,771	9,958	7,435	2/ 4,430	1,890	41,661	2	6,860
1933	109,688	72,851	11,109	3,892	8,295	2,283	604	36	10,808
1934	264,048	137,332	16,198	6,190	7,246	1,870	14,456	180	12,676
1935	486,412	257,457	8,363	5,548	9,118	3,707	10,015	185	29,219
1936	400,915	247,577	12,362	3,655	8,407	3,068	12,482	162	15,022
1937	123,630	74,076	10,458	7,947	8,081	5,661	471	439	18,597
Average, 1933-37	276,939	173,457	11,678	5,446	8,229	3,318	7,606	200	17,265
1938	89,217	39,488	11,948	5,648	9,975	3,716	453	647	17,342
1939	2/ 182,708								
Value (1,000 yen)									
1928	2,105	1,378	35	298	1/	-	228	-	166
1929	4,316	2,347	174	185	1/	52	1,480	-	78
1930	4,672	1,696	594	224	41	73	1,861	-	183
1931	1,963	1,249	96	62	40	29	379	-	108
1932	1,308	723	108	45	119	32	95	4/	136
Average, 1928-32	2,873	1,479	201	163	2/ 40	37	809	4/	144
1933	2,245	1,487	218	83	151	43	13	1/	250
1934	5,025	3,867	329	119	133	35	260	4	278
1935	11,212	9,720	197	123	186	84	206	4	692
1936	10,547	9,142	286	98	214	78	262	4	463
1937	3,409	1,950	337	226	196	130	13	13	544
Average, 1933-37	6,488	5,233	274	130	176	74	151	5	445
1938	2,095	886	273	143	224	90	11	16	452
1939	2/ 5,101								

- 1/ Not separately reported.
 2/ Average, 1930-32.
 3/ Country detail not available.
 4/ Less than 500 yen.

Cotton seed oil: Exports (domestic produce) from Japan, by principal markets, 1928-39

Year	All countries	Principal countries			All other countries
		United States	Kwantung	Manchuria (Manchukuo)	
Quantity (100 kin)					
1928	3,899	-	605	-	^{1/} 3,294
1929	3,658	-	873	-	^{2/} 2,785
1930	15,220	-	1	-	^{3/} 15,219
1931	75	30	-	-	45
1932	91	-	8	-	83
Average, 1928-32	4,589	6	297	-	4,286
1933	102	-	29	4	69
1934	6,496	6,192	206	21	77
1935	207,109	206,630	147	29	303
1936	187,293	185,654	106	275	1,358
1937	339,479	336,751	33	^{1/}	2,695
Average, 1933-37	148,116	147,045	104	66	901
1938	^{4/} 92,367	88,723	331	17	3,296
1939	^{4/} 6,844				
Value (1,000 yen)					
1928	100	-	15	-	^{1/} 85
1929	90	-	21	-	^{2/} 69
1930	250	-	^{5/}	-	^{3/} 250
1931	1	^{5/}	-	-	1
1932	1	-	^{5/}	-	1
Average, 1928-32	88	^{5/}	7	-	81
1933	2	-	^{5/}	^{5/}	2
1934	121	116	3	1	1
1935	5,098	5,086	5	1	6
1936	5,131	5,088	2	4	37
1937	10,109	10,037	1	^{5/}	71
Average, 1933-37	4,092	4,065	2	1	24
1938	1,888	1,806	9	1	72
1939	^{4/} 301				

^{1/} Includes exports to Hong Kong amounting to 199,100 kin and to Australia amounting to 126,100 kin, valued at 55,000 and 28,000 yen respectively.

^{2/} Includes exports to Hong Kong amounting to 275,100 kin, valued at 68,000 yen.

^{3/} Includes exports to Great Britain amounting to 1,515,600 kin, valued at 248,000 yen.

^{4/} Country detail not available.

^{5/} Less than 500 yen.

Fish oil and whale oil: Exports (domestic produce) from Japan, by principal markets, 1928-39

Year	All countries	Principal countries							All other countries
		Germany	Great Britain	United States	Netherlands	Kwantung	Australia	Manchuria (Manchukuo)	
Quantity (100 kin)									
1928	619,271	76,929	120,895	44,745	194,030	1/	7,515	1/	175,157
1929	587,916	47,031	83,026	329,140	25,750	1/	9,060	1/	93,909
1930	744,987	102,197	189,654	163,167	75,957	1/	16,616	1/	197,396
1931	273,911	57,824	119,817	32,362	16,776	1/	13,882	1/	33,250
1932	609,401	93,870	245,777	54,913	110,958	23,421	16,061	534	87,822
Average, 1928-32	567,077	75,570	151,834	124,865	84,694	2/	12,627	2/	117,507
1933	286,244	90,467	78,749	4,190	28,303	28,620	18,178	127	37,610
1934	345,831	141,408	58,175	12,413	24,972	34,915	14,501	130	59,447
1935	602,117	222,443	98,265	15,835	77,231	37,974	13,749	287	136,333
1936	658,487	274,721	72,864	27,596	71,472	35,861	8,683	466	166,824
1937	919,877	407,007	106,946	33,866	40,501	36,544	11,926	1/	283,107
Average, 1933-37	562,515	227,209	83,000	18,780	48,496	34,783	13,407	3/ 252	136,664
1938	436,228	180,018	53,156	41,125	29,086	44,317	7,797	1/	80,729
1939	166,727	28,624	32,408	29,534	2,453	7,592	5,368	1/	60,748
Value (1,000 yen)									
1928	8,162	1,014	1,431	726	2,447	1/	108	1/	2,436
1929	7,767	691	1,053	4,213	371	1/	149	1/	1,290
1930	7,962	1,150	2,076	1,820	793	1/	216	1/	1,907
1931	1,944	496	757	155	78	1/	163	1/	295
1932	3,234	628	1,131	201	527	177	148	3	419
Average, 1928-32	5,814	796	1,290	1,423	843	2/	157	2/	1,269
1933	2,529	886	592	47	201	246	158	10	389
1934	3,306	1,405	433	153	183	303	155	12	662
1935	6,893	2,588	851	285	873	418	220	6	1,652
1936	10,180	3,931	922	864	1,211	450	168	17	2,617
1937	15,414	6,314	1,531	1,486	583	562	254	1/	4,684
Average, 1933-37	7,664	3,025	866	567	610	396	191	3/ 11	2,001
1938	7,027	1,857	1,116	1,886	348	578	141	1/	1,101
1939	5,802	272	771	2,998	49	165	139	1/	1,408

1/ Not separately reported.

2/ Not available.

3/ Average, 1933-36.

Hardened fish oil: Exports (domestic produce) from Japan,
by principal markets, 1937-39

Year	All countries	Principal countries							All other countries
		Germany	China	Egypt	Mexico	Philippine Islands	Great Britain	Manchuria (Manchukuo)	
Quantity (100 kin)									
1937 -----	513,979	1,9,993	75,587	50,844	45,092	40,336	33,432	149	
1938 -----	330,576	73,104	59,092	14,347	21,733	26,104	15,384	6,020	
1939 -----	1/ 324,716								
Value (1,000 yen)									
1937 -----	9,524	1,998	1,540	925	769	738	594	3	2,957
1938 -----	4,333	734	1,034	149	348	386	155	109	1,418
1939 -----	1/ 3,831								

1/ Country detail not available.

Hardened oil: Exports from Korea to Japan, 1934-39

Year	Quantity	Value
	100 kin	1,000 yen
1934 -----	7,009	986
1935 -----	186,967	3,227
1936 -----	149,083	3,405
1937 -----	323,202	6,624
Average, 1934-37 -----	166,565	3,550
1938 -----	207,413	3,867
1939 -----	244,549	5,820

Fish oils: Exports from Korea to Japan, 1928-39

Year	Quantity	Value
	100 kin	1,000 yen
1928 -----	465,308	4,516
1929 -----	605,692	5,892
1930 -----	492,732	2,702
1931 -----	372,581	1,436
1932 -----	309,368	1,207
Average, 1928-32 -----	449,136	3,151
1933 -----	182,463	1,177
1934 -----	181,264	1,184
1935 -----	626,246	5,455
1936 -----	618,984	8,176
1937 -----	568,456	7,755
Average, 1933-37 -----	435,483	4,749
1938 -----	660,091	7,534
1939 -----	1,979,115	12,183



PETROLEUM AND PETROLEUM PRODUCTS

Mineral oils include crude petroleum and its principal derivatives—gasoline, kerosene, light and heavy fuel oils, and lubricating oils. Light fuel oil is used for heating and for power in Diesel engines; heavy fuel oil for heating and for steam generation, especially in ships; uses of other products are obvious.

Japanese production of crude petroleum is about 2.5 million barrels a year. In addition, a substantial quantity of shale oil and of synthetic gasoline, obtained by hydrogenation of coal, is produced in Manchuria. While the volume of production from shale and coal is unknown, it is unlikely that the total domestic supply is more than 7.5 million barrels annually. Indicated domestic demand in 1938 was estimated as 46 million barrels, of which nearly half may have been for military and naval use.

Japan was definitely dependent on imports for the greater part of its supply of mineral oils before the war. Even if military consumption is eliminated after the war, at least half of civilian consumption (at the prewar rate of 20 to 25 million barrels a year) will depend on continuance of imports.

(See Special Industry Analysis on Petroleum and Petroleum Products.)

Crude oil and heavy oil: General imports into Japan, by principal sources, 1928-36

Year	All countries	Principal countries					All other countries
		United States	Netherlands Indies	British Borneo	Asiatic Russia	Manchuria (Manchukuo)	
Quantity (1,000 barrels of 42 gallons each)							
1928	9,063	5,120	2,189	1/	615	1/	1,139
1929	9,996	6,053	2,100	-	865	1/	978
1930	10,152	6,102	1,422	601	1,319	1/	708
1931	10,800	6,291	988	423	1,883	1/	1,215
1932	13,540	7,710	1,301	637	2,088	75	1,729
Average, 1928-32	10,710	6,255	1,600	2/ 415	1,354	2/	1,154
1933	14,595	8,017	1,494	1,005	2,079	354	1,646
1934	17,714	11,675	1,679	924	1,691	310	1,435
1935	21,875	16,421	2,545	1,170	15	336	1,388
1936 4/	24,413	17,911	3,301	1,903	-	456	842
Average, 1933-36	19,649	13,506	2,255	1,251	946	364	1,327
Value (1,000 yen)							
1928	45,162	20,548	12,707	1/	3,426	1/	8,481
1929	46,603	26,091	10,274	-	4,753	1/	5,485
1930	44,795	25,369	6,328	2,787	6,371	1/	3,940
1931	44,063	24,972	3,740	1,925	8,033	1/	5,393
1932	54,887	32,146	4,386	2,397	8,488	346	7,124
Average, 1928-32	47,102	25,825	7,487	2/ 1,777	6,214	2/	6,085
1933	68,347	39,784	5,989	4,154	9,412	1,729	7,279
1934	82,483	54,475	7,537	4,446	8,079	1,355	6,591
1935	106,826	81,336	11,864	5,465	68	1,311	6,782
1936 4/	129,688	99,348	15,906	9,086	-	1,692	3,656
Average, 1933-36	96,836	68,735	10,324	5,788	4,390	1,522	6,077

1/ Not separately reported.

2/ Average, 1929-32.

3/ Not available.

4/ Not separately reported after 1936. Included in "Other oils, fats, and waxes, etc."

Note.- Imports from Kwantung exceeded 1,000 yen per year only in 1930, 1931 and 1932 when they were valued at 530,000 yen, 1,068,000 yen, and 1,027,000 yen respectively.

Mineral oil (other than crude and heavy): General imports into Japan, by principal sources, 1928-36

Year	All countries	Principal countries		All other countries
		Netherlands Indies	United States	
quantity (1,000 barrels of 42 gallons each)				
1928	2,186	844	1,244	98
1929	2,689	1,120	1,417	152
1930	2,971	1,083	1,629	259
1931	3,154	1,330	1,533	291
1932	3,436	1,675	1,516	245
Average, 1928-32	2,887	1,210	1,468	209
1933	3,427	1,538	1,488	401
1934	4,263	2,102	1,578	583
1935	4,663	2,904	954	805
1936 ^{1/}	4,900	3,040	1,306	554
Average, 1933-36	4,313	2,396	1,332	585
Value (1,000 yen)				
1928	44,771	19,621	22,294	2,856
1929	46,323	17,956	24,423	3,944
1930	44,770	13,374	26,861	4,535
1931	41,721	13,266	24,104	4,351
1932	43,698	14,864	24,906	3,928
Average, 1928-32	44,257	15,816	24,518	3,923
1933	40,513	15,831	19,526	5,155
1934	41,544	18,718	17,215	5,611
1935	45,821	24,766	13,885	7,170
1936 ^{1/}	53,082	28,116	19,236	5,729
Average, 1933-36	45,240	21,858	17,465	5,916

^{1/} Not separately reported after 1936. Included in "Other oils, fats, and waxes, etc."

Note.- Imports from Kwantung did not exceed 10,000 yen in any year except 1936 when they amounted to 77,000 yen; there were no imports from Manchuria except in 1935 and 1936 when they amounted to 1,000 yen or less in each year.

Lubricating oil: Exports from Korea to Japan, 1935-39

Year	Quantity	Value
	<u>100 kin</u>	<u>1,000 yen</u>
1935	7,797	108
1936	10,254	103
1937	45,444	485
Average, 1935-37	21,165	232
1938	134,470	1,696
1939	219,057	3,469

Machine oil: Exports (domestic produce) from Japan, by principal markets, 1935-39

Year	All countries	Principal countries			All other countries
		Kwantung	China	Manchuria (Manchukuo)	
Quantity (1,000 barrels of 42 gallons each)					
1935	90	69	10	5	6
1936	98	71	15	8	4
1937	135	112	11	4	8
Average, 1935-37	108	84	12	6	6
1938	206	138	47	18	3
1939	1/ 264				
Value (1,000 yen)					
1935	2,104	1,673	188	111	132
1936	2,252	1,675	252	199	126
1937	3,307	2,695	253	155	204
Average, 1935-37	2,554	2,014	231	155	154
1938	5,824	4,301	1,090	300	132
1939	1/ 12,537				

1/ Country detail not available.

Lubricating oil: Imports into Korea from Japan, 1928-36 1/

Year	Quantity	Value
1928	129,550	1,512
1929	144,754	1,648
1930	155,985	1,815
1931	167,287	1,684
1932	199,158	1,813
Average, 1928-32	159,347	1,694
1933	223,305	2,253
1934	273,661	2,775
1935	320,825	3,873
1936	286,089	3,561
Average, 1933-36	275,970	3,116

1/ Not separately classified after 1936.

Illuminating oil: Imports into Korea from Japan, 1928-36 ^{1/}

Year	Quantity	Value
	<u>1,000 gallons</u>	<u>1,000 yen</u>
1928 -----	818	470
1929 -----	846	494
1930 -----	1,987	1,088
1931 -----	1,543	772
1932 -----	1,771	842
Average, 1928-32 -----	1,393	733
1933 -----	3,296	1,842
1934 -----	8,379	4,493
1935 -----	8,786	4,603
1936 -----	9,029	4,660
Average, 1933-36 -----	7,372	3,900

^{1/} Not separately classified after 1936.

Mineral oil: Imports into Formosa from Japan, 1928-36

Year	Value
	<u>1,000 yen</u>
1928 -----	1,611
1929 -----	1,713
1930 -----	1,814
1931 -----	2,229
1932 -----	2,706
Average, 1928-32 -----	2,015
1933 -----	2,762
1934 -----	3,706
1935 -----	4,553
1936 -----	5,859
Average, 1933-36 -----	4,220



SOAP

Production of soap in Japan averaged 198 million pounds annually from 1930-36 but increased to 343 million pounds in 1937 and to 317 million in 1938. The upward trend started about 1934. Approximately 60 percent by weight consisted of laundry soap and 30 percent toilet soap in 1930-36. The proportion of laundry soap increased to about 70 percent in 1937 and 1938, while toilet soap declined to about 22 percent.

Per capita consumption of soap in Japan has been low compared with that in the United States. It varied from about 3 to 4 pounds annually from 1930 to 1938, with the trend upward, compared with an annual per capita consumption of about 25 to 27 pounds in the United States.

Japan has been on an export basis with respect to soaps (although on an import basis with respect to fats and oils). Exports (excluding shipments to Korea and Formosa) increased from 40 million pounds in 1937 to 96 million in 1939. Exports to Korea increased from 18 million pounds in 1937 to 27 million in 1939. Exports to Formosa were not shown in quantity but with the value of exports was somewhat less than the value of exports to Korea. Exports went chiefly to Manchuria, Korea, Formosa, Kwantung, and China. Imports from Korea, the principal source, increased from 19 million pounds in 1938 to 36 million in 1939, and to 32 million in 1940.

Soaps: Exports (domestic produce) from Japan, by principal markets other than Korea and Formosa, 1928-39

Year	All countries	Principal countries						All other countries
		Kwantung	China	Straits Settlements	British India ^{1/}	Netherlands Indies	Manchuria (Manchukuo)	
Value (1,000 yen)								
1928	2,089	928	718	^{2/}	41	29	188	185
1929	1,637	919	363	^{2/}	49	31	126	148
1930	1,410	654	446	^{2/}	44	25	94	146
1931	693	287	19	^{2/}	31	22	13	321
1932	1,197	487	96	^{2/}	99	150	175	190
Average, 1928-32	1,405	655	328	^{2/}	53	51	119	198
1933	3,203	556	181	^{4/}	837	486	651	492
1934	3,541	680	346	219	470	317	782	727
1935	3,981	1,038	528	212	239	146	920	898
1936	4,246	1,138	535	184	237	97	1,300	755
1937	5,531	1,154	432	317	314	110	2,141	1,063
Average, 1933-37	4,100	913	404	233	419	231	1,159	787
1938	7,837	2,090	1,500	96	91	27	3,713	320
1939	^{2/} 17,413	3,896	5,169	122	47	25	7,924	230

^{1/} Includes Ceylon prior to 1934 and Burma prior to 1938.

^{2/} Not separately reported.

^{3/} Not available.

^{4/} Less than 500 yen.

^{5/} Country detail not available.

Soaps: Imports into Korea from Japan, 1928-40

Year	Quantity	Value
	100 kin	1,000 yen
1928	20,312	1,385
1929	24,322	1,384
1930	23,069	1,247
1931	23,314	1,103
1932	42,570	1,599
Average, 1928-32	26,717	1,326
1933	60,752	1,876
1934	68,771	2,163
1935	92,126	2,991
1936	107,167	2,790
1937	137,858	3,340
Average, 1933-37	93,335	2,632
1938	191,931	4,466
1939	207,470	5,159
1940	144,364	3,974

Soaps Imports into Formosa from Japan, 1928-38

Year	Value	
	<u>1,000 yen</u>	
1928	978	1,145
1929	1,055	997
1930	850	
1931		
1932		
Average, 1928-32	1,005	
1933	1,114	1,445
1934	1,808	2,280
1935	2,515	
1936		
1937		
Average, 1933-37	1,832	
1938	3,995	

Soaps Exports from Korea to Japan, 1938-40 ^{1/}

Year	Quantity	Value
	<u>100 kin</u>	<u>1,000 yen</u>
1938	146,427	1,921
1939	269,742	4,691
1940	243,912	4,835

^{1/} Not separately classified prior to 1938.



IRON AND STEEL

The iron and steel industry is one of the most important in Japan, particularly under war conditions. In 1937, the value of its output (2,557 million yen) amounted to about 16 percent of the total industrial output of all commodities (16,412 million yen). Steel is the cheapest and strongest engineering material and is the backbone of both the armaments and peacetime industries. Plates, heavy forgings, and tool and fine steel, including high speed steel and stainless steel, are highly essential to the war program, but these and many other products are also used in a peacetime economy. Some estimates place the maximum wartime capacity of all Japanese or Japanese controlled areas including Manchuria, Korea, and North China, as high as 13,600,000 metric tons of steel ingots, equivalent after scrap losses (about 20 percent) to 10,880,000 metric tons.

Following the table of all iron imports (except ores) the principal ferrous materials and products of the iron and steel industry (except manufactures) are grouped in four sections: (1) Iron ore, (2) pig iron, (3) iron and steel scrap, and (4) iron and steel products, semifinished and finished. (See Special Industry Analysis on Iron and Steel.)

Iron, total (excluding iron ores): General imports into Japan, by principal sources, 1928-36

Year	All countries	Principal countries							All other countries
		United States	British India ^{1/}	Germany	Belgium	Great Britain	Kwantung	Manchuria (Manchukuo)	
Quantity (metric tons)									
1928	1,835,147	385,707	406,087	321,773	95,316	233,556	187,620	30,748	174,340
1929	2,094,821	430,790	543,069	379,741	115,920	182,971	148,189	54,731	239,409
1930	1,396,532	367,740	310,389	203,921	52,462	109,937	154,019	35,255	162,809
1931	980,706	87,362	259,404	126,045	41,313	93,903	178,724	77,735	116,220
1932	1,255,154	191,070	244,581	95,326	52,113	151,648	188,428	143,323	188,665
Average, 1928-32	1,512,472	292,534	352,706	225,361	71,425	154,403	171,396	68,358	176,289
1933	2,158,010	504,387	380,325	203,827	124,204	178,597	4,863	460,958	300,789
1934	2,485,026	1,067,403	305,695	170,332	108,523	127,829	2,593	414,520	288,131
1935	3,196,804	1,467,382	437,721	144,761	174,293	76,916	2,714	416,310	476,707
1936	2,971,789	1,170,265	521,554	83,993	75,196	33,280	12,711	426,402	648,388
Average, 1933-36	2,702,907	1,052,360	411,324	150,743	120,554	104,155	5,720	429,547	428,504
Value (1,000 yen)									
1928	149,383	39,386	16,485	29,792	7,794	32,664	8,837	1,463	12,962
1929	159,772	39,930	21,919	36,213	9,647	24,246	6,983	2,704	18,080
1930	93,608	29,068	11,165	18,576	3,901	12,871	6,329	1,482	10,216
1931	48,027	8,545	6,299	9,956	2,143	7,939	5,362	2,357	5,426
1932	65,075	11,681	6,466	11,713	3,021	13,387	5,025	4,257	9,525
Average, 1928-32	103,163	25,722	12,467	21,250	5,301	18,221	6,507	2,453	11,242
1933	136,641	27,653	14,679	24,962	10,446	17,527	599	18,330	22,405
1934	171,563	67,914	15,059	23,615	11,952	11,608	548	19,230	24,637
1935	207,166	68,991	17,288	18,809	17,139	11,743	480	21,107	31,309
1936	192,040	72,096	22,143	12,120	7,460	7,320	1,021	25,295	38,585
Average, 1933-36	176,252	65,673	16,617	19,876	11,749	12,050	662	20,991	29,234

^{1/} Includes Ceylon prior to 1934 and Burma prior to 1938.

Iron, except ores and manufactures—Total—: Exports (domestic produce) from Japan, by principal markets, 1928-36 ^{1/}

Year	All countries	Principal countries					All other countries
		Kwantung	China	Netherlands Indies	British India ^{2/}	Manchuria (Manchukuo)	
Quantity (metric tons)							
1928	37,849	19,881	11,999	^{3/}	9	1,899	4,061
1929	38,494	17,704	15,436	^{3/}	16	1,131	4,207
1930	72,812	45,941	16,943	^{3/}	68	1,257	8,603
1931	73,830	23,688	25,822	^{3/}	114	844	23,362
1932	115,613	76,819	20,957	^{3/}	1,898	875	15,064
Average, 1928-32	67,719	36,807	18,231	^{3/}	421	1,201	11,059
1933	230,517	176,498	23,726		5,512	4,525	20,256
1934	350,301	257,316	41,342	9,672	7,232	13,960	20,779
1935	432,462	256,949	60,163	21,480	16,264	18,615	58,991
1936	500,956	180,132	114,202	36,179	26,282	19,979	124,182
Average, 1933-36	378,559	217,724	59,858	^{4/} 22,444	13,822	14,270	56,052
Value (1,000 yen)							
1928	4,847	2,663	1,031	^{3/}	6	173	974
1929	5,252	2,722	1,387	^{3/}	6	136	1,001
1930	9,059	5,695	1,588	^{3/}	15	169	1,592
1931	7,410	2,606	2,156	^{3/}	22	129	2,497
1932	12,278	8,415	1,677	^{3/}	252	106	1,828
Average, 1928-32	7,769	4,420	1,568	^{3/}	60	143	1,578
1933	34,666	27,555	2,618	^{3/}	819	651	3,023
1934	53,029	38,853	4,957	1,653	1,378	1,842	4,346
1935	65,836	36,747	7,498	3,626	3,126	2,562	12,277
1936	76,420	26,023	13,870	5,625	4,445	3,320	23,137
Average, 1933-36	57,488	32,294	7,236	^{4/} 3,635	2,442	2,094	10,696

- ^{1/} Included in "All other metals" after 1936.
^{2/} Includes Ceylon prior to 1934, and Burma prior to 1938.
^{3/} Not separately reported.
^{4/} Average, 1934-36.

IRON ORE

Iron ore is the basic material for the manufacture of iron and steel and is converted into pig iron in blast furnaces. Relatively small quantities are also used in steel-making furnaces to oxidize the impurities contained in pig iron, scrap and other materials charged.

The iron ore deposits of Japan proper are decidedly deficient in quantity and quality, and the iron and steel industry has long been heavily dependent on imports. British Malaya, China, Korea, and Australia were the principal sources, with the Philippines becoming increasingly important since 1934.

Iron Ores: General imports into Japan, by principal sources other than Korea, 1928-36

Year	All countries	Principal countries					All other countries	
		British Malaya	China	Australia	Philippine Islands	Straits Settlements (Manchukuo)		
Quantity (metric tons)								
1928	4,617,000	1/	864,275	-	-	738,480	13,585	660
1929	1,944,780	1/	935,508	35,580	-	958,620	14,772	300
1930	1,973,640	1/	781,216	171,180	-	997,920	9,344	17,980
1931	1,549,920	1/	593,539	13,140	-	721,600	41	21,600
1932	1,682,420	1/	557,100	21,000	-	877,860	6,120	20,140
Average, 1928-32	1,713,552	2/	746,328	48,180	-	898,896	8,772	11,376
1933	1,523,626	1/	573,467	20,827	-	927,231	206	1,295
1934	2,131,916	1/	825,461	81,594	7,355	873,395	3,307	340,804
1935	3,404,098	1,470,777	1,261,785	356,225	290,927	3,504	58	20,822
1936	3,780,110	1,690,045	1,251,908	214,612	570,217	1,287	66	51,875
Average, 1933-36	2,709,937	2,450,411	978,155	168,314	217,125	451,380	909	103,849
Value (1,000 yen)								
1928	16,173	1/	7,866	-	-	8,139	135	33
1929	19,333	1/	8,436	371	-	10,396	114	16
1930	18,955	1/	6,637	1,655	-	10,401	86	176
1931	12,780	1/	4,191	128	-	8,274	4/	187
1932	11,878	1/	3,726	170	-	7,638	44	300
Average, 1928-32	15,824	2/	6,171	455	-	8,970	76	142
1933	12,840	1/	3,966	211	-	8,573	4	86
1934	19,421	1/	6,390	1,107	78	8,506	35	3,305
1935	34,547	14,971	10,917	5,218	2,906	53	1	481
1936	40,043	18,115	11,607	3,012	6,037	17	1	1,254
Average, 1933-36	26,713	2,16,543	8,220	2,387	2,255	4,287	10	1,282

- 1/ Not separately reported.
 2/ Not available.
 3/ Average, 1935-36.
 4/ Less than 500 yen.

Note.- Imports from Kwantung did not exceed 60 metric tons and were not valued over 1,000 yen in any year during this period.

Iron ore: Exports from Korea to Japan, 1928-39

Year	Quantity		Value
	Metric tons		1,000 yen
1928	225,389		1,545
1929	314,134		1,676
1930	287,727		1,474
1931	176,585		1,198
1932	151,604		1,082
Average, 1928-32	231,088		1,395
1933	255,321		1,908
1934	180,551		986
1935	242,197		1,229
1936	242,737		1,104
1937	442,358		2,140
Average, 1933-37	272,633		1,473
1938	367,151		2,562
1939	401,131		3,035

PIG IRON

Pig iron is the product of the blast furnace and the principal raw material for making steel ingots and other ferrous products. The great bulk of it is used in steel-making furnaces (chiefly open-hearth), and a smaller proportion is used in making iron castings.

Japan has been heavily dependent on imports. British India, Manchuria, and Korea have been the principal sources, and in 1935-36 the Soviet Union became an important supplier. Because of the world shortage of iron and steel in 1937, the United States, ordinarily an unimportant factor in the trade, became the principal source of Japan's imports. United States exports to Japan in that year amounted to about 416,000 metric tons.

Pig iron: General imports into Japan, by principal sources other than Korea, 1928-36

Year	All countries	Principal countries					All other countries
		British India ^{1/}	Soviet Union	Asiatic Soviet Union	Kwantung	Manchuria (Manchukuo)	
Quantity (metric tons)							
1928	569,215	310,490	2/	-	182,394	30,748	45,583
1929	654,055	411,477	-	-	140,419	54,731	47,428
1930	405,829	214,375	-	-	143,920	35,255	12,279
1931	399,448	150,491	-	-	164,412	77,735	6,810
1932	444,424	117,862	-	-	181,834	140,642	4,086
Average, 1928-32	494,594	240,939	2/	-	162,596	67,822	23,237
1933	640,851	172,060	-	-	1,380	453,999	13,412
1934	614,398	202,154	2/	-	453	408,974	2,817
1935	961,914	338,332	206,581	8,484	240	382,728	25,549
1936	971,968	375,323	173,139	149,180	-	271,225	3,101
Average, 1933-36	797,283	271,967	97,930	39,416	518	379,232	11,220
Value (1,000 yen)							
1928	25,254	12,929	3/	-	8,545	1,463	2,317
1929	28,435	16,949	-	-	6,515	2,704	2,267
1930	15,845	7,666	-	-	5,928	1,482	769
1931	11,229	3,626	-	-	4,924	2,357	322
1932	12,173	3,027	-	-	4,706	4,175	265
Average, 1928-32	18,587	8,839	3/	-	6,124	2,436	1,188
1933	25,252	5,803	-	-	61	18,101	1,287
1934	26,528	7,292	3/	-	20	18,961	255
1935	41,180	12,728	7,975	339	13	18,812	1,313
1936	42,064	14,570	6,664	5,864	-	14,659	307
Average, 1933-36	33,756	10,098	3,660	1,551	24	17,633	790

^{1/} Includes Ceylon prior to 1934 and Burma prior to 1938.

^{2/} Less than 1 metric ton.

^{3/} Less than 500 yen.

Pig iron: Exports from Korea to Japan, 1928-36

Year	Quantity	Value
	Metric tons	1,000 yen
1928	139,832	6,998
1929	137,598	6,947
1930	109,432	5,404
1931	95,127	3,027
1932	205,955	6,179
Average, 1928-32	137,589	5,711
1933	160,429	5,086
1934	164,185	7,325
1935	130,627	7,276
1936	122,910	6,738
Average, 1933-36	144,538	6,606



IRON AND STEEL SCRAP

Next to pig iron, iron and steel scrap is the most important raw material in steel making. In Japan the iron and steel industry probably generates somewhat less than one-half of its requirements of scrap in its own operations. The remainder is derived from outside sources, either foreign or domestic.

Japan became increasingly dependent upon imports beginning about 1933 and the United States was the principal source, followed by British India.

Waste or old iron: General imports into Japan, by principal sources, 1928-36

Year	All countries	Principal countries							All other countries
		United States	British India ^{1/}	Netherlands Indies	Australia	Great Britain	Kwantung	Manchuria (Manchukuo)	
Quantity (metric tons)									
1928	367,207	170,662	95,096	20,483	9,239	14,366	4,525	2/	52,836
1929	496,456	216,141	129,197	32,145	13,380	20,746	6,275	2/	78,572
1930	488,921	249,153	95,994	25,218	2,707	31,562	9,287	2/	75,000
1931	295,600	33,734	108,816	25,139	1,760	47,401	13,793	2/	64,957
1932	559,080	154,798	113,272	18,614	28,594	98,040	6,339	2,675	136,748
Average, 1928-32	441,453	164,898	108,475	24,320	11,136	42,423	8,044	3/	81,623
1933	1,012,961	454,520	194,683	27,641	35,140	124,392	2,986	6,878	166,721
1934	1,412,988	960,031	100,400	34,190	48,269	95,645	1,808	5,180	167,465
1935	1,692,148	1,326,171	96,771	47,199	48,638	40,417	2,120	4,101	126,731
1936	1,497,043	1,027,682	139,484	63,463	56,865	5,757	11,148	19,962	172,683
Average, 1933-36	1,403,785	942,101	132,834	43,123	47,228	66,553	4,516	9,030	158,400
Value (1,000 yen)									
1928	13,386	6,322	3,502	688	326	506	135	2/	1,907
1929	18,345	8,282	4,840	1,086	473	680	216	2/	2,768
1930	17,310	9,276	3,497	812	87	872	279	2/	2,487
1931	7,321	824	2,671	532	35	1,290	369	2/	1,600
1932	16,304	4,673	2,857	455	693	3,390	165	81	3,990
Average, 1928-32	14,533	5,875	3,473	715	323	1,348	233	3/	2,550
1933	38,645	16,673	7,923	1,045	1,411	4,447	98	226	6,822
1934	65,730	45,564	4,546	1,523	2,223	3,876	64	229	7,705
1935	84,231	65,183	4,667	2,230	2,511	2,499	88	218	6,835
1936	80,866	56,305	7,136	3,216	3,013	396	493	922	9,385
Average, 1933-36	67,368	45,931	6,068	2,004	2,290	2,804	186	399	7,686

^{1/} Includes Ceylon prior to 1934, and Burma prior to 1938.

^{2/} Not separately reported.

^{3/} Not available.



IRON AND STEEL PRODUCTS, SEMIFINISHED AND FINISHED
(EXCLUDING MANUFACTURES)

Although the production of semifinished and finished iron and steel products in Japan proper, increased substantially between 1928 and 1936, the country was still heavily dependent upon imports. Japan did not produce all the various kinds of products in the tonnages required either for peace or war. Preparation for war increased the requirements for ferrous materials and products of most kinds, especially those needed in the shipbuilding, aircraft, and related industries. The production of steel ingots averaged 2,138 thousand metric tons from 1928 to 1932, and 4,184 thousand from 1933 to 1936; production of finished steel products during those periods was 1,781 and 3,358 thousand metric tons respectively. The percentage yield from the ingot varied between 80-83 percent as compared to about 70 percent in the United States, indicating that a greater part of the output in Japan consisted of heavy products where less scrap is generated, and also possibly indicating poorer metallurgical practice.

During the period covered, more than 95 percent of the steel was produced by the open-hearth process, and practically all of the remainder by the electric process.

Sheet bars, including tin-plate bars: General imports into Japan,
by principal sources, 1928-36

Year	All countries	Principal countries					All other countries
		Germany	Belgo-Luxemburg	United States	France	Manchuria (Manchukuo)	
Quantity (metric tons)							
1928	73,401	19,982	32,288	-	13,487	1/	7,644
1929	131,227	28,387	42,677	30,883	11,347	1/	18,135
1930	62,340	21,954	2,891	11,436	16,433	1/	9,626
1931	23,719	21,080	2,324	-	315	1/	2/
1932	12,314	7,439	203	-	-	-	4,672
Average, 1928-32	60,601	19,770	16,076	8,464	8,276	2/	8,015
1933	65,036	23,855	3,927	-	25,916	-	11,328
1934	61,393	37,098	8,792	606	9,086	-	5,901
1935	163,095	54,055	43,043	33,631	5,234	20,481	6,642
1936	134,510	25,411	10,894	6,371	4,674	81,657	5,503
Average, 1933-36	106,009	35,088	16,664	10,152	11,227	25,535	7,343
Value (1,000 yen)							
1928	5,750	1,466	2,801	-	961	1/	522
1929	10,108	2,238	3,423	2,280	790	1/	1,377
1930	3,955	1,415	194	770	962	1/	614
1931	1,077	969	96	-	11	1/	1
1932	629	349	13	-	-	-	267
Average, 1928-32	4,304	1,287	1,305	610	545	2/	557
1933	4,534	1,662	301	-	1,744	-	827
1934	5,019	3,046	714	41	741	-	477
1935	13,052	4,419	3,463	2,760	425	1,452	533
1936	10,058	2,024	829	531	361	5,959	364
Average, 1933-36	8,168	2,788	1,327	833	818	1,853	549

1/ Not separately reported.

2/ Less than 1 metric ton.

3/ Not available.

Tinned iron sheets and tinned steel sheets: General imports into Japan, by principal sources, 1928-36

Year	All countries	Principal countries			All other countries
		United States	Great Britain	Germany	
Quantity (metric tons)					
1928	72,115	51,265	20,646	107	97
1929	81,564	52,117	28,526	93	828
1930	68,843	47,837	19,200	95	1,711
1931	47,749	20,409	18,597	7,739	1,004
1932	63,469	12,829	31,309	18,864	467
Average, 1928-32	66,748	36,891	23,656	5,380	821
1933	79,912	24,987	27,362	22,620	4,943
1934	88,082	51,353	7,950	21,466	7,312
1935	53,827	42,339	9,087	1,613	788
1936	51,168	45,222	5,421	364	161
Average, 1933-36	68,247	40,975	12,455	11,516	3,300
Value (1,000 yen)					
1928	16,779	11,983	4,738	33	25
1929	19,921	13,244	6,441	36	200
1930	15,560	10,995	4,130	29	406
1931	8,490	3,912	3,171	1,207	200
1932	13,310	2,822	6,472	3,901	115
Average, 1928-32	14,812	8,591	4,990	1,041	190
1933	22,915	6,923	8,149	6,388	1,455
1934	25,698	14,667	2,659	6,176	2,196
1935	16,483	12,605	3,149	528	201
1936	14,238	12,259	1,861	79	39
Average, 1933-36	19,834	11,614	3,955	3,293	972

Note.- The only imports reported from Manchuria during this period were about 2 metric tons in 1935 and 3 in 1936.

Iron bands and hoops: General imports into Japan, by principal sources, 1928-36

Year	All countries	Principal countries				All other countries
		Belgium-Luxemburg	Germany	Great Britain	Manchuria (Manchukuo)	
Quantity (metric tons)						
1928	30,232	4,330	20,728	1,763	1/	3,411
1929	53,505	10,604	35,707	1,998	1/	5,196
1930	45,006	22,661	13,303	3,045	1/	5,997
1931	40,038	19,021	10,759	1,798	1/	8,460
1932	47,652	25,347	8,782	2,339	4	11,180
Average, 1928-32	43,287	16,393	17,856	2,189	2/	6,849
1933	83,707	55,836	12,707	2,007	-	13,157
1934	76,600	52,935	11,064	2,585	29	9,987
1935	54,416	42,937	5,651	1,447	-	4,381
1936	31,946	26,065	2,570	1,452	29	1,830
Average, 1933-36	61,667	44,442	7,998	1,873	15	7,339
Value (1,000 yen)						
1928	2,486	376	1,644	160	1/	306
1929	4,881	973	3,198	220	1/	490
1930	3,451	1,625	1,088	259	1/	479
1931	2,410	1,143	673	135	1/	459
1932	3,607	1,818	722	212	3/	855
Average, 1928-32	3,367	1,187	1,465	197	2/	518
1933	8,275	5,077	1,450	351	-	1,397
1934	9,870	6,507	1,511	457	2	1,393
1935	7,029	5,361	806	264	-	598
1936	3,783	2,855	339	316	2	271
Average, 1933-36	7,239	4,950	1,026	347	1	915

1/ Not separately reported.

2/ Not available.

3/ Less than 500 yen.

Special steel (A): General imports into Japan, by principal sources, 1928-36

Year	All countries	Principal countries				All other countries
		Austria	Germany	Sweden	Great Britain	
Quantity (metric tons)						
1928	1,493	615	133	126	281	338
1929	1,601	632	88	149	205	527
1930	1,998	944	111	167	367	409
1931	1,578	669	251	173	150	335
1932	2,775	1,452	223	347	315	438
Average, 1928-32	1,889	863	161	192	264	409
1933	6,770	2,860	868	1,709	543	790
1934	6,859	2,579	805	1,890	496	1,089
1935	9,745	3,839	1,876	2,134	510	1,386
1936	9,364	3,553	1,264	2,131	380	2,036
Average, 1933-36	8,184	3,208	1,203	1,966	482	1,325
Value (1,000 yen)						
1928	970	229	106	85	288	262
1929	981	212	89	75	263	342
1930	1,024	366	54	83	304	217
1931	732	225	121	53	158	175
1932	1,801	531	267	219	442	342
Average, 1928-32	1,102	313	127	103	291	268
1933	4,744	1,361	574	996	907	906
1934	6,225	2,010	680	1,315	1,079	1,141
1935	8,287	2,590	2,005	1,301	1,284	1,107
1936	7,135	2,312	1,437	1,261	1,054	1,071
Average, 1933-36	6,598	2,068	1,174	1,218	1,081	1,057

Note.- Special steel (A) consists of ingots, billets, slabs, rods, plates, and sheets which contain not less than 0.5 percent by weight of nickel, chromium, etc., or containing not less than 1 percent by weight of silicon or manganese.

The only reported imports from Manchuria, in 1935 and 1936, did not amount to as much as 1 metric ton in either year.

Iron bars and rods: Exports (domestic produce) from Japan, by principal markets, except Korea and Formosa, 1928-36 ^{1/}

Year	All countries	Principal countries				All other countries
		Kwantung	China	Siam	Manchuria (Manchukuo)	
Quantity (metric tons)						
1928	7,473	5,565	^{2/} 978	-	^{3/}	930
1929	7,382	5,621	^{2/} 1,522	^{4/}	^{3/}	239
1930	10,440	5,993	^{2/} 2,988	-	^{3/}	1,459
1931	23,290	10,479	^{2/} 6,534	1,041	^{3/}	5,236
1932	20,107	16,221	2,459	358	48	1,021
Average, 1928-32	13,739	8,775	2,897	280	^{5/}	1,777
1933	45,130	36,064	4,752	1,308	161	2,845
1934	108,234	90,325	8,576	1,564	3,547	4,222
1935	108,031	79,097	11,833	5,415	2,456	9,230
1936	121,912	69,578	32,871	7,349	1,381	10,733
Average, 1933-36	95,827	68,767	14,508	3,909	1,886	6,757
Value (1,000 yen)						
1928	1,111	801	^{2/} 170	-	^{3/}	140
1929	991	751	^{2/} 197	^{6/}	^{3/}	43
1930	1,167	670	^{2/} 324	-	^{3/}	173
1931	1,788	807	^{2/} 521	56	^{3/}	404
1932	1,681	1,318	223	26	5	109
Average, 1928-32	1,348	869	287	16	^{5/}	174
1933	4,669	3,780	450	105	27	307
1934	11,505	9,650	847	140	386	482
1935	11,646	8,728	1,159	518	284	957
1936	13,129	8,105	3,184	656	202	982
Average, 1933-36	10,237	7,566	1,410	355	225	682

^{1/} Included in "All other metals" after 1936.

^{2/} Includes Manchuria.

^{3/} Not separately reported.

^{4/} Less than 1 metric ton.

^{5/} Not available.

^{6/} Less than 500 yen.

Iron plates and sheets: Exports (domestic produce) from Japan, by principal markets, except Korea and Formosa, 1928-36 ^{1/}

Year	All countries	Principal countries						All other countries
		Kwantung	China	Netherlands Indies	Siam	Straits Settlements	Manchuria (Manchukuo)	
Quantity (metric tons)								
1928	7,318	4,221	^{2/} 1,216	5	347	64	^{3/}	1,465
1929	7,785	2,847	^{2/} 1,918	624	1,037	51	^{3/}	1,308
1930	9,070	3,003	^{2/} 2,936	1,060	925	41	^{3/}	1,105
1931	16,528	6,905	^{2/} 5,644	1,727	955	129	^{3/}	1,168
1932	12,888	7,172	2,207	2,385	574	37	186	327
Average, 1928-32	10,718	4,830	2,784	1,160	768	64	^{4/}	1,075
1933	18,166	7,102	3,037	3,302	799	248	474	1,204
1934	32,372	16,930	4,464	3,541	2,644	1,330	2,262	1,201
1935	84,232	22,833	12,915	11,583	11,037	4,224	5,912	15,728
1936	187,373	37,989	40,123	24,369	17,844	14,357	12,025	40,666
Average, 1933-36	80,536	21,714	15,135	10,698	8,081	5,040	5,168	14,700
Value (1,000 yen)								
1928	1,178	562	^{2/} 225	1	76	17	^{3/}	297
1929	1,504	405	^{2/} 386	130	220	15	^{3/}	348
1930	1,376	392	^{2/} 449	188	162	8	^{3/}	177
1931	2,024	683	^{2/} 722	289	148	21	^{3/}	161
1932	1,718	781	319	408	102	11	31	66
Average, 1928-32	1,560	565	420	203	142	14	^{4/}	210
1933	3,257	1,574	526	627	149	50	89	242
1934	6,299	3,064	942	718	617	266	441	251
1935	17,220	4,564	2,418	2,372	2,564	968	1,021	3,313
1936	33,839	6,922	6,149	4,216	3,282	3,137	1,940	8,193
Average, 1933-36	15,154	4,031	2,509	1,983	1,653	1,105	873	3,000

^{1/} Included in "All other metals" after 1936. ^{2/} Includes Manchuria. ^{3/} Not separately reported. ^{4/} Not available.

Note.- Exports of galvanized plates and sheets, included in this table, were reported separately in 1935 and 1936; the totals to all countries amounted to 50,238 and 99,290 metric tons, respectively, valued at 10,517 and 17,531 thousand yen.

Iron rails (including fish-plates): Exports (domestic produce) from Japan,
by principal markets, except Korea, 1934-36 ^{1/}

Year	All countries	Principal countries				All other countries
		Kwantung	Siam	China	Manchuria (Manchukuo)	
Quantity (metric tons)						
1934	95,401	94,721	30	105	304	241
1935	100,200	99,155	-	375	177	483
1936	30,010	19,113	6,422	3,156	359	950
Value (1,000 yen)						
1934	16,192	16,100	3	16	42	31
1935	13,526	13,398	-	43	24	61
1936	3,457	2,315	656	368	37	91

^{1/} Included in "All other metals" after 1936.

Iron pipes and tubes, other than elbows and joints: Exports (domestic produce) from
Japan, by principal markets, 1928-36 ^{1/}

Year	All countries	Principal countries				All other countries
		Kwantung	Asiatic Russia	China	Manchuria (Manchukuo)	
Quantity (metric tons)						
1928	3,192	2,360	451	^{2/} 318	^{3/}	53
1929	3,401	3,091	199	^{2/} 386	^{3/}	15
1930	6,149	3,153	1,199	^{2/} 861	^{3/}	936
1931	18,558	3,356	341	^{2/} 2,969	^{3/}	11,892
1932	15,033	6,923	614	823	70	6,723
Average, 1928-32	9,327	3,757	561	1,071	^{4/}	3,924
1933	29,455	16,549	410	2,916	2,721	6,849
1934	44,407	32,319	325	3,335	6,058	2,320
1935	37,296	26,844	1,636	2,810	2,935	3,071
1936	29,991	21,317	1,401	2,109	1,658	3,506
Average, 1933-36	35,290	24,254	943	2,305	3,342	3,936
Value (1,000 yen)						
1928	792	517	155	^{2/} 83	^{3/}	37
1929	805	650	57	^{2/} 91	^{3/}	7
1930	1,241	628	228	^{2/} 208	^{3/}	177
1931	2,124	559	69	^{2/} 353	^{3/}	1,143
1932	3,023	1,241	116	152	14	500
Average, 1928-32	1,397	719	125	177	^{4/}	373
1933	4,518	3,090	115	379	316	628
1934	7,497	5,329	93	596	704	275
1935	7,216	5,324	497	486	363	546
1936	5,491	3,929	456	366	295	445
Average, 1933-36	6,180	4,540	290	457	420	473

^{1/} Included in "All other metals" after 1936.

^{2/} Includes Manchuria.

^{3/} Not separately reported.

^{4/} Not available.

Iron-Total: Imports into Korea from Japan, 1928-36

Year	Quantity	Value
	Metric tons	1,000 yen
1928	88,012	15,066
1929	108,258	17,519
1930	98,631	15,344
1931	84,682	11,550
1932	106,216	14,286
Average, 1928-32	97,160	14,753
1933	129,999	20,149
1934	169,784	26,813
1935	254,041	39,562
1936	284,497	44,691
Average, 1933-36	209,580	32,804

Iron bars and rods: Imports into Korea from Japan, 1928-36

Year	Quantity	Value
	Metric tons	1,000 yen
1928	29,783	4,165
1929	35,998	5,020
1930	30,181	4,092
1931	26,201	2,707
1932	34,827	3,720
Average, 1928-32	31,398	3,941
1933	45,111	5,532
1934	60,219	7,545
1935	89,094	10,902
1936	95,370	11,544
Average, 1933-36	72,449	8,881

Iron rails: Imports into Korea from Japan, 1928-36

Year	Quantity	Value
	Metric tons	1,000 yen
1928	14,977	1,847
1929	31,558	4,029
1930	25,077	3,015
1931	21,142	2,703
1932	32,982	3,739
Average, 1928-32	25,147	3,067
1933	39,645	5,347
1934	50,268	6,835
1935	82,757	11,330
1936	80,138	10,513
Average, 1933-36	63,202	8,506

Iron plates: Imports into Korea, from Japan, 1928-36

Year	Quantity	Value
	Metric tons	1,000 yen
1928 -----	8,520	1,449
1929 -----	10,330	1,455
1930 -----	13,157	1,684
1931 -----	9,042	1,046
1932 -----	7,762	1,070
Average, 1928-32 -----	9,784	1,343
1933 -----	8,572	1,492
1934 -----	11,886	2,078
1935 -----	19,617	3,356
1936 -----	22,156	3,380
Average, 1933-36 -----	15,558	2,576

Iron plates, galvanized: Imports into Korea, from Japan, 1928-36

Year	Quantity	Value
	Metric tons	1,000 yen
1928 -----	11,309	3,217
1929 -----	11,888	3,324
1930 -----	12,220	3,117
1931 -----	11,702	2,435
1932 -----	11,588	2,415
Average, 1928-32 -----	11,741	2,902
1933 -----	13,628	2,952
1934 -----	16,595	3,969
1935 -----	23,559	5,461
1936 -----	32,112	6,915
Average, 1933-36 -----	21,474	4,824

Iron bars and rods: Imports into Formosa, from Japan, 1928-36

Year	Quantity	Value
	Metric tons	1,000 yen
1928 -----	18,331	2,228
1929 -----	19,878	2,404
1930 -----	18,722	1,929
1931 -----	16,502	1,394
1932 -----	20,327	1,862
Average, 1928-32 -----	18,748	1,963
1933 -----	18,306	2,416
1934 -----	21,011	2,876
1935 -----	33,369	4,134
1936 -----	37,914	4,615
Average, 1933-36 -----	27,658	3,510

Iron plates and sheets: Imports into Formosa from Japan, 1928-36

Year	Quantity	Value
	Metric tons	1,000 yen
1928	10,020	2,049
1929	11,268	2,264
1930	10,393	1,765
1931	10,089	1,575
1932	10,962	1,688
Average, 1928-32	10,546	1,868
1933	9,189	1,783
1934	9,438	1,774
1935	16,549	2,971
1936	21,208	3,420
Average, 1933-36	14,096	2,487

Iron manufactures: Imports into Formosa from Japan, 1928-36

Year	Value
	1,000 yen
1928	3,298
1929	2,955
1930	2,735
1931	2,383
1932	2,935
Average, 1928-32	2,861
1933	3,761
1934	4,318
1935	5,035
1936	6,528
Average, 1933-36	4,911

Materials (metal) for construction for buildings, bridges, vessels, docks, etc.: Imports into Formosa from Japan, 1928-38

Year	Quantity	Value
	Metric tons	1,000 yen
1928	6,171	1,699
1929	1,777	422
1930	2,761	633
1931	3,922	586
1932	9,812	1,332
Average, 1928-32	4,889	934
1933	6,804	1,299
1934	7,002	1,268
1935	4,821	914
1936	11,914	2,465
1937	6,183	1,840
Average, 1933-37	7,345	1,577
1938	6,672	2,220

ALL OTHER METALS

Prior to 1936 this statistical export class excluded ores, iron, aluminum, copper, lead, tinfolils, antimony and brass, and was of little importance; the average value of exports from 1928 to 1932 was only 450,000 yen and from 1933 to 1936 it was 2,486,000 yen.

Beginning with 1936 iron was added to the class, presumably for the purpose of concealing the nature of the wartime trade, and figures are available for that year with and without iron. Exports of iron were valued at 76,420,000 yen in 1936 whereas exports of "All other metals," including iron, were valued at 80,086,000 yen.

There is little doubt that most of the exports shown for the years 1936 to 1939 constituted iron, probably for the most part in the form of rails, bars and rods, plates and sheets, pipes and tubes, and wire, the predominating classes in 1935.

(See Iron and Steel and Special Industry Analysis on Iron and Steel)

All other metals: Exports (domestic produce), from Japan, by principal markets, 1936-39

Year	All countries	Principal countries							All other countries
		Kwantung	China	Netherland Indies	British India 2/	Straits Settlements	Great Britain	Manchuria (Manchukuo)	
Quantity (100 kin)									
1936	6,499,110	2,789,762	828,393	516,085	442,262	204,692	68,330	340,316	1,309,270
1937	6,225,032	4,620,241	429,267	256,043	252,994	4,641	4,683	370,422	286,741
1939	7,633,363								
Value (1,000 yen)									
1936	80,086	27,100	14,082	5,650	5,026	3,837	1,822	3,615	18,934
1937	95,221	41,982	10,340	7,505	6,952	3,095	967	6,378	18,002
1938	101,247	70,857	7,956	4,316	4,361	95	353	7,632	5,677
1939	121,623								

1/ Other than ores, aluminum, copper, lead, tinfolils, antimony, brass, and magnesium, but including iron.

2/ Includes Burma prior to 1938.

3/ Quantity not reported for 1936.



COPPER

Copper is a common red malleable metal; it is of primary importance to industry in war and peace as a conductor of electricity, as a corrosion resistant material in building construction, and as a major component of alloys essential to the manufacture of electrical machinery and equipment. The principal additional use in wartime is in the manufacture of ammunition.

Japan proper is capable of producing about 75,000 metric tons (1,250,000 piculs) of copper per year economically. This amount should be sufficient for anticipated peacetime requirements. During 1939 production within the Empire areas has been estimated to be about 8,000 tons (133,000 piculs) some of which was refined in Korea and the remainder shipped to Japan proper for refining and fabricating.

During the period 1928-32 imports into Japan averaged about 8,000 tons per year or 13 percent of the total copper available for domestic consumption. Imports from the colonies amounted to about 16 percent of the total and foreign producers supplied 84 percent. In the next 5 years, 1933-37, imports increased to 57,000 tons or 48 percent of the total consumed. The Empire Areas accounted for only 6 percent of total imports and foreign producers for 94 percent, mostly in the form of ingots and slabs.

Except for the depression years 1930-32 Japan has been on an import basis. Exports, largely in the form of manufactured goods, averaged about 13,000 tons or 10 percent of the available supply during the 5-year period 1933-37. Empire Areas absorbed 58 percent of the exports while the remaining 42 percent was shipped principally to far-eastern markets.

With a domestic production of 75,000 tons Japan may well be self-sufficient in copper. The industry has been greatly expanded during the war and any smelting capacity in excess of the 75,000 tons might be dismantled. Empire areas may have difficulty under such circumstances of disposing of their copper output. Strict supervision of imports of copper would contribute towards the effective control of Japan's industrial activity. (See Special Industry Analysis for Copper.)

Crude copper: Exports from Korea to Japan, 1928-39

Year	Quantity	Value
	100 kin	1,000 yen
1928	9,671	721
1929	16,971	1,209
1930	16,631	1,278
1931	14,306	1,717
1932	14,279	2,516
Average, 1928-32	14,372	1,488
1933	17,024	5,732
1934	26,461	11,042
1935	28,591	21,608
1936	36,232	20,499
1937	46,399	25,220
Average, 1933-37	30,941	16,820
1938	68,436	26,526
1939	117,611	51,697

Copper ingots and slabs: General imports into Japan, by principal sources, 1928-36

Year	All countries	Principal countries		All other countries
		United States	Manchuria (Manchukuo)	
Quantity (100 kin)				
1928	244,405	208,550	1/	35,755
1929	82,298	48,773	1/	33,525
1930	19,590	10,325	1/	9,365
1931	2,580	2,113	1/	467
1932	4,931	4,234	-	697
Average, 1928-32	70,781	54,819	2/	15,962
1933	222,119	214,964	1,653	5,502
1934	783,166	782,176	381	609
1935	1,087,579	1,070,785	3,008	13,886
1936	796,571	771,103	9,795	15,673
Average, 1933-36	722,384	709,757	3,709	8,918
Value (1,000 yen)				
1928	9,957	8,785	1/	1,172
1929	3,573	2,456	1/	1,117
1930	619	296	1/	323
1931	78	67	1/	11
1932	142	123	-	19
Average, 1928-32	2,874	2,345	2/	528
1933	7,476	7,238	52	186
1934	26,171	26,138	12	21
1935	36,444	35,850	103	491
1936	32,873	31,930	331	612
Average, 1933-36	25,741	25,289	124	328

1/ Not separately reported.

Copper wire: Exports (domestic produce) from Japan, by principal markets, 1928-39

Year	All countries	Principal countries					All other countries
		Kwantung	British India ^{1/}	China	Asiatic Russia	Manchuria (Manchukuo)	
Quantity (100 kin)							
1928	33,261	20,366	1,972	^{2/} 7,225	60	^{3/}	3,638
1929	39,019	16,984	5,771	^{2/} 7,694	222	^{3/}	8,348
1930	44,516	15,324	4,365	^{2/} 9,085	599	^{3/}	15,143
1931	20,991	11,637	1,546	^{2/} 4,196	99	^{3/}	3,513
1932	48,186	28,174	15,560	1,959	11	382	2,100
Average, 1928-32	37,195	18,497	5,843	6,032	198	^{4/}	6,548
1933	101,184	78,793	15,671	4,704	28	933	1,055
1934	110,664	66,050	27,220	13,322	82	1,293	2,697
1935	214,562	84,795	44,526	34,193	28,783	406	21,859
1936	134,104	33,506	54,749	34,550	1,446	978	8,875
1937	148,104	89,610	27,175	21,372	4,667	3,165	2,115
Average, 1933-37	141,724	70,551	33,868	21,628	7,001	1,355	7,320
1938	79,930	72,340	4,209	2,138	-	904	339
1939	101,826						
Value (1,000 yen)							
1928	1,598	970	94	^{2/} 354	4	^{3/}	176
1929	2,178	1,010	284	^{2/} 416	15	^{3/}	453
1930	2,081	780	185	^{2/} 413	26	^{3/}	677
1931	680	376	49	^{2/} 136	3	^{3/}	116
1932	1,776	1,077	543	70	^{5/} 3	12	74
Average, 1928-32	1,663	843	231	278	10	^{4/}	299
1933	4,653	3,679	681	198	2	46	47
1934	4,609	2,883	1,071	509	5	32	109
1935	8,872	3,500	1,763	1,413	1,255	21	920
1936	6,205	1,665	2,458	1,565	76	47	394
1937	10,158	6,463	1,777	1,308	240	221	149
Average, 1933-37	6,899	3,638	1,550	999	316	73	323
1938	4,821	4,243	244	187	-	125	22
1939	6,784						

^{1/} Includes Ceylon prior to 1934, and Burma prior to 1938.

^{2/} Includes Manchuria.

^{3/} Not separately reported.

^{4/} Not available.

^{5/} Less than 500.



BRASS

Brass is primarily an alloy of copper and zinc, although some brasses contain other elements. Its major uses are in the manufacture of electrical fittings, hardware, automobile and machine parts, plumbing and steam fittings and numerous consumer articles. During wartime brass is used extensively in the manufacture of ammunition and essential component parts of innumerable products essential to modern warfare.

Japan was the leading copper smelting, refining and fabricating nation in the Far East, with large facilities for the production of brass. No data are available on the Japanese capacity to produce brass but it is known to be great. Crude copper in its various forms is shipped to Japan from the Empire Areas where it is smelted, refined and fabricated. A certain portion is manufactured into brass and exported to far-eastern markets (which do not have facilities for its production) where it is fabricated into consumer goods.

Brass as such is not imported from the Empire Areas and dismemberment of the Empire would have no effect on the Japanese industry. Exports from Japan to Empire Areas have been less than 10 percent of the total brass shipped abroad and are not large enough to effect Japanese economy. Former customers of the Japanese copper industry should have no difficulty in purchasing their requirements in the world market. (See also Copper.)

Brass total: Exports (domestic produce), from Japan, by principal countries, including Manchuria and Kwantung, 1928-39

Year	All countries	Principal countries					All other countries
		Hong Kong	China	British India	Kwantung	Manchuria (Manchukuo)	
Quantity (100 kin)							
1928	124,601	10,175	29,541	62,160	7,975	14,123	627
1929	106,565	13,288	29,201	55,364	5,826	1,655	1,231
1930	107,681	23,190	29,775	46,695	4,908	735	2,378
1931	105,191	29,576	28,469	42,402	3,393	90	1,261
1932	125,962	1,655	13,436	104,279	4,183	182	2,227
Average, 1928-32	114,000	15,577	26,084	62,180	5,257	3,357	1,545
1933	140,199	3,763	24,250	101,565	5,729	1,712	3,180
1934	206,274	25,160	29,855	134,229	8,149	2,530	6,351
1935	217,441	21,709	34,104	140,919	10,639	2,526	7,544
1936	165,311	34,769	40,392	72,394	8,394	2,180	7,182
1937	96,989	30,475	25,517	25,296	9,320	2,144	4,237
Average, 1933-37	165,243	23,175	30,824	94,881	8,446	2,218	5,699
1938	18,741	-	1,131	2,539	10,632	4,294	145
1939	11,822	-	1,759	5,086	3,426	990	561
Value (1,000 yen)							
1928	5,577	451	1,332	2,684	382	698	30
1929	5,003	642	1,384	2,516	312	85	64
1930	4,284	934	1,147	1,859	227	32	85
1931	3,064	829	916	1,151	130	3	35
1932	3,740	49	474	2,990	143	8	76
Average, 1928-32	4,334	581	1,051	2,240	239	165	58
1933	5,498	151	974	3,885	271	73	144
1934	7,817	1,015	1,157	4,919	345	113	268
1935	8,503	870	1,292	5,505	432	109	295
1936	6,679	1,468	1,511	2,926	349	107	318
1937	5,879	1,901	1,513	1,365	666	164	290
Average, 1933-37	6,879	1,081	1,289	3,720	413	113	263
1938	1,817	-	83	142	1,223	346	18
1939	1,079	-	159	302	439	150	39

LEAD

Lead is a heavy, soft metal with a wide range of common uses. The principal ones do not vary greatly in peacetime and wartime. In 1937 total lead consumption in Japan was distributed roughly as follows: Lead pipe, lead-lined pipe, and lead covered cables, 35 percent; pigments, including white and red lead, 25 percent; sheet lead, 15 percent; solder, 10 percent; miscellaneous uses, including storage battery plates, 15 percent. Its high resistance to corrosion accents its importance in the manufacture of conduit pipes and coverings for cables.

There are no satisfactory substitutes for lead except zinc in greater demand and higher in price; on the other hand lead may be substituted for zinc in certain civilian requirements such as catalyzed coating for steel.

Production of lead in Japan tripled between 1928 and 1938 and was estimated to be about 12,000 metric tons in the latter year. Greater production, however, has supplied not more than 10 percent of Japan's consumption.

In 1935-39 imports of lead ranked third in value among the various metals imported into Japan from foreign sources, exceeded only by iron and copper. The imports from foreign sources were almost wholly in the form of ingots and plates.

Korea supplied, in the form of crude lead, a very large part of the imports from Empire areas. In 1939 about percent of imports from all sources was from Korea.

Exports of lead in the form of manufactures such as plates, sheets and tubes are comparatively small. During period 1933-36 exports of lead averaged 5,000 metric tons annually of which 4,800 metric tons was sent to Empire area.

Peacetime consumption of lead in Japan proper will probably be about 60,000 metric tons (960,000 piculs) per year. Assuming that domestic production approximates 5,000 tons and that the supplies from Korea are cut off, annual imports from foreign countries amounting to about 55,000 tons will likely be necessary to meet the requirements.

(See Special Industry Analysis on Lead.)

Lead, ingots and slabs: General imports into Japan, by principal sources other than Korea, 1928-36

Year	All countries	Principal countries							All other countries
		Canada	Mexico	British India	United States	Australia	Kwantung	Manchuria (Manchukuo)	
Quantity (100 kin)									
1928	1,035,642	487,967	-	41,402	436,559	61,277	-	2/	8,4
1929	1,009,192	535,519	-	68,241	310,580	92,039	39	2/	2,7
1930	933,030	408,022	-	110,363	354,946	56,750	90	2/	2,8
1931	893,125	430,634	-	146,732	281,641	27,586	-	2/	6,5
1932	922,333	384,409	17,526	183,282	304,635	31,499	20	-	3
Average, 1928-32	958,664	449,310	3,505	110,004	337,672	53,830	30	2/	4,1
1933	1,109,973	530,290	-	179,367	368,644	23,838	-	1,577	6,2
1934	1,576,119	663,376	-	266,124	591,043	52,364	533	2	2,6
1935	1,503,442	525,069	214,573	339,453	390,091	32,380	-	267	1,6
1936	1,538,533	724,593	484,045	217,447	156,784	12,648	902	-	2,1
Average, 1933-36	1,447,017	610,832	174,654	250,598	376,640	30,308	359	462	3,2
Value (1,000 yen)									
1928	14,721	7,105	-	545	6,107	843	-	2/	1
1929	15,063	8,179	-	1,025	4,474	1,342	4/	2/	1
1930	11,116	5,049	-	1,279	4,112	636	4/	2/	1
1931	8,127	4,240	-	1,131	2,511	195	-	2/	1
1932	9,972	4,298	199	1,866	3,275	322	4/	-	1
Average, 1928-32	11,800	5,774	40	1,169	4,096	668	4/	2/	1
1933	11,902	5,542	-	2,012	4,012	250	-	14	1
1934	17,903	7,406	-	3,049	6,823	580	6	4/	1
1935	20,292	6,929	3,426	4,635	4,815	461	-	4	1
1936	26,873	11,779	8,415	3,765	2,642	219	14	-	1
Average, 1933-36	19,242	7,914	2,960	3,365	4,573	378	5	4	1

1/ Includes Ceylon prior to 1934, and Burma prior to 1938.

2/ Not separately reported.

3/ Not available.

4/ Less than 500 yen.

Crude lead: Exports from Korea to Japan, 1928-39

Year	Quantity		Value	
	100 kin		1,000 yen	
1928	8,946		178	
1929	6,056		117	
1930	48		1	
1931	1,601		32	
1932	7,483		385	
Average, 1928-32	4,827		143	
1933	10,561		744	
1934	17,757		1,151	
1935	27,037		2,351	
1936	40,583		2,946	
1937	86,375		6,409	
Average, 1933-37	36,463		2,720	
1938	96,893		7,856	
1939	96,688		7,607	

TIN

Tin is highly essential to Japan's economy in both peace and war times. The principal use is in the manufacture of tin plate for food containers, and in alloys having many industrial uses. Japan imports about 70 percent of its requirements of tin, principally from the Straits Settlements, China, British India, the Netherlands Indies, and Hong Kong; the remainder is provided in Japan proper.

Approximately 40 percent of this metal is consumed in the manufacture of tin plate. Japan formerly accounted for 4.2 percent of the world's production of tinplate and occupied fourth place, coming after the United States, England, and Germany. In addition, for the years 1928-40 imports of tinplate averaged more than 50,000 metric tons per year. The remainder of the metal is used mainly as a constituent of solder, babbitt, bronze, and tin foil, while minor quantities go into other alloys, collapsible tubes, and chemicals.

Exports are principally in the form of alloys, manufactured goods, and food containers.

Tin ingots and slabs: General imports into Japan, by principal sources, 1928-36

Year	All countries	Principal countries				All other countries
		Straits Settlements	China	Hong Kong	Netherlands Indies	
Quantity (100 kin)						
1928	67,904	38,654	22,193	423	1,813	4,821
1929	67,617	31,983	26,759	340	4,717	3,818
1930	53,594	29,122	19,615	2,748	1,536	573
1931	53,368	30,997	12,288	4,077	5,960	46
1932	57,276	39,007	9,174	6,380	2,360	355
Average, 1928-32	59,952	33,953	18,006	2,794	3,277	1,922
1933	58,137	29,270	9,962	9,992	8,128	785
1934	67,572	45,953	12,879	5,758	924	2,058
1935	70,868	43,986	15,424	11,028	340	90
1936	76,944	43,559	17,914	11,629	1,100	2,742
Average, 1933-36	68,380	40,692	14,045	9,602	2,623	1,418
Value (1,000 yen)						
1928	9,560	5,333	3,356	61	260	750
1929	9,202	4,333	7,056	44	647	522
1930	4,845	2,728	1,701	210	141	65
1931	3,527	2,084	787	259	392	5
1932	5,956	4,041	208	673	285	49
Average, 1928-32	6,618	3,704	2,042	249	345	278
1933	10,675	5,778	1,771	1,779	1,706	119
1934	15,317	8,718	2,718	1,281	218	474
1935	15,581	7,700	3,194	2,395	78	19
1936	15,084	8,676	3,364	2,291	234	519
Average, 1933-36	14,163	8,628	2,766	1,926	559	283

ZINC

Zinc is particularly suited for use as a protective coating on iron and steel to resist corrosion. It also is an important constituent of brasses and bronzes and is a cheap material for various industrial shapes formed by die-casting.

Roughly three-fifths of the prewar Japanese zinc supply was furnished by imports of metal, one-fifth by imports of concentrate for domestic smelting, and one-fifth by domestic mine production. Zinc metal available for Japanese consumption averaged 50,000 tons a year from 1928 to 1932 and about 76,000 tons a year from 1933 to 1937. Exports of zinc metal were negligible, but Japan has supplied considerable quantities of galvanized sheeting to other areas, especially those in tropical regions.

Following the war, if Japan were not allowed to export zinc products such as galvanized sheeting or brasses, a supply of 35,000 tons a year would be adequate for domestic consumption. Of this amount, about one-half could be supplied from domestic mines and the remainder would have to be imported either in the form of concentrates for domestic smelting or in the form of metal.

(See Special Industry Analysis for Zinc.)

Zinc ingots, slabs, and grains: General imports into Japan, by principal sources, 1928-36

Year	All countries	Principal countries			All other countries
		Canada	Australia	United States	
Quantity (100 kin)					
1928	595,987	201,809	199,941	148,146	46,091
1929	451,848	192,208	175,923	37,735	45,982
1930	374,547	148,365	149,722	39,918	36,532
1931	341,555	152,638	143,398	19,532	25,987
1932	348,409	187,164	125,467	33,531	2,247
Average, 1928-32	422,469	176,437	158,892	55,772	31,368
1933	451,315	242,020	120,175	53,033	36,087
1934	442,985	206,055	135,372	89,875	10,183
1935	546,058	178,991	166,661	128,499	71,907
1936	700,514	243,322	220,966	127,321	108,904
Average, 1933-36	535,218	217,597	161,168	99,682	56,770
Value (1,000 yen)					
1928	10,936	3,724	3,653	2,814	745
1929	8,103	3,555	3,218	666	664
1930	4,995	2,010	1,983	575	427
1931	3,094	1,506	1,198	169	221
1932	4,624	2,618	1,594	388	24
Average, 1928-32	6,350	2,683	2,329	922	416
1933	7,462	3,957	2,103	825	577
1934	7,228	3,420	2,293	1,352	163
1935	8,503	2,814	2,729	1,848	1,112
1936	10,997	3,836	3,439	1,999	1,723
Average, 1933-36	8,548	3,507	2,641	1,506	894

Note.- The only imports reported from Manchuria during this period amounted to 100 kin or less in each of the years 1934 and 1936.



NICKEL

Nickel is a silvery-white metal with a high melting point; it is harder and stronger than iron, and is resistant to abrasion. Metallic nickel gives to its alloys (of which there are more than 70 types) strength, ductility, and resistance to corrosion and abrasion. Nickel steels, of which armor plate is one of the most important, non-ferrous alloys such as monel metal, and stainless steel are some of the principal uses of nickel. Nickel steel is almost indispensable in the construction of modern power equipment.

Japan has been dependent upon sources outside of the Empire for its supply of nickel; there is no known significant domestic production of the metal. The supply has been imported largely in the form of ingot metal from Great Britain and Norway, with minor amounts imported from Canada.

As early as 1935 Japanese interests were reported to have purchased nickel mines in New Caledonia, and some smelting capacity was erected in Japan to treat these ores. Imports of nickel ores are not shown separately in the Japanese statistics, but it is not probable that the New Caledonian ores became an important source of supply.

If construction of machine tools and power driven equipment, including transportation equipment, is to be permitted in postwar Japan, nickel will be necessary. If heavy industry of this type were to be curtailed or eliminated, only minor amounts of the metal would be needed to supply the demands of a normal, lightly industrialized, economy.

Nickel ingots and grains: General imports into Japan, by principal sources, 1928-36

Year	All countries	Principal countries			All other countries
		Great Britain	Canada	Norway	
Quantity (100 kin)					
1928	17,638	13,227	455	-	3,956
1929	12,327	8,833	-	-	3,494
1930	8,714	6,719	701	-	1,294
1931	12,956	9,475	889	333	2,259
1932	28,966	12,751	560	4,016	6,039
Average, 1928-32	16,120	11,321	521	870	3,408
1933	53,150	26,822	3,809	14,523	7,936
1934	43,667	20,451	4,868	12,496	5,852
1935	56,450	30,229	6,828	13,423	5,960
1936	42,296	17,470	15,756	6,529	2,641
Average, 1933-36	48,916	23,743	7,815	11,760	5,598
Value (1,000 yen)					
1928	1,744	1,370	52	-	322
1929	1,261	971	-	-	390
1930	903	702	72	-	129
1931	1,238	983	92	31	232
1932	5,219	3,465	108	777	969
Average, 1928-32	2,133	1,498	65	162	408
1933	10,905	5,751	851	2,730	1,573
1934	8,789	4,153	1,026	2,445	1,165
1935	10,968	5,893	1,745	2,638	1,192
1936	8,313	3,431	3,130	1,235	517
Average, 1933-36	9,744	4,807	1,588	2,237	1,117

Note.- No imports have been reported from Manchuria except 2,700 kin valued at 5,000 yen in 1934.

✂
ALUMINUM

Aluminum alloys have a great diversity of uses as structural materials, in automobile and truck bodies, aircraft fuselages, railway cars, machinery, electrical appliances, transmission lines, cooking utensils, building equipment, packaging, industrial equipment and in various metallurgical applications such as in making steel. The principal uses in wartime vary considerably from those in peacetime. Military aircraft require much greater quantities than ordinary civilian planes. Aluminum also substitutes for other metals such as copper, tin, lead, zinc, and steel, in some cases.

Production of aluminum in Japan rose rapidly after its beginning in 1934, reaching about 35,000 tons annually by 1940. Output from numerous small plants throughout the Empire probably reached 120,000 tons or more. Capacity in Japan proper is now (1944) considered about double total domestic peacetime requirements.

Imports during the period 1933-36 averaged about 11,200 tons which was about half of the apparent consumption for the same period. During this period all imports were from areas outside the Japanese Empire, namely Canada, Switzerland, and the United States. A significant portion of these imports was scrap metal.

Japan's exports of crude metal and semifinished metal is insignificant. The annual average for 1933-36 was only 45 tons to Empire areas and 613 tons to foreign countries largely in the Far East.

Aluminum ingots, slabs and prisms: General imports into Japan, by principal sources, 1928-36

Year	All countries	Principal countries						all other countries
		Canada	Switzerland	Norway	Germany	France	United States	
Quantity (100 kin)								
1928	152,794	-	26,510	12,259	17,106	16,355	59,916	13,546
1929	198,246	751	33,125	1,913	6,971	21,729	103,500	27,097
1930	132,749	65,532	28,233	7,247	12,457	8,832	40,511	3,447
1931	46,474	15,013	13,357	-	12,342	1,264	2,937	2,071
1932	79,493	1,026	8,329	1,877	5,376	4,357	11,252	7,424
Average, 1928-32	132,927	24,476	23,957	4,072	10,874	10,527	44,960	17,461
1933	60,105	26,521	9,821	2,248	10,204	3,137	711	7,244
1934	89,026	52,558	6,213	8,238	4,280	8,458	1	9,023
1935	162,993	72,214	26,395	20,465	3,832	4,702	1	1,791
1936	150,134	115,067	20,928	8,200	1/	25	5,725	44
Average, 1933-36	115,554	67,140	16,364	12,700	4,630	4,050	1,660	3,723
Value (1,000 yen)								
1928	9,249	-	1,664	832	1,027	1,071	1,543	1,112
1929	11,101	42	1,972	107	403	1,193	5,420	1,234
1930	9,558	3,220	2,206	398	748	500	1,744	591
1931	2,151	668	719	-	523	63	106	37
1932	5,077	2,547	589	153	478	268	675	424
Average, 1928-32	7,423	1,295	1,434	308	620	609	2,423	710
1933	5,877	2,483	1,027	240	975	355	48	639
1934	7,431	4,026	555	361	365	776	2/	848
1935	12,323	6,030	2,565	3,095	322	510	2/	1,369
1936	11,831	8,620	1,952	752	2/	6	33	5
Average, 1933-36	9,848	5,290	1,545	1,211	421	12	137	352

1/ Less than 100 kin.

2/ Less than 500 yen.

Note.- The maximum reported imports from Manchuria were 1,100 kin in 1933; they were 500 and 200 kin respectively, in 1935 and 1936. Imports have not been separately reported since 1936.

✕
TUNGSTEN ORE

The efficiency of all Japan's metal manufacturing industries is dependent upon the use of tungsten. Approximately 95 percent of all the tungsten is used to make cutting tools for machining iron, steel, the nonferrous metals, and glass and plastics. Only relatively small amounts of metal are needed, however, and for this reason the volume and value of tungsten ore imports do not constitute a significant proportion of the total trade of Japan. Tungsten is not separately classified in the import statistics of Japan. Korea has furnished about 97 percent of the total Empire production, with less than 3 percent in Japan proper. Preparations for war more than doubled Japan's tungsten requirements. Output in Korea rose steadily after 1934 and doubled between 1935 and 1936. Production in Japan proper, however, remained constant at about 40 metric ton units of tungsten trioxide (0.4 metric tons) as against 1,300 units estimated for Korea in 1940.

Japan's peacetime requirements of tungsten are directly proportional to its steel consumption. In 1935 when steel consumption was about 4½ million long tons in Japan proper, approximately 700 metric ton units of tungsten trioxide were needed, of which only 5 percent was available in Japan proper.

Tungsten ore: Exports from Korea to Japan, 1928-39

Year	Quantity	Value
	100 kin	1,000 yen
1928	43	1
1929	423	20
1930	158	6
1931	17	1/
1932	323	7
Average, 1928-32	193	7
1933	2,126	76
1934	12,727	559
1935	13,984	1,701
1936	14,732	1,490
1937	22,590	3,588
Average, 1931-37	13,232	1,783
1938	29,567	9,632
1939	38,562	16,050

1/ Less than 500 yen.



GOLD ORE

Gold has acquired an official status in Japan as a military necessity; government purchases have been stimulated by the reluctance of certain countries producing essential raw materials to receive Japanese goods and their willingness to receive gold. All gold produced in the Empire has in the past been purchased by the Government, and every encouragement, including subsidies, given to its production. The official price, which consistently had been kept slightly below the world price, was raised to ¥3.85 per gram on May 2, 1938, or approximately equivalent to the United States price of \$35 an ounce. Korea has been an increasingly important source of Japanese gold supplies in recent years. In 1940, there were 61,429 kilograms of gold produced in Korea, Japan proper, and Formosa; 52 percent of this quantity was produced in Korea, 46 percent in Japan proper, and 2 percent in Formosa. Without Korean gold, Japan would have sufficient home production for peacetime requirements, particularly if Japanese goods could be readily marketed abroad.

Gold ore: Exports from Korea to Japan, 1928-39

Year	Quantity	Value
	100 kin	1,000 yen
1928	215,107	1,892
1929	225,137	1,945
1930	159,957	1,073
1931	214,813	1,106
1932	268,930	1,304
Average, 1928-32	216,789	1,464
1933	357,796	1,882
1934	463,132	2,427
1935	967,391	6,482
1936	1,076,411	6,498
1937	857,454	6,218
Average, 1933-37	744,437	4,701
1938	1,110,503	6,973
1939	1,279,620	6,681



ORES

There is no information available as to the nature of the imports into Japan that are covered by the following tables. Formosa produces some copper and gold and it may be that the ore exports to Japan consist of these materials.

Ores: Exports from Formosa to Japan, 1928-36

Year	Quantity	Value
	100 kin	1,000 yen
1928	1,083,404	1,971
1929	1,710,843	3,821
1930	2,340,568	4,810
1931	1,787,794	4,597
1932	2,034,816	4,955
Average, 1928-32	1,791,485	4,031
1933	2,440,481	6,144
1934	2,333,382	7,493
1935	2,942,444	9,835
1936	3,863,471	15,637
Average, 1933-36	2,894,944	9,777

Ores, other than iron and zinc, (including mattes, bottoms, and slag): General imports into Japan, by principal sources, 1928-36

Year	All countries	Principal countries									All other countries
		British India ^{1/}	Chile	British Malay	United States	Great Britain	Asiatic Russia	China	Straits Settlements	Manchuria (Manchukuo)	
Quantity (100 kin)											
1928	1,752,442	15,421	-	^{2/}	4,010	812	-	^{3/} 777,662	713,599	^{2/}	240,938
1929	1,919,667	4,064	-	^{2/}	21,329	17,934	60	^{3/1/} 1,148,667	536,551	^{2/}	191,062
1930	1,977,400	216,437	-	^{2/}	7,389	35,024	98,456	^{3/} 978,174	367,539	^{2/}	274,381
1931	807,326	81,474	-	^{2/}	3,519	38,914	157	^{2/} 440,315	184,941	^{2/}	58,006
1932	1,467,742	417,755	1	^{2/}	3,066	69,697	226,772	354,672	204,405	10,529	180,845
Average, 1928-32	1,584,915	147,030	^{4/}	^{5/}	7,863	32,476	65,089	739,898	401,407	^{5/}	189,046
1933	2,211,992	975,720	-	^{2/}	49,473	103,615	569,944	81,812	245,655	13,559	172,214
1934	2,798,552	1,338,502	11,926	^{2/}	52,234	129,577	668,683	11,378	218,635	31,708	335,909
1935	3,625,146	2,240,203	254,141	491,395	63,004	187,122	8,500	78,508	76,727	10,205	215,341
1936	3,757,871	1,677,379	302,823	762,752	51,157	43,988	111,767	73,679	13,333	11,536	709,457
Average, 1933-36	3,098,390	1,557,951	142,222	^{6/} 627,074	53,967	116,076	339,724	61,344	138,588	16,752	358,230
Value (1,000 yen)											
1928	3,695	36	-	^{2/}	144	2	-	^{3/} 1,758	1,013	^{2/}	742
1929	4,836	8	-	^{2/}	217	277	^{2/}	^{2/} 2,842	764	^{2/}	728
1930	3,891	342	-	^{2/}	84	369	150	^{3/} 1,715	479	^{2/}	752
1931	1,347	108	-	^{2/}	32	300	^{2/}	^{3/} 536	158	^{2/}	213
1932	3,356	608	^{7/}	^{2/}	265	709	356	641	143	31	603
Average, 1928-32	3,425	220	^{7/}	^{5/}	148	331	101	1,498	511	^{5/}	608
1933	7,296	1,604	-	^{2/}	1,491	1,522	969	323	246	39	1,102
1934	7,695	2,068	10	^{2/}	851	1,956	1,225	404	237	26	918
1935	8,401	3,272	318	496	551	2,615	31	143	105	34	836
1936	8,088	2,601	1,779	750	636	501	211	170	30	27	1,383
Average, 1933-36	7,870	2,386	527	^{6/} 623	882	1,648	609	260	155	32	1,060

- ^{1/} Includes Ceylon prior to 1934, and Burma prior to 1938.
^{2/} Not separately reported.
^{3/} Includes Manchuria.
^{4/} Less than 50 kin.
^{5/} Not available.
^{6/} Average, 1935-36.
^{7/} Less than 500 yen.



AUTOMOBILES AND PARTS

Several attempts were made to establish an automobile industry in Japan, but none were successful. Statistics of production are meager, and all were suppressed after 1936, but estimates indicate that production of standard passenger cars never reached 1,000 a year. Perhaps 10,000 "baby" cars (of a type resembling the United States Crosley) were built in the peak prewar year. Production of trucks was urgent, and estimates indicate a probable annual prewar production of 17,000 or 18,000.

Large American automobile companies operated assembly plants in Japan until the Japanese policy, becoming drastic in 1936, restricted and finally eliminated them. In 1936 about 90 percent of the automotive imports consisted of parts, which were principally parts sent by these American firms to be assembled in Japan. Probably from 20,000 to 30,000 vehicles, principally trucks, were assembled annually from these parts (exports were principally such vehicles). The Japanese policy was military in motive; it was designed to build up an industry in Japan capable of supplying military needs for vehicles, and also to conserve foreign exchange by suppressing imports. The industry was granted generous subsidies by the Government.

Unless an automobile industry has a large potential market, it cannot afford the heavy investment in equipment which contributes to low cost of production; costs will be high, and quality may suffer as well. In Japan the average income of the people will not sustain a peacetime industry of Western standards of price and quality. Furthermore, the industry is a large consumer of iron and steel, the ore for which must be imported into Japan. It, therefore, appears more reasonable that for the time, at least, trucks and automobiles needed in Japan be imported. (See Special Industry Analysis on Motor Vehicles.)

Parts of automobiles, other than tires and chassis: General imports into Japan, by principal sources, 1928-36

Year	All countries	Principal countries					All other countries
		United States	Germany	Sweden	Great Britain	Manchuria (Manchukuo)	
Value (1,000 yen)							
1928	10,917	10,826	2	-	54	-	35
1929	16,444	16,313	26	-	50	-	55
1930	10,213	10,141	25	-	25	-	22
1931	9,734	9,675	43	-	7	-	9
1932	10,611	10,172	318	-	114	-	7
Average, 1928-32	11,584	11,425	83	-	50	-	26
1933	10,883	10,706	31	1	139	-	6
1934	27,769	27,534	13	106	70	-	46
1935	27,994	27,295	61	550	72	1/	16
1936 2/	31,867	30,095	672	588	508	-	4
Average, 1933-36	24,628	23,908	194	311	197	1/	18

1/ Less than 500 yen.

2/ Not separately reported after 1936. Included with "Other vehicles, parts thereof, and vessels." In 1937, nine classes were combined under this class but it is known that the bulk of the imports were automobile parts, as the break-down was available for 1936. See table 4 "Other vehicles, etc." for 1936-38.

"Other" vehicles, parts thereof, and vessels: General imports into Japan, by principal sources, 1936-38 1/

Year	All countries	Principal countries					All other countries
		United States	Great Britain	Germany	Switzerland	Manchuria (Manchukuo)	
Value (1,000 yen)							
1936	44,055	35,174	3,585	1,402	408	2/	3,486
1937	58,259	40,876	8,847	3,138	2,585	1	2,812
1938	61,716	26,656	23,911	2,674	1,073	3	7,399

1/ Imports for this class negligible prior to 1937, when a number of classes were combined. The bulk of the imports was automobile parts.

2/ Less than 500 yen.

Automobiles: Exports (domestic produce) from Japan, by principal markets other than Korea and Formosa, 1934-39

Year	All countries	Principal countries					All other countries
		Kwantung	China	British India ^{1/}	Hong Kong	Manchuria (Manchukuo)	
Quantity (number)							
1934	349	114	167	4	1	15	48
1935	626	244	242	6	23	56	55
1936	1,731	482	767	14	95	339	34
1937	1,495	759	313	78	26	291	28
Average, 1934-37	1,050	400	372	26	36	175	41
1938	^{2/} 1,311	524	554	-	-	230	3
1939	^{2/} 5,684						
Value (1,000 yen)							
1934	613	483	50	7	1	18	54
1935	1,424	793	328	9	45	196	53
1936	3,710	1,277	1,374	17	181	825	36
1937	3,068	1,794	452	90	50	652	30
Average, 1934-37	2,204	1,087	551	31	69	423	43
1938	2,866	1,244	968	-	-	649	5
1939	^{2/} 19,580						

^{1/} Includes Burma prior to 1938.

^{2/} Country detail not available.

Parts of automobiles: Total exports (domestic produce) from Japan, by principal markets other than Korea and Formosa, 1935-39

Year	All countries	Principal countries							All other countries	
		Kwantung	China	British India ^{1/}	Neth. Indies	Straits Settl'ts	Hong Kong	Ceylon		Manchuria (Manchukuo)
Value (1,000 yen)										
1935	9,576	2,108	1,305	752	1,040	426	307	191	1,904	1,543
1936	13,823	3,320	2,865	919	531	445	660	222	3,035	1,826
1937	17,660	5,851	2,025	933	683	530	458	345	4,894	1,741
Average, 1935-37	13,686	3,760	2,065	868	751	467	475	253	3,278	1,769
1938	17,693	5,942	4,093	654	193	1	4	129	5,635	1,042
1939	^{2/} 33,831									

^{1/} Includes Ceylon prior to 1934, and Burma prior to 1938.

^{2/} Country detail not available.

Note.- This table is a total of three classes, viz. "chassis," "tires and tubes" and "other." Exports of chassis ranged in value from 1.6 million yen to 4.4 million; tires and tubes ranged from 3.8 to 6.8 million, the peak in each class occurring in 1937. "Other" parts were valued at 4.1 in 1935, 11.1 in 1938, and 22.3 million yen in 1939.

Automobiles and parts: Imports into Korea from Japan, 1928-36

Year	Value
1928	3,474
1929	5,853
1930	3,748
1931	3,492
1932	3,257
Average, 1928-32	3,970
1933	4,785
1934	9,010
1935	9,747
1936	11,434
Average, 1933-36	8,767

Automobiles, accessories, and parts thereof: Imports into
Formosa from Japan, 1928-36

Year	Value <u>1,000 yen</u>
1928	1,769
1929	2,252
1930	2,345
1931	1,438
1932	1,461
Average, 1928-32	1,853
1933	1,725
1934	3,622
1935	5,051
1936	5,457
Average, 1933-36	3,964



ELECTRICAL EQUIPMENT

The Japanese electrical industry, like that of other countries, includes firms producing a wide variety of electrical apparatus. Three firms in Japan are equipped to build heavy power apparatus as well as many other kinds of electrical goods, while others, ranging from large corporations to small shops, specialize in one or more type of products.

As the Japanese electrical industry developed, foreign manufacturers realized that they could not expect that their substantial sales to Japan would continue in competition with the low wages and tolerance for lower quality prevalent there, and, therefore, entered into agreements under which Japanese electrical firms received valuable financial and technical assistance. Under this policy, and later under the pressure of preparation for war, the industry grew rapidly, nearly quadrupling in value of output, from 200 million yen in 1929 to 750 million in 1938. Japanese electrical firms are now able to build apparatus which in size and quality is not far below that of western countries. In 1938 the value of the principal types of electrical goods produced was as follows: Engineering equipment (including small motors) was about 230 million yen; wire and cable, 180 million; telephones, telegraph, and radio apparatus, 125 million; lamps, 30 million; and storage batteries, 20 million.

Imports of electrical apparatus were relatively small. Some large generating equipment was imported in the prewar years, to assist in hastening the industrialization of Manchuria, and considerable telephone and telegraph equipment, probably of the more advanced types, but with its prewar manufacturing equipment intact, Japan could get along very well with little importation of electrical goods. It would require imports of various raw materials among which are various metals, rubber, petroleum products, waxes, and resins, but the domestic supply of steel and copper should be sufficient. Exports were large—15 to 20 percent of the production before the war. They were of three categories: (a) industrial equipment for Manchuria--In 1938, 80 percent of the exports were of this class; (b) industrial and other goods for the Far East, predominantly China, where low price was frequently more important than high quality; (c) exports, chiefly of lamps, to countries where labor is higher priced. Japanese electric lamps (often referred to as "bulbs") have sold rather extensively in western countries by reason of low price. A considerable export trade could probably be carried on after the war if it were permitted.

(See Special Industry Analysis on Electrical Equipment.)

Electrical machinery and parts—Total: Exports (domestic produce)
from Japan, by principal markets, 1928-39

Year	All countries	Principal countries			All other countries
		Kwantung	China	Manchuria (Manchukuo)	
Quantity (100 kin)					
1928	28,104	17,075	4,298	51	6,680
1929	43,396	27,378	6,995	102	8,921
1930	48,085	33,390	9,729	106	4,860
1931	48,364	27,050	15,139	70	6,105
1932	23,524	13,004	6,970	409	3,151
Average, 1928-32	38,297	23,579	8,626	148	5,944
1933	41,286	27,992	6,381	2,874	4,039
1934	50,248	28,253	10,989	6,786	4,220
1935	114,539	80,505	19,993	6,423	7,618
1936	199,448	123,770	25,679	9,922	40,077
1937	223,462	159,199	30,191	20,217	13,855
Average, 1933-37	125,797	83,944	18,647	9,244	13,962
1938	1/ 322,446	208,639	73,772	36,745	3,290
1939	1/ 263,938				
Value (1,000 yen)					
1928	1,696	1,114	269	3	310
1929	2,453	1,656	379	7	411
1930	3,003	2,089	614	6	294
1931	2,686	1,787	655	3	241
1932	1,414	774	297	21	322
Average, 1928-32	2,250	1,484	443	8	315
1933	2,724	1,879	342	157	346
1934	10,055	8,506	760	416	373
1935	8,042	5,345	1,399	412	886
1936	15,964	9,090	1,783	737	4,354
1937	15,773	10,910	2,026	1,615	1,222
Average, 1933-37	10,512	7,146	1,262	667	1,437
1938	1/ 26,613	17,686	4,926	3,675	326
1939	1/ 34,764				

1/ Country detail not available.

Electric motors and dynamos (including parts and accessories thereof):
Exports (domestic produce) from Japan, by principal markets, 1935-39 1/

Year	All countries	Principal countries				All other countries
		Kwantung	China	European Soviet Union	Asiatic Soviet Union	
Quantity (100 kin)						
1935	37,077	22,344	9,576	-	738	3,057
1936	79,193	38,626	14,106	4,281	15,883	5,192
1937	84,123	42,878	19,188	3,131	5,435	11,745
Average, 1935-37	66,798	34,616	14,290	2,471	7,352	6,665
1938	138,396	71,381	49,652	9	266	15,840
1939	2/ 103,356					
Value (1,000 yen)						
1935	2,812	1,663	699	-	133	206
1936	6,458	2,811	932	307	1,961	359
1937	5,943	2,752	1,322	395	388	939
Average, 1935-37	5,071	2,409	984	234	827	501
1938	10,356	5,471	3,004	5	31	1,715
1939	2/ 14,805					

1/ Not separately classified prior to 1935, included in "electrical machinery and parts."
2/ Country detail not available.

Telephonic instruments, including parts thereof: Exports (domestic produce)
from Japan, by principal markets, 1928-39

Year	All countries	Principal countries							All other countries
		Kwantung	China	Thailand	Neth. Indies	British India 2/	Hong Kong	Manchuria (Manchukuo)	
Value (1,000 yen)									
1928	453	287	150	-	-	-	-	67	16
1929	919	528	308	-	2	-	-	130	14
1930	601	433	20	1	1	-	-	5	26
1931	521	410	69	3	3	1	-	1	30
1932	642	544	34	9	7	2	-	39	15
Average, 1928-32	627	440	116	3	3	1	-	6	20
1933	2,835	2,299	57	73	37	56	6	99	208
1934	5,241	4,078	505	74	61	52	11	108	352
1935	5,067	3,562	1,022	88	72	33	31	143	116
1936	5,561	4,150	766	76	46	44	53	295	131
1937	6,663	5,547	438	100	35	35	16	399	93
Average, 1933-37	5,073	3,927	558	82	50	44	23	209	180
1938	10,043	7,716	1,006	60	12	11	1	1,209	28
1939	11,502								

1/ Separately classified beginning 1935 as: Radio receiving sets, including parts thereof and "Other," including parts thereof. (See separate tables.)

2/ Includes Ceylon prior to 1934, and Burma prior to 1938.

3/ Includes Manchuria.

4/ Not separately reported.

5/ Not available.

6/ Country detail not available.

Radio receiving sets, including parts thereof: Exports (domestic produce) from Japan, by principal markets, 1935-39

Year	All countries	Principal countries							All other countries
		Kwantung	China	Thailand	Neth. Indies	British India 2/	Hong Kong	Manchuria (Manchukuo)	
Value (1,000 yen)									
1935	1,693	445	828	88	71	32	31	87	111
1936	2,024	930	657	75	45	41	53	113	110
1937	2,577	1,865	329	96	35	33	16	122	81
Average, 1935-37	2,098	1,080	605	86	50	35	33	107	102
1938	2,299	1,663	258	57	12	8	1	278	22
1939	4,200								

1/ Includes Burma prior to 1938.

2/ Country detail not available.

Note.- Included with Telephonic Instruments prior to 1935.

Telephonic instruments, including parts thereof other than radio receiving sets: Exports (domestic produce) from Japan, by principal markets, 1935-39

Year	All countries	Principal countries					All other countries
		Kwantung	China	Thailand	British India 1/	Manchuria (Manchukuo)	
Value (1,000 yen)							
1935	3,374	3,117	194	-	1	56	6
1936	3,537	3,220	109	1	3	182	22
1937	4,086	3,682	109	4	2	277	12
Average, 1935-37	3,666	3,340	137	1	2	172	14
1938	7,744	6,053	748	3	3	931	6
1939	7,502						

1/ Includes Burma prior to 1938.

2/ Country detail not available.

Insulated electric wire: Exports (domestic produce) from Japan,
by principal markets, other than Korea, 1928-39

Year	All countries	Principal countries				All other countries
		Kwantung	China	Soviet Union ^{1/}	Manchuria (Manchukuo)	
Quantity (100 kin)						
1928	43,375	19,388	15,739	-	553	7,695
1929	54,704	24,893	20,461	10	31	9,309
1930	82,382	24,801	48,928	-	108	8,545
1931	62,392	18,589	30,958	-	167	12,678
1932	42,614	22,417	11,560	-	817	7,820
Average, 1928-32	57,093	22,018	25,529	2	335	9,209
1933	96,208	42,212	30,586	-	5,993	17,417
1934	145,116	72,313	44,525	-	7,449	20,829
1935	229,099	108,980	55,964	23,422	11,762	28,971
1936	280,032	112,242	40,622	90,796	9,315	27,057
1937	209,657	132,664	37,605	-	12,118	27,270
Average, 1933-37	192,022	93,682	41,860	22,844	9,327	24,309
1938	^{2/} 204,274	141,808	38,436	-	20,400	3,630
1939	^{2/} 223,344					
Value (1,000 yen)						
1928	2,785	1,216	976	-	31	562
1929	3,529	1,684	1,215	^{3/}	3	627
1930	3,626	1,376	1,811	-	4	435
1931	2,366	762	1,152	-	7	445
1932	1,997	1,123	525	-	29	320
Average, 1928-32	2,861	1,232	1,136	^{3/}	15	478
1933	4,597	2,324	1,155	-	341	777
1934	7,362	4,144	1,711	-	426	1,081
1935	11,382	6,386	2,253	783	516	1,444
1936	13,705	6,664	1,770	3,239	560	1,472
1937	15,232	10,112	2,267	-	936	1,917
Average, 1933-37	10,456	5,926	1,831	804	556	1,338
1938	^{2/} 19,887	13,636	3,599	-	2,315	337
1939	^{2/} 25,806					

^{1/} Not including Asiatic Soviet Union.

^{2/} Country detail not available.

^{3/} Less than 500.

Insulated electric wire: Imports into Korea, from Japan, 1928-40

Year	Quantity	Value
	100 kin	1,000 yen
1928	20,710	1,170
1929	20,561	1,271
1930	29,805	1,726
1931	19,973	925
1932	23,524	1,159
Average, 1928-32	22,915	1,250
1933	27,813	1,539
1934	43,622	2,528
1935	52,249	2,913
1936	116,419	6,769
1937	109,489	8,434
Average, 1933-37	69,918	4,437
1938	64,933	6,001
1939	79,020	8,916
1940	91,446	11,390

Lamp and parts thereof: Exports (domestic produce), from Japan, by principal markets, 1928-39

Year	All countries	Principal countries							All other countries
		United States	Great Britain	Kwantung	Netherlands Indies	British India ^{1/}		Manchuria (Manchukuo)	
Value (1,000 yen)									
1928 -----	8,371	2,616	2/	905	902	517	1,369	38	2,024
1929 -----	9,486	3,113	2/	902	1,107	560	1,145	21	2,638
1930 -----	8,127	2,785	2/	804	650	481	831	21	2,555
1931 -----	7,784	3,009	2/	721	590	309	620	11	2,524
1932 -----	12,754	4,668	2/	568	767	909	637	51	5,154
Average, 1928-32	9,304	3,238	3/	780	803	555	920	28	2,980
1933 -----	15,863	3,273	2/	1,024	1,707	1,234	635	253	7,737
1934 -----	15,696	3,160	2,132	1,154	1,337	1,292	456	336	5,829
1935 -----	16,747	2,631	1,441	1,622	1,191	1,448	565	388	7,461
1936 -----	18,589	4,931	2,459	1,116	1,122	1,148	502	389	6,922
1937 -----	21,950	4,238	2,895	1,916	1,801	1,584	520	592	8,404
Average, 1933-37	17,769	3,647	^{4/} 2,232	1,366	1,432	1,341	536	392	7,270
1938 -----	14,748	1,737	1,453	2,949	811	718	1,613	1,191	4,276
1939 -----	17,745	3,167	662	4,018	1,028	864	2,546	2,032	3,428

- 1/ Includes Ceylon prior to 1934, and Burma prior to 1938.
 2/ Not separately reported.
 3/ Not available.
 4/ Average, 1934-37.

Note.- Exports to Formosa and Korea have been small.

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BICYCLES

Bicycles are widely used for transportation in Japan and in other far eastern countries, where low income and poor roads severely restrict the use of automobiles. Production of bicycles in Japan before the war probably was about 3 million annually, valued at about 50 million yen, of which two-thirds were exported. There were many small household and other shops, with 3 or 4 unskilled workers to a shop, making parts for assemblers. Only the large factories made more than one or two parts.

Imports are very small; although American or European bicycles may be superior, their price is too high for the Japanese market.

Japanese bicycles are low-priced and many have been of inferior quality, but before the war the Government took steps to control the industry in order to prevent overproduction and to assure a reasonable standard of quality for export.

Exports have been large and have gone principally to China, Korea, Formosa, India, and Malaysia. From 1934 to 1937 the exports of cycles, parts, and accessories (not including rubber tires and tubes) averaged 20,091 thousand yen per year made up as follows: Cycles and frames, 4,677 thousand yen; rims, forks, and handlebars, 2,854 thousand yen; saddles, 1,520 thousand yen; and "other," 11,040 thousand yen.

Raw material requirements are not large—perhaps 45,000 tons of steel and 4,500 tons of rubber annually assuming the prewar level of export trade. The industry is not one which could be converted to heavy armament production. Japanese unskilled cheap labor is well suited to produce bicycles for the domestic and oriental export markets, which demand low prices and do not insist on high quality. (See Special Industry Analysis on Bicycles.)

Cycles, parts, and accessories (excluding rubber tires and innertubes)—Total: Exports (domestic produce) from Japan, by principal markets other than Korea or Formosa, 1928-39

Year	All countries	Principal countries							All other countries
		China	Netherlands Indies	British India ^{1/}	Straits Settlements	Kwantung	Philippine Islands	Manchuria (Manchukuo)	
Value (1,000 yen)									
1928	2,557	^{2/} 924	829	206	148	371	10	^{3/}	69
1929	3,429	^{2/} 953	1,167	442	368	393	27	^{3/}	79
1930	2,901	^{2/} 794	725	761	209	270	39	^{3/}	103
1931	3,296	^{2/} 738	972	920	279	192	73	^{2/}	122
1932	6,028	1,174	1,500	1,716	530	459	214	³⁵	400
Average, 1928-32	3,642	917	1,039	^{80⁴}	307	337	73	^{4/}	155
1933	12,115	1,848	3,365	2,112	1,966	633	228	263	1,700
1934	18,904	3,115	5,278	2,219	3,061	974	272	358	3,627
1935	17,436	4,424	2,701	2,098	1,260	1,263	294	448	4,948
1936	20,575	6,730	2,775	1,814	1,464	1,467	569	430	5,328
1937	23,451	5,336	4,475	2,191	1,735	1,414	881	984	6,431
Average, 1933-37	18,496	4,290	3,719	2,087	1,897	1,150	449	497	4,607
1938	13,649	2,731	2,156	841	151	2,114	352	2,835	2,469
1939	^{5/} 18,063								

^{1/} Includes Ceylon prior to 1934, and Burma prior to 1938.

^{2/} Includes Manchuria.

^{3/} Not separately reported.

^{4/} Not available.

^{5/} Country detail not available.

Cycles, accessories, and parts thereof: Imports into Formosa from Japan, 1928-38

Year	Value 1,000 yen
1928	2,006
1929	2,303
1930	1,953
1931	1,789
1932	2,276
Average, 1928-32	2,065
1933	2,346
1934	2,781
1935	2,988
1936	3,509
1937	3,970
Average, 1933-37	3,119
1938	4,367

Bicycles and parts thereof: Imports into Korea from Japan, 1928-40

Year	Value
	1,000 yen
1928	2,827
1929	2,709
1930	2,086
1931	1,754
1932	2,114
Average, 1928-32	2,298
1933	2,621
1934	3,663
1935	6,744
1936	8,444
1937	7,413
Average, 1933-37	5,777
1938	8,644
1939	8,204
1940	5,744

MACHINERY, PARTS, AND ACCESSORIES—TOTAL

This is a group total and includes a number of items—pumps, metal or wood working machinery, textile machinery, electrical machinery, and so forth, to which reference should be made.

Stimulated by war requirements, the value of production of machinery increased 215 percent from 1936 to 1939, (production of all goods increased only 100 percent), while exports (including imports into Korea from Japan) increased 177 percent in the same period.

From 1928 to 1932 imports of all kinds of machinery (not strictly comparable with exports) greatly exceeded exports, the former averaging about 82 million yen and the latter a little over 26 million. Exports increased more rapidly than imports after that year, however, and from 1933 to 1937 the imports averaged about 106 million and the exports to about 99 million yen per year. Since the large exports in recent years have been principally to Empire areas and China, it seems probable that they resulted in large part from the dispersion of war plants, and that the normal peacetime picture is more like that of 1928-32.

Imports into Korea from Japan were about equal in value to reported exports from Japan to all other countries from 1928 to 1932. On the average from 1933 to 1937 and thereafter Korea received only about one third of all machinery exported from Japan. This smaller share was due to the greatly increased exports to Kwantung and Manchuria.

The table below for imports into Korea from Japan shows group totals. About one half of the totals in 1933 and 1934 were unidentified items in an "all other" classification. Among the larger items in those years were dynamos and electric motors, pumps, and rice picking machines. The table also includes steam boilers, locomotives and tenders, dredging machines, sewing machines, printing machines, cotton gins, metal and wood-working machinery, and so forth. Some of these are also shown separately elsewhere in this survey.

Machinery, parts and accessories: Total exports (domestic produce) from Japan,
by principal markets, other than Korea, 1928-39

Year	All countries	Principal countries					All other countries
		Kwantung	China	British India ^{1/}	Asiatic Soviet Union	Manchuria (Manchukuo)	
Value (1,000 yen)							
1928	10,605	4,964	^{2/} 3,924	485	596	^{3/}	636
1929	13,616	5,672	^{2/} 5,336	582	1,196	^{3/}	830
1930	13,596	5,080	^{2/} 5,365	729	1,811	^{3/}	971
1931	13,641	4,230	6,731	471	1,365	150	694
1932	10,943	3,954	3,849	900	1,160	394	666
Average, 1928-32	12,552	4,780	5,011	633	1,230	^{3/}	759
1933	25,857	12,197	4,951	2,105	1,329	1,938	1,337
1934	57,777	39,429	9,691	2,273	1,129	3,337	1,918
1935	63,456	34,779	15,310	3,071	1,106	5,607	3,983
1936	82,054	41,166	16,936	2,969	3,042	6,370	6,571
1937	109,881	46,583	24,352	6,442	4,459	14,835	13,410
Average, 1933-37	67,885	35,231	12,208	3,772	3,213	6,417	5,444
1938	156,475	75,807	35,925	5,794	1,811	30,384	6,754
1939	209,206	101,615	36,782	1,405	69	63,896	3,689

- ^{1/} Includes Ceylon prior to 1934, and Burma prior to 1938.
^{2/} Includes Manchuria.
^{3/} Not separately reported.
^{4/} Not available.

Machinery--Total: Imports into Korea, from Japan, 1928-47

Year	Value
	1,000 yen
1928	13,262
1929	13,662
1930	13,786
1931	7,908
1932	8,274
Average, 1928-32	11,378
1933	11,762
1934	16,729
1935	31,369
1936	40,852
1937	54,520
Average, 1933-37	31,048
1938	79,732
1939	131,636
1940	163,812

Machinery and parts--Total: Imports into Japan, by principal sources, 1928-39

Year	All countries	Principal countries							All other countries
		United States	Germany	United Kingdom	Sweden	Switzerland	France	Kwantung	
Value (1,000 yen)									
1928	92,651	34,333	15,046	26,174	1,702	4,478	2,037	31	8,880
1929	121,510	41,840	21,322	34,356	2,308	3,876	4,250	26	13,532
1930	85,944	25,950	16,657	23,854	1,764	4,100	3,547	90	9,952
1931	51,173	16,259	11,138	12,291	1,314	1,643	1,770	134	6,601
1932	61,092	17,778	10,745	12,668	1,952	2,340	4,494	32	11,083
Average, 1928-32	82,479	27,232	14,962	21,869	1,606	3,287	3,224	63	10,014
1933	73,224	22,246	17,390	12,375	3,878	2,169	3,537	13	11,646
1934	98,698	35,534	25,369	15,958	5,548	3,596	3,289	16	9,386
1935	105,537	38,902	30,428	21,948	6,146	2,733	2,990	10	2,690
1936	91,922	38,428	25,053	16,508	4,939	3,783	1,917	20	1,296
1937	159,266	77,850	42,379	21,366	8,156	4,911	1,357	51	2,696
Average, 1933-37	105,794	42,592	28,224	17,611	5,733	3,438	2,610	22	5,543
1938	136,354	126,367	75,299	12,620	8,291	6,785	1,720	62	3,188
1939	1/249,896								

1/ Country detail not available.

Note.- Imports from Manchuria did not exceed 6,000 yen in any year until 1938, when they amounted to 11,000 yen.

INTERNAL COMBUSTION ENGINES

Internal combustion engines are used in automobiles, trucks, airplanes, tanks, motorboats, and tractors, and as sources of power on farms, in construction work, and for power and pumping stations. In general each use requires its own particular type of engine. The diesel type of engine is now built in rather large sizes, for the smaller power stations and for ship propulsion.

As the types of aircraft engines formerly used in Japanese planes ordinarily weigh from 200 to 500 kilograms, the bulk of Japanese imports of aircraft engines would enter in the "250 to 2,500 kilogram" class.

Imports before the war were small compared with production; 2,340 aircraft engines were produced in Japan in 1938 and 56 were exported from the United States to Japan.

Inasmuch as the United States exports a large volume of automobile parts to Japan for assembly, it is possible that many of the engines imported were used for the same purpose. It seems open to question, however, whether engines imported for automobiles, airplanes, and ships are reported as "engines" or as "parts of automobiles," etc.

Japan is capable of producing her peacetime needs if such production is permitted, although production of automobiles in Japan would not be economical.

Internal combustion engines weighing not more than 250 kilograms ^{1/}:
General imports into Japan, by principal sources, 1928-36

Year	All countries	Principal countries				All other countries
		United States	Great Britain	France	Switzerland	
Quantity (100 kin)						
1928	69,101	66,718	2,190	14	-	179
1929	93,292	88,912	4,081	24	-	275
1930	59,955	57,613	2,047	59	73	236
1931	58,829	55,616	2,878	65	255	197
1932	24,023	21,206	1,643	55	62	354
Average, 1928-32	61,040	58,013	2,568	43	188	91
1933	16,751	16,196	276	-	212	12
1934	34,162	33,269	667	-	5,940	5
1935	7,355	1,022	388	-	98	72
1936	6,933	6,389	358	16	1,610	45
Average, 1933-36	16,300	14,219	422	4	-	-
Value (1,000 yen)						
1928	5,526	5,130	369	1	-	26
1929	7,354	6,630	603	3	-	118
1930	4,460	3,670	499	8	15	283
1931	4,205	3,328	633	11	55	218
1932	2,206	1,698	371	12	14	160
Average, 1928-32	4,768	4,091	495	7	59	22
1933	1,826	1,637	108	-	68	6
1934	3,253	2,980	199	-	76	2
1935	344	196	110	-	28	37
1936	819	660	65	29	48	17
Average, 1933-36	1,561	1,368	121	7	48	17

^{1/} Classified as "gas engines and petroleum engines" prior to 1932. Included in all other machinery after 1936.

Note.- No imports were reported from Manchuria during this period.
Internal combustion engines weighing more than 250 kilograms but not more than 2,500 kilograms ^{1/}: General imports into Japan, by principal sources, 1928-36

Year	All countries	Principal countries				All other countries
		United States	Great Britain	Germany	France	
Quantity (100 kin)						
1928	18,875	15,626	279	1,823	18	2/ 1,139
1929	20,384	17,260	602	1,334	16	2/ 1,172
1930	14,611	11,525	488	1,562	113	2/ 923
1931	14,422	9,327	1,136	2,647	45	2/ 1,267
1932	40,139	31,520	1,793	1,952	49	2/ 1,336
Average, 1928-32	21,636	17,652	860	1,863	48	2/ 1,263
1933	41,546	37,703	1,074	447	110	2/ 2,317
1934	122,294	119,562	703	338	-	2/ 1,491
1935	122,541	121,178	415	567	120	261
1936	128,724	126,469	528	1,613	62	52
Average, 1933-36	103,776	101,228	680	741	73	1,054
Value (1,000 yen)						
1928	5,108	1,738	150	303	27	2/ 1,230
1929	5,224	2,006	295	278	80	2/ 1,264
1930	3,897	1,493	400	182	173	2/ 1,349
1931	5,286	1,047	417	679	40	2/ 1,301
1932	9,507	3,628	286	569	70	2/ 1,004
Average, 1928-32	5,844	1,962	270	401	68	2/ 1,147
1933	13,954	4,460	1,714	194	138	2/ 7,448
1934	17,277	11,624	102	183	-	2/ 1,068
1935	14,801	12,667	104	815	772	2/ 1,054
1936	13,191	12,156	484	235	252	14
Average, 1933-36	14,806	10,227	601	369	291	1,118

^{1/} Classified as "gas engines and petroleum engines" prior to 1932. Included in "All Other Machinery" after 1936.
^{2/} Includes some machines cleared from warehouses. Accurate data not available for years prior to 1933.
^{3/} Includes imports withdrawn from bonded manufacturing warehouse amounting to 2,124 hundred kin valued at 7,447 yen in 1933 and 1,528 kin valued at 5,328 yen in 1934.

Note.- No imports were reported from Manchuria during this period.

Internal combustion engines weighing more than 2,500 kilograms: ^{1/}
 General imports into Japan, by principal sources, 1928-36

Year	All countries	Principal countries					All other countries
		Germany	Great Britain	United States	Switzerland	Denmark	
Quantity (100 kin)							
1928	30,278	3,119	4,332	118	13,871	7,948	890
1929	85,904	8,911	4,335	155	14,685	53,839	3,979
1930	97,627	27,750	791	58	6,965	57,835	4,228
1931	20,531	16,942	1,284	51	2,197	-	57
1932	7,115	1,745	947	26	4,167	-	230
Average, 1928-32 -	48,291	11,693	2,338	82	8,377	23,924	1,877
1933	3,785	119	550	648	2,396	-	72
1934	1,763	414	901	448	-	-	-
1935	1,704	302	449	249	704	-	-
1936	1,320	1,034	242	44	-	-	-
Average, 1933-36 -	2,143	467	536	347	775	-	18
Value (1,000 yen)							
1928	2,207	200	381	10	940	588	88
1929	5,535	635	349	13	923	3,309	306
1930	6,111	1,804	43	3	477	3,535	249
1931	1,237	1,046	61	2	124	-	4
1932	667	173	67	5	407	-	15
Average, 1928-32 -	3,151	772	180	7	574	1,486	132
1933	366	17	64	39	241	-	5
1934	248	124	87	37	-	-	-
1935	414	29	45	270	70	-	-
1936	398	372	19	7	-	-	-
Average, 1933-36 -	357	136	54	88	78	-	1

^{1/} Classified as "Gas engines and petroleum engines" prior to 1932. Included in "All other machinery" after 1936.

Note.- No imports were reported from Manchuria during this period.



METAL- OR WOODWORKING MACHINERY

This classification includes metal forming machinery, machine tools, and hand-operated portable small tools, of a wide variety and quality. Machine tools especially may be capable of doing fast precision work or may be of simple design and inferior quality for use in home workshops. The Japanese industry has produced largely the latter type which are suited to the many jobs that do not require great accuracy. The high precision machines were in limited demand before the war and could generally be purchased abroad more cheaply than it would cost to build them at home. This situation is reflected in the fact that the imports have a higher value per unit of weight than do the exports.

Production of the Japanese machine tool industry, which may not include all the types of machines in the foreign trade tables, had an average value of 7.5 million yen per year from 1929 to 1933. During these years imports generally exceeded production in value while the exports were less than 10 percent of the imports. In 1937, 1938, and 1939 exports of metal-working machinery were reported separately from woodworking machinery, and accounted for over 90 percent of the total.

Trade statistics of Formosa do not report any foreign trade with Japan in machine tools. Imports of metal- and woodworking machines into Korea from Japan averaged 234,000 yen a year from 1928 to 1932, and 557,000 yen from 1933 to 1936.

Metal- or woodworking machinery, weighing under 100 kilograms: --
General imports into Japan, by principal sources, 1928-36 1/2

Year	All countries	Principal countries				All other countries
		United States	Germany	Switzerland	Great Britain	
Quantity (100 kin)						
1928	970	577	172	37	151	33
1929	989	717	155	35	38	44
1930	701	439	120	17	11	114
1931	451	347	68	11	18	7
1932	208	134	32	11	9	22
Average, 1928-32	664	443	110	22	45	44
1933	255	110	54	41	29	21
1934	375	229	69	40	22	15
1935	466	336	60	43	19	8
1936	493	343	82	55	8	5
Average, 1933-36	397	254	66	45	20	12
Value (1,000 yen)						
1928	471	361	55	22	16	17
1929	510	399	56	13	22	20
1930	302	220	45	7	6	24
1931	194	151	28	5	3	7
1932	146	87	32	9	4	14
Average, 1928-32	325	244	43	11	10	17
1933	228	78	62	64	8	16
1934	301	152	78	54	8	9
1935	424	251	72	74	11	16
1936	461	238	113	101	4	5
Average, 1933-36	354	180	81	73	8	12

1/2 Included in "All other machinery" after 1936.

Note.- Imports were reported from Manchuria only in 1934 and 1935; they weighed less than 100 kin and were valued less than 500 yen in each year.

Metal- or woodworking machinery, weighing 100 kilograms and under 5,000 kilograms:
General imports into Japan, by principal sources, 1928-36 1/2

Year	All countries	Principal countries				All other countries
		United States	Germany	Great Britain	Switzerland	
Quantity (100 kin)						
1928	16,357	7,960	5,754	1,683	309	651
1929	21,218	8,946	7,291	3,911	397	673
1930	21,091	9,235	7,723	2,816	602	715
1931	10,158	4,038	3,531	1,352	389	848
1932	19,418	9,260	4,201	5,021	203	738
Average, 1928-32	17,648	7,888	5,700	2,956	380	724
1933	50,451	22,982	17,929	8,238	802	500
1934	59,612	34,422	12,708	9,316	1,139	2,027
1935	44,583	23,987	11,813	6,753	1,276	754
1936	47,787	25,857	14,654	5,261	1,581	434
Average, 1933-36	50,608	26,812	14,276	7,392	1,199	929
Value (1,000 yen)						
1928	2,646	1,630	623	202	90	101
1929	2,941	1,397	923	423	116	82
1930	2,993	1,540	925	309	136	83
1931	1,583	681	471	201	98	132
1932	4,734	2,734	872	929	83	155
Average, 1928-32	2,989	1,596	763	415	104	111
1933	11,725	4,412	5,161	1,558	450	144
1934	12,007	5,863	3,544	1,609	532	459
1935	10,339	5,036	3,150	1,285	648	220
1936	12,620	6,516	3,999	1,104	866	135
Average, 1933-36	11,673	5,457	3,964	1,389	624	239

1/2 Included in "All other machinery" after 1936.

Note.- No imports were reported from Manchuria during these years.

Metal or wood-working machinery weighing 5,000 kilograms and over: General imports
into Japan, by principal sources, 1928-36 ^{1/}

Year	All countries	Principal countries				All other countries
		Germany	United States	Great Britain	Switzerland	
Quantity (100 kin)						
1928 -----	21,455	14,189	3,495	2,497	137	1,137
1929 -----	38,731	22,834	9,640	6,173	-	84
1930 -----	20,713	9,443	5,527	2,730	100	2,913
1931 -----	17,761	13,926	2,873	962	-	-
1932 -----	9,266	4,239	811	4,216	-	-
Average, 1928-32 ----	21,585	12,926	4,469	3,316	47	827
1933 -----	36,525	24,323	10,804	1,111	199	88
1934 -----	103,139	55,937	40,043	6,352	100	707
1935 -----	94,133	47,926	38,688	7,033	379	107
1936 -----	56,657	35,441	13,821	6,890	413	92
Average, 1933-36 ----	72,614	40,907	25,839	5,346	273	249
Value (1,000 yen)						
1928 -----	1,263	622	292	241	36	72
1929 -----	2,171	1,187	681	296	-	7
1930 -----	1,544	631	576	213	16	108
1931 -----	1,292	835	297	159	-	1
1932 -----	877	468	101	306	-	2
Average, 1928-32 ----	1,429	749	389	243	10	38
1933 -----	4,293	2,832	1,234	141	66	20
1934 -----	9,125	5,624	2,795	556	42	108
1935 -----	7,534	4,101	2,670	567	161	35
1936 -----	5,754	3,050	1,732	811	144	17
Average, 1933-36 ----	6,676	3,902	2,107	519	103	45

^{1/} Included in "All other machinery after 1936."

Note.- No imports were reported from Manchuria during those years.

Metal or wood-working machinery and parts: Exports (domestic produce) from Japan,
by principal markets, 1928-39

Year	All countries	Principal countries						All other countries
		Kwantung	Asiatic Soviet Union	Australia	British India ^{1/}	China	Manchuria (Manchukuo)	
Quantity (100 kin)								
1928	11,585	7,136	1,205	-	12 ^{2/}	2,935	3/	297
1929	9,336	4,612	734	-	773	2,829	3/	388
1930	5,410	2,376	1,145	-	14 ^{2/}	950	3/	925
1931	5,397	891	2,303	-	1 ^{2/}	2,146	3/	56
1932	5,779	1,388	1,005	-	7	2,890	247	242
Average, 1928-32	7,501	3,281	1,278	-	161	2,350	4/	381
1933	12,158	5,965	1,568	2	127	2,301	1,828	367
1934	25,271	16,408	1,564	5/	345	2,022	4,154	778
1935	38,916	23,815	356	4	2,234	2,502	8,521	1,484
1936	131,984	53,735	28,649	500	4,760	25,204	15,281	3,855
1937	104,848	33,588	26,152	5,513	6,194	4,135	19,609	9,657
Average, 1933-37	62,635	26,702	11,658	1,204	2,732	7,233	9,878	3,228
1938	118,488	53,592	239	1,045	403	12,373	48,877	1,959
1939	6/ 213,357							
Value (1,000 yen)								
1928	472	264	68	-	1	124	3/	15
1929	401	213	47	-	11	107	3/	23
1930	311	119	118	-	1	44	3/	29
1931	219	47	106	-	7/	61	3/	5
1932	216	58	73	-	7/	67	8	10
Average, 1928-32	324	140	82	-	2	81	4/	16
1933	566	259	147	7/	4	70	74	12
1934	1,189	757	142	7/	11	86	157	36
1935	1,941	1,364	45	1	63	97	291	80
1936	4,907	2,211	1,673	21	172	172	484	174
1937	6,233	2,499	1,529	272	240	195	1,033	465
Average, 1933-37	2,967	1,418	707	59	98	124	408	153
1938	10,326	5,037	154	71	24	933	3,985	122
1939	6/ 25,532							

^{1/} Includes Ceylon prior to 1934, and Burma prior to 1938.

^{2/} Includes Manchukuo. ^{3/} Not separately reported. ^{4/} Not available.

^{5/} Less than 100 kin. ^{6/} Country detail not available. ^{7/} Less than 500 yen.

Metal-working machinery, including parts and accessories: Exports (domestic produce) from Japan,
by principal markets, 1937-39

Year	All countries	Principal countries						All other countries
		Kwantung	Asiatic Soviet Union	Australia	British India ^{2/}	China	Manchuria (Manchukuo)	
Quantity (100 kin)								
1937	96,251	31,091	26,152	5,340	5,986	2,285	16,771	8,626
1938	107,224	50,883	239	995	389	9,696	44,219	803
1939	3/ 195,431							
Value (1,000 yen)								
1937	5,799	2,360	1,529	261	226	122	884	117
1938	9,571	4,843	154	67	23	815	3,602	67
1939	3/ 23,985							

^{1/} Included with wood-working machinery prior to 1937.

^{2/} Includes Ceylon prior to 1934, and Burma prior to 1938.

^{3/} Country detail not available.

TEXTILE MACHINERY

There is a great variety of textile machinery for processing all kinds of fibers from raw materials to finished products. Most important in Japan is cotton mill machinery, which not only produced Japan's domestic requirements of cotton goods but supplied a prewar export trade of more than 600 million yen annually. In the 18 years before the war the number of cotton spinning spindles in Japan more than trebled. Most of the machinery came at first from abroad, but the Japanese industry expanded rapidly, and later not only produced enough machinery to supply the rising demand from Japanese mills, but also a large export trade to China, Empire areas, and India.

Japanese textile machinery shops made practically all kinds of textile machinery, but were particularly successful with looms. Although the silk industry in Japan was large, silk machinery, with the exception of looms, is simpler than machinery for processing other fibers, and less is needed. The Japanese rayon industry, the largest in the world, also required a great deal of machinery.

Production of all textile machinery in Japan rose from 30 million yen in 1929 to 129 million in 1937. Machinery valued at 28 million yen was exported, and a considerable part of the remainder went into the expansion of mill capacity. If exports of cotton textiles became stationary or declined, annual requirements for textile machinery would be substantially less.

Requirements for iron and steel, the principal materials needed, are a rather small part of the normal consumption of those metals.

(See Special Industry Analysis on Textile Machinery.)

Spinning machines and weaving looms—Total: Exports (domestic produce) from Japan, by principal markets, 1928-39

Year	All countries	Principal countries					All other countries
		China	British India ^{1/}	Neth. Indies	Kwantung	Manchuria (Manchukuo)	
Quantity (100 kin)							
1928	57,133	46,949	3,177	13	4,893	929	1,172
1929	77,993	64,654	5,040	8	5,847	425	2,019
1930	87,242	73,898	9,346	5	3,338	129	526
1931	154,989	144,239	4,081	51	4,291	170	2,157
1932	109,244	94,919	8,740	40	2,003	1,412	2,130
Average, 1928-32	97,320	84,932	6,077	23	4,074	613	1,601
1933	123,802	86,643	19,411	182	12,171	3,572	1,823
1934	206,265	151,109	22,618	4,388	8,069	6,605	13,476
1935	298,742	231,792	22,075	7,913	24,390	8,424	4,148
1936	392,532	284,988	26,596	9,613	27,242	16,263	27,830
1937	620,133	422,464	80,554	30,958	18,712	35,295	32,150
Average, 1933-37	328,295	235,399	34,251	10,611	18,117	14,032	15,885
1938	680,810	484,569	83,543	18,034	15,675	71,754	7,235
1939	^{2/} 400,872						
Value (1,000 yen)							
1928	3,072	2,428	295	^{3/}	218	39	92
1929	3,661	2,980	325	^{3/}	223	30	103
1930	3,852	3,154	477	^{3/}	166	9	46
1931	5,156	4,512	329	2	192	7	114
1932	3,650	2,698	712	3	89	25	123
Average, 1928-32	3,878	3,154	427	1	178	22	96
1933	4,878	3,019	1,234	8	338	136	143
1934	8,378	5,867	1,561	137	385	195	233
1935	12,547	9,011	1,699	260	879	346	352
1936	15,121	10,677	1,655	373	1,006	536	874
1937	25,440	15,901	4,439	1,439	857	1,256	1,548
Average, 1933-37	13,273	8,895	2,118	443	693	494	630
1938	29,984	19,288	4,661	792	1,117	3,556	570
1939	^{2/} 24,413						

^{1/} Includes Ceylon prior to 1934, and Burma prior to 1938.

^{2/} Country detail not available.

^{3/} Less than 500 yen.

Spinning machinery (including parts and accessories thereof): Exports
(domestic produce) from Japan, by principal markets, 1934-39 ^{1/}

Year	All countries	Principal countries				All other countries
		China	British India ^{2/}	Kwantung	Manchuria (Manchukuo)	
Quantity (100 kin)						
1934	138,152	96,481	18,366	6,674	2,886	13,745
1935	164,981	122,437	19,141	11,754	6,050	5,599
1936	221,754	156,675	18,080	13,455	14,124	19,420
1937	172,119	267,751	43,069	13,672	20,824	25,803
Average, 1934-37	224,002	160,836	24,664	11,339	10,971	16,142
1938	423,543	298,473	48,663	14,191	56,926	5,290
1939	^{3/} 287,924					
Value (1,000 yen)						
1934	6,281	4,176	1,393	345	126	221
1935	8,978	6,255	1,573	578	276	376
1936	10,154	7,118	1,305	594	465	672
1937	17,581	11,915	2,544	700	854	1,568
Average, 1934-37	10,749	7,341	1,709	554	430	715
1938	21,658	13,937	3,215	1,015	3,001	490
1939	^{3/} 17,450					

^{1/} Not separately classified prior to 1934.

^{2/} Includes Ceylon prior to 1934, and Burma prior to 1938.

^{3/} Country detail not available.

Weaving machines, including parts and accessories thereof: Exports
(domestic produce) from Japan, by principal markets, 1934-39 ^{1/}

Year	All countries	Principal countries				All other countries
		China	British India ^{2/}	Netherlands Indies	Manchuria (Manchukuo)	
Quantity (100 kin)						
1934	68,113	54,628	4,252	3,706	3,719	1,808
1935	133,761	109,355	2,934	5,104	2,374	13,794
1936	170,778	128,313	8,516	7,101	2,139	24,709
1937	294,014	154,713	37,485	25,340	14,471	62,005
Average, 1934-37	166,667	111,752	13,277	10,313	5,675	25,629
1938	257,367	186,096	34,880	16,596	14,828	4,867
1939	^{3/} 112,948					
Value (1,000 yen)						
1934	2,096	1,691	168	111	70	56
1935	3,569	2,856	106	162	69	376
1936	4,967	3,558	350	194	71	794
1937	7,859	3,986	1,895	933	402	643
Average, 1934-37	4,623	3,023	630	350	153	467
1938	8,326	5,350	1,446	671	554	305
1939	^{3/} 6,963					

^{1/} Not separately classified prior to 1934.

^{2/} Includes Ceylon prior to 1934, and Burma prior to 1938.

^{3/} Country detail not available.



SEWING MACHINES

Household sewing machines are light, of low speed, and in the less developed countries are often run by foot or hand. Industrial machines are heavy, high-speed and often of complex construction for special purposes.

No statistics are available on Japanese production, but there is known to be a substantial industry in Japan. Japan exported some machines to Asiatic countries, and there was some export of parts to the United States. Imports are largely industrial machines of the more advanced types.

There has been no known production in the colonies.

Sewing machines: General imports into Japan, by principal sources, 1928-39

Year	All countries	Principal countries			All other countries
		Great Britain	United States	Germany	
Quantity (100 kin)					
1928	34,922	27,457	3,441	3,793	231
1929	63,046	52,017	3,009	7,788	232
1930	29,777	21,974	2,756	4,821	226
1931	19,828	12,700	2,913	3,640	575
1932	14,328	8,828	1,328	4,084	88
Average, 1928-32 -	32,380	24,595	2,690	4,825	270
1933	7,880	4,702	3,039	90	49
1934	25,050	13,301	6,642	5,045	62
1935	29,374	20,937	4,433	3,954	50
1936	31,800	18,072	6,086	7,490	152
1937	43,774	29,062	8,624	5,386	702
Average, 1933-37 -	27,576	17,215	5,765	4,393	203
1938	✓ 1,406	110	1,086	194	16
1939	✓ 442				
Value (1,000 yen)					
1928	5,242	4,074	657	484	27
1929	9,220	7,561	649	983	27
1930	3,940	2,859	447	612	22
1931	2,627	1,590	534	433	70
1932	3,106	1,736	554	795	21
Average, 1928-32 -	4,827	3,564	568	662	33
1933	2,061	1,109	908	28	16
1934	5,623	2,705	1,776	1,122	20
1935	6,216	4,063	1,265	874	14
1936	7,618	3,648	2,339	1,594	37
1937	10,232	5,879	2,997	1,226	130
Average, 1933-37 -	6,350	3,481	1,857	969	43
1938	✓ 386	35	264	83	4
1939	✓ 153				

✓ Country detail not available.

Note.- Imports from Manchuria during this period never exceeded 100 kin a year or were valued at as much as 1,000 yen.



PUMPS

Pumps which may be of many different basic designs are used to move, liquids and gases. Practically all industries require pumps directly or indirectly. They are indispensable in many machines, especially those used in making ships, aircraft, tanks, and so forth for war.

Japanese production figures are not available, but it is believed that the country was self-sufficient for its ordinary peacetime requirements. Exports had increased ten fold by weight from 1931 to 1938 and almost 15 times in value.

Pumps, including parts and accessories thereof: Exports (domestic produce) from Japan
by principal markets, 1928-39

Year	All countries	Principal countries			All other countries
		Kwantung	China	Manchuria (Manchukuo)	
Quantity (100 kin)					
1928	5,903	4,631	1/ 786	2/	486
1929	8,677	5,900	1/ 1,505	2/	1,272
1930	6,897	3,441	1/ 778	2/	2,678
1931	6,647	2,999	1/ 1,501	2/	2,147
1932	7,222	4,335	998	355	1,534
Average, 1928-32	7,069	4,261	1,114	3/	1,623
1933	15,106	8,704	1,323	1,067	4,012
1934	28,474	20,292	2,001	1,831	4,350
1935	28,284	16,172	4,517	3,270	4,325
1936	35,284	20,180	4,708	3,611	6,785
1937	47,178	29,448	4,535	8,107	5,088
Average, 1933-37	30,865	18,959	3,417	3,577	4,912
1938	64,229	42,756	6,791	12,631	2,051
1939	4/ 72,789				
Value (1,000 yen)					
1928	418	325	1/ 51	2/	42
1929	383	224	1/ 79	2/	80
1930	395	191	1/ 43	2/	161
1931	351	159	1/ 70	2/	122
1932	344	222	40	12	70
Average, 1928-32	378	224	57	3/	95
1933	909	545	60	51	253
1934	1,572	1,176	89	80	227
1935	1,623	928	373	138	184
1936	1,952	1,215	209	197	331
1937	2,917	1,988	236	472	221
Average, 1933-37	1,795	1,171	193	188	243
1938	5,246	3,515	553	1,047	131
1939	4/ 7,895				

- 1/ Includes Manchuria.
2/ Not separately reported.
3/ Not available.
4/ Country detail not available.

"OTHER" MACHINERY
(Exports)

This basket class covers exports not separately reported. The principal items excluded are electrical machinery, pumps, metal or wood-working machinery, printing machinery, spinning and weaving machines, locomotives, cranes, internal combustion engines, and sewing machines. Comparable figures are not available prior to 1935, because the above items were all included in this class.

The table below for imports into Formosa of "All other" machinery and parts does not include the following which are separately reported in Formosan import statistics: Clocks and watches; surgical, musical, telegraphic, telephonic, and scientific instruments; vehicles; boats; boilers; engines; locomotives and railway cars and coaches; electrical machinery and batteries; pumps; and sugar-making machinery. In 1938 imports of electrical machinery into Formosa from Japan amounted to about 1.7 million yen a year; imports of sugar machinery were about 600 thousand yen; and pumps were valued at about 900 thousand.

"Other machinery": ^{1/} Exports (domestic produce) from Japan, by principal markets, 1935-39

Year	All countries	Principal countries								All other countries
		Keantung	China	Thailand	British India ^{2/}	Soviet Union ^{3/}	Philippine Islands	Netherland Indies	Manchuria (Manchukuo)	
Value (1,000 yen)										
1935	19,523	9,707	3,508	22	1,061	^{4/}	136	350	3,190	1,549
1936	20,243	10,048	3,137	387	723	143	180	399	3,225	2,001
1937	37,713	16,206	4,019	2,952	1,406	987	507	459	9,151	2,026
Average, 1935-37	25,826	11,987	3,555	1,120	1,063	377	274	403	5,189	1,858
1938	51,353	24,705	7,285	1,398	911	350	339	335	14,564	1,946
1939	^{5/} 72,440									

^{1/} Other than electrical machinery, pumps, etc.; metal or wood-working machinery; spinning machines; weaving machines; printing machines; locomotives; cranes, etc.; internal combustion engines; and sewing machines. Statistics not readily comparable prior to 1935.

^{2/} Includes Burma prior to 1938.

^{3/} Does not include Asiatic Soviet Union.

^{4/} Less than 500 yen.

^{5/} Country detail not available.

"All other" machinery and parts thereof: Imports into Formosa from Japan, 1928-38

Year	Value
	1,000 yen
1928	3,108
1929	2,390
1930	2,652
1931	1,970
1932	2,372
Average, 1928-32	2,498
1933	3,435
1934	5,568
1935	6,226
1936	6,387
1937	5,496
Average, 1933-37	5,422
1938	7,974



OTHER MACHINES

(Imports)

This is a basket classification and the nature of the imports under it is not known. It does not include internal combustion engines, metal and wood working machinery, electrical machinery, textile machinery, printing and paper machinery, and a number of other items specified in the foreign trade statistics. The table is shown here only to indicate the extent of the trade. Beginning with 1937 the imports are reported with "All Other Machinery," which see.

Other machines: ^{1/} General imports into Japan, by principal sources, 1928-36

Year	All countries	Principal countries						All other countries
		Germany	United States	Great Britain	Sweden	Switzerland	France	
Value (1,000 yen)								
1928	19,190	2,792	7,549	3,917	276	470	478	3,708
1929	24,486	4,384	9,019	5,014	382	599	576	4,512
1930	20,767	4,007	6,547	5,498	398	568	1,457	2,292
1931	11,908	2,507	3,871	2,486	212	163	505	2,164
1932	12,463	2,250	2,968	1,659	220	266	141	4,959
Average, 1928-32	17,763	3,188	5,991	3,715	298	413	631	3,527
1933	11,440	2,687	4,044	847	167	70	268	3,357
1934	11,510	4,030	3,231	1,289	659	481	190	1,630
1935	16,733	6,177	5,749	1,626	231	341	1,133	1,476
1936	14,145	6,258	4,792	1,312	508	463	425	387
Average, 1933-36	13,457	4,788	4,454	1,269	391	339	504	1,712

^{1/} Included in "All other machinery" after 1936.

Note.- Imports not exceeding 1,000 yen were reported from Manchuria in each year from 1933 to 1936.

OTHER PARTS OF MACHINERY

(Imports)

Parts of machines are in many instances included in import statistics with the machines to which they relate. This is a basket class that includes all kinds of parts for a great variety of machines. The nature of the imports is not known and the table is shown only to indicate the extent of the trade.

Other parts of machinery: General imports into Japan, by principal sources, 1928-39

Year	All countries	Principal countries						All other countries
		United States	Germany	Sweden	Great Britain	Switzerland	France	
Value (1,000 yen)								
1928	12,658	4,663	3,240	798	1,728	820	539	870
1929	15,983	6,483	3,824	920	2,855	311	455	1,135
1930	11,180	4,504	2,148	699	1,996	280	490	1,063
1931	6,937	3,189	1,188	725	968	206	264	397
1932	8,909	3,649	1,555	1,214	1,323	146	315	707
Average, 1928-32	11,133	4,498	2,391	871	1,774	353	412	834
1933	12,108	3,719	2,437	2,813	1,915	521	349	354
1934	14,544	4,072	3,262	3,532	1,550	467	337	1,325
1935	18,818	7,110	4,202	5,069	1,597	244	317	279
1936	16,406	6,950	3,945	3,045	1,703	194	318	252
1937	29,306	12,840	6,631	6,604	1,962	378	310	582
Average, 1933-37	18,236	6,938	4,095	4,213	1,745	361	326	558
1938	40,709	19,530	9,992	6,084	1,927	354	1,109	1,713
1939	^{1/} 54,641							

^{1/} Country detail not available.

Note.- Imports from Manchuria did not exceed 3,000 yen in any year during this period.

ALL OTHER MACHINERY

(Imports)

The data in this table for the years 1928 to 1936 are a consolidation of the import figures for internal combustion engines, metal and wood working machinery, and "other machines," all of which are separately reported and shown above.

They have been combined and shown here from 1928 to 1936 solely for the purposes of comparison with the data for 1937, 1938, and 1939, during which years only the consolidated figures have been reported in the official statistics.

All other machinery^{1/} General imports into Japan, by principal sources, 1928-39

Year	All countries	Principal countries				All other countries
		United States	Germany	Great Britain	Switzerland	
Value (1,000 yen)						
1928	36,411	16,710	4,603	5,276	1,558	^{2/} 8,264
1929	48,221	20,145	7,500	7,002	1,671	^{2/} 11,903
1930	40,074	13,949	7,626	6,768	1,220	^{2/} 10,511
1931	25,905	9,379	5,588	3,960	420	^{2/} 6,558
1932	30,740	11,221	4,461	3,632	839	^{2/} 10,587
Average, 1928-32	36,270	14,281	5,956	5,328	1,142	9,563
1933	43,832	15,904	10,972	4,440	951	^{2/} 11,565
1934	53,721	26,682	13,584	3,850	1,199	^{2/} 8,406
1935	50,589	26,839	14,345	3,748	1,366	4,291
1936	47,388	26,101	14,093	3,799	1,602	1,793
1937	93,779	56,854	26,062	4,895	3,507	2,461
Average, 1933-37	57,862	30,476	15,811	4,146	1,725	5,704
1938	171,285	100,997	56,543	5,980	4,871	2,894
1939	^{3/} 174,461					

^{1/} Data for 1928-36 are totals of 7 classes; metal or wood working machinery (3), internal combustion engines (3), and "other" machines.

^{2/} Includes machines cleared from warehouse for which accurate data are not available. Probably all internal combustion engines.

^{3/} Country detail not available.

Note.- Imports from Manchuria amounted to 1,000 yen or less per year from 1933 to 1937, and to 2,000 yen in 1938; none were reported in the other years.



LOCOMOTIVES AND RAILWAY CARS

Steam, Diesel power, or electricity are used for road locomotives, and Diesel power or electricity for switching engines as a rule. Industrial locomotives may use gasoline engines or any of the other types.

The principal railways of Japan are owned and operated by the Government as are those of Manchuria and Korea. Locomotives are made by several large Japanese engineering and electrical concerns, and the large shops of the State railways repair locomotives and build most of their own rolling stock. The Government-controlled South Manchuria Railway, the most important in that country, has large shops in which it builds most of its own rolling stock and provides some for Korea and China; it is not known whether they build locomotives.

Japanese railroads are of less than standard gage and in general have inferior equipment; the Manchurian roads use standard gage.

In 1937 production of locomotives in Japan was as follows: 435 steam, valued at 25 million yen; 50 electric, valued at 2 million yen; 725 gasoline, valued at 5 million yen; and parts and accessories, valued at 8 million yen, a grand total of 40 million yen. The average unit value of steam locomotives built in Japan in 1937 was about \$17,000 at current rates of exchange, compared with about \$100,000 for those built in the United States.

Since the rise of Japan's large manufacturing plants, among which are locomotive works, imports have practically ceased. In 1938 exports of locomotives from Japan to Empire areas were valued at 21 million yen of which about 15 million represented exports to Kwantung, probably for use in Manchuria, and 5 million exports to Korea. In 1939 exports from Japan to all countries were valued at about 48 million yen, but except for Korea, which imported locomotives valued at 24 million yen from Japan, country detail is not available. On the basis of export figures for the five preceding years Kwantung probably received at least 23 million of the remainder.

Locomotives are a prime necessity in war, and locomotive shops are well equipped for building heavy armament.

Locomotives (including tenders): Exports (domestic produce) from Japan,
by principal markets, other than Korea, 1934-39 ^{1/}

Year	All countries	Principal countries		All other countries
		Kwantung	Manchuria (Manchukuo)	
Quantity (Number)				
1934	1,759	1,751	2	6
1935	184	174	4	6
1936	266	236	11	19
1937	185	169	4	12
Average, 1934-37	599	583	5	11
1938	302	249	43	10
1939	^{2/} 347			
Value (1,000 yen)				
1934	8,422	8,229	123	70
1935	13,777	13,247	299	231
1936	15,087	14,384	113	590
1937	9,314	9,098	34	182
Average, 1934-37	11,650	11,240	142	268
1938	16,338	15,329	536	473
1939	^{2/} 24,468			

- ^{1/} Not separately classified prior to 1934.
^{2/} Country detail not available.

Locomotives and tenders: Imports into Korea from Japan, 1928-39

Year	Value 1,000 yen
1928	1,068
1929	507
1930	605
1931	362
1932	195
Average, 1928-32	547
1933	342
1934	427
1935	2,325
1936	2,877
1937	5,259
Average, 1933-37	2,246
1938	4,966
1939	23,522

Railway carriages and parts thereof: Imports into Korea from Japan, 1928-39

Year	Value 1,000 yen
1928	894
1929	1,143
1930	470
1931	420
1932	526
Average, 1928-32	691
1933	3,683
1934	1,881
1935	2,766
1936	4,949
1937	4,448
Average, 1933-37	3,545
1938	10,985
1939	18,675

Parts and accessories of railway carriages and wagons: Exports (domestic produce)
from Japan, by principal markets, 1935-39 ^{1/}

Year	All countries	Principal countries					All other countries
		Kwantung	British Malaya	China	Thailand	Manchuria (Manchukuo)	
Value (1,000 yen)							
1935	8,723	8,696	19	6	-	1	1
1936	7,783	7,053	5	9	2/ 496	220	-
1937	6,635	6,476	94	30	2/	33	2
Average, 1935-37	7,714	7,408	39	15	166	85	1
1938	14,108	13,469	21	84	306	222	6
1939	3/ 18,454						

- ^{1/} Not separately reported prior to 1935.
^{2/} Less than 500 yen.
^{3/} Country detail not available.



STEAM VESSELS

Steam vessels: Exports (domestic produce) from Japan,
by principal markets, 1928-39

Year	All countries	Principal countries					All other countries
		Asiatic Soviet Union	Thailand	Kwantung	China	Manchuria (Manchukuo)	
Quantity (number)							
1928	52	43	-	7	1/ 2	2/	-
1929	128	107	-	9	1/ 9	2/	3
1930	173	167	-	3	1/ 3	2/	-
1931	12	6	-	4	1/ 2	2/	2
1932	9	2	-	-	5	-	-
Average, 1928-32	75	65	-	5	4	2/	1
1933	20	5	-	4	5	6	-
1934	9	3	-	4	1	-	1
1935	6	-	-	5	-	-	1
1936	42	31	1	4	1	-	5
1937	44	21	8	4	7	-	4
Average, 1933-37	24	12	2	4	3	1	2
1938	31	8	6	3	11	-	3
1939	4/ 41						
Value (1,000 yen)							
1928	2,465	212	-	2,220	1/ 32	2/	1
1929	5,229	621	-	4,382	1/ 219	2/	7
1930	2,879	1,114	-	1,683	1/ 52	2/	30
1931	3,286	94	-	3,140	1/ 52	2/	-
1932	5,428	900	-	-	4,625	-	3
Average, 1928-32	3,857	568	-	2,285	996	2/	8
1933	886	26	-	146	44	670	-
1934	216	144	-	31	38	-	3
1935	78	-	-	65	-	-	13
1936	6,090	605	755	4,702	11	-	17
1937	19,844	9,877	7,151	2,146	353	-	317
Average, 1933-37	5,423	2,130	1,581	1,418	89	134	71
1938	14,846	878	12,318	72	1,087	-	491
1939	4/ 10,665						

- ^{1/} Includes Manchuria.
^{2/} Not separately reported.
^{3/} Not available.
^{4/} Country detail not available.



IRON MANUFACTURES

Iron manufactures exported from Japan greatly exceed imports, and include a wide variety of articles of a comparatively simple nature, ranging from sewing needles to stoves. They are shipped almost entirely to Asiatic countries. In 1938 three groups of articles (rivets, bolts, nuts, and washers; enameled iron ware; and nails) constituted almost a third of the total exports. Construction material ranked fourth, and tinplate manufactures fifth. Unfilled cans constituted only about a fourth of the exports of tinplate manufactures, substantial amounts being exported filled, as canned goods constitute one of Japan's major exports. The principal items imported were nails, rivets, bolts, nuts, and washers; and sewing needles.

According to the latest production data (1938) tinplate manufactures lead in importance. Output is fairly evenly divided between cans and other tinplate manufactures, with somewhat greater amounts for the latter.

In 1938 production of rivets, bolts, nuts, and washers in Japan was valued at 70 million yen as compared with exports of a little over 6 million; production of tinplate manufactures was 180 million yen and exports 3.6 million; production of nails and screws was 37 million yen and exports 4.4 million yen; for iron furniture the figures were 29 and 1 million yen, respectively; and for enameled iron ware they were 22 and 5 million yen.

(See also Iron and Steel, above.)

Iron manufactures—Total: Exports (domestic produce) from Japan, by principal markets, 1928-39

Year	All countries	Principal countries								All other countries
		Kwantung Province	Dutch India	British India	China	Philippine Islands	The Straits Settlements	Asiatic Soviet Union	Manchuria (Manchukuo)	
Value (1,000 yen)										
1928	13,683	3,219	1,505	2,498	2,490	796	338	877	230	1,738
1929	15,196	3,446	1,735	2,304	2,286	680	519	1,835	148	2,243
1930	14,095	2,510	1,023	1,713	1,923	624	409	4,212	83	1,598
1931	10,246	1,397	842	1,762	1,544	650	227	2,392	89	1,343
1932	14,193	2,663	2,575	3,322	1,429	469	345	1,497	230	1,663
Average, 1928-32	13,483	2,647	1,536	2,320	1,934	644	368	2,162	156	1,716
1933	26,897	6,059	4,366	5,151	1,694	932	1,187	1,183	1,459	4,866
1934	35,277	10,108	5,055	4,985	2,012	928	2,246	942	1,883	7,118
1935	37,504	8,394	3,719	5,466	2,282	1,582	1,744	602	2,562	11,153
1936	40,302	8,718	4,181	4,309	2,967	2,098	2,154	141	2,699	13,035
1937	54,116	12,590	7,774	6,221	2,668	2,262	2,027	208	5,287	15,079
Average, 1933-37	38,819	9,174	5,019	5,226	2,325	1,560	1,872	615	2,778	10,250
1938	52,231	22,786	2,857	2,728	6,357	651	279	3	10,413	6,157
1939	76,253	32,027	4,976	3,585	10,753	457	390	1/	19,135	4,930

1/ Less than 500 yen.

Nails, screws, etc.: Imports into Korea from Japan, 1928-40

Year	Quantity	Value
	100 kin	1,000 yen
1928	114,187	1,507
1929	134,125	1,789
1930	128,456	1,518
1931	120,968	1,223
1932	133,720	1,387
Average, 1928-32	126,293	1,485
1933	160,234	2,078
1934	211,117	2,582
1935	260,843	3,116
1936	346,089	3,941
1937	351,246	6,345
Average, 1933-37	265,906	3,612
1938	377,499	8,114
1939	352,503	10,240
1940	291,516	9,632

LUMBER

Japan normally produces 8 to 10 billion board feet of lumber and timbers and other forest products (except firewood and pulpwood) annually. Domestic demand for lumber and timbers exceeds production by about 300 million board feet; between 1934 and 1937, imports averaged 800 million board feet and exports about 500 million board feet a year.

The largest class of imports consisted of softwoods (cedar, pine, fir, hemlock, and spruce), principally from the United States and Canada, averaging more than 700 million board feet from 1933 to 1937. Approximately half of these imports were in the form of logs and the remainder were made up largely of squared timbers which were usually re-sawn to smaller sizes in Japanese mills. The imports next in importance were hardwoods, chiefly from the Philippine Islands, British Borneo, and the Netherlands Indies, known in Japanese trade as "South Seas" hardwoods. These consisted principally of luan (Philippine mahogany) and associated species. These woods comprised only about 5 percent (40 million board feet) of the total lumber imports in the years 1928-32, but about 25 percent (200 million board feet) from 1933 to 1937. They reached Japan largely in the form of logs. In addition to these major classes, Japan imported teak, ebony, and similar hardwoods from Thailand; kiri (*Paulownia tomentosa*) from China; aspen from the United States, Canada, Manchuria, and the Soviet Union; and small quantities of logs and lumber from Formosa and Korea.

Softwood lumber is utilized in Japan for general construction and, to a certain extent, for box shooks, pencils, plywood, and other manufactures. South Seas hardwoods enter largely into the production of veneer and plywood, but also are used for ship finish and aircraft production. Teak is used mainly for ship decking, while kiri, aspen, and other woods go into the manufacture of clogs, matches, match boxes, toys, and similar small articles.

Japan exported about 500 million board feet of logs and lumber annually from 1934 to 1937—about 400 million feet—to Empire areas (including Manchuria) and only 100 million feet to foreign countries. Korea, Formosa, and Kwantung were not self-sufficient in lumber production and relied upon imports from Japan proper and Karafuto. Since the beginning of aggression in Manchuria and China, Japan has been forced to send large quantities of lumber and timbers to these areas, but the forest resources of Japan will not continuously support such shipments. Sugi (*Cryptomeria japonica*) predominated in lumber exports, followed by oak, pine, and spruce and fir.

Japan has encouraged the production of wood manufactures for export, even though imports of lumber are necessary to supplement the domestic supply. Veneer and plywood, box shooks, and toys constitute the largest classes of exports of such products. (See Special Industry Analysis of Lumber.)

Cedar (other than for pencils), pine, fir, hemlock, and spruce—logs and cuts:
General imports into Japan, by principal sources, 1928-39

Year	All countries	Principal countries				All other countries
		United States	Canada	Asiatic Soviet Union	Manchuria (Manchukuo)	
Quantity (1,000 board feet)						
1928	705,049	482,725	41,161	179,248	-	1,915
1929	564,176	380,071	27,525	163,429	-	151
1930	527,356	278,975	44,682	203,698	-	1
1931	486,479	245,008	81,899	159,546	-	26
1932	364,071	135,099	86,530	142,436	-	6
Average, 1928-32	529,426	304,376	54,959	169,671	-	420
1933	294,395	149,753	75,655	68,987	-	-
1934	249,428	155,681	81,129	12,402	215	1
1935	323,995	216,229	74,737	32,508	353	168
1936	337,387	262,328	72,013	3,041	5	-
1937	206,946	98,442	89,344	18,706	425	29
Average, 1933-37	282,430	176,487	78,576	27,129	200	38
1938	1/ 81,167	35,868	39,476	5,783	1	39
1939	2/ 85,906					
Value (1,000 yen)						
1928	42,551	29,830	2,205	10,396	-	120
1929	32,971	23,509	1,075	8,378	-	9
1930	22,613	13,391	1,676	7,544	-	2
1931	18,740	11,169	2,891	4,678	-	2
1932	14,617	7,268	3,875	3,472	-	2
Average, 1928-32	26,298	17,033	2,344	6,894	-	27
1933	16,540	9,918	4,209	2,413	-	-
1934	15,404	10,265	4,505	619	15	-
1935	20,230	14,435	4,355	1,410	22	6
1936	21,439	17,216	3,115	107	2/	1
1937	18,854	10,602	7,207	1,005	38	2
Average, 1933-37	18,493	12,487	4,878	1,111	15	2
1938	7,497	3,984	3,214	297	2/	2
1939	2/ 8,283					

1/ Country detail not available.
2/ Less than 500 yen.

Note.—Imports from Kwantung averaged only 18 thousand board feet from 1928 to 1932, with an average value of 1,000 yen; none has been reported since 1932.

Cedar (other than for pencils), pine, fir, hemlock and spruce—60 but not exceeding 200 m. m. in thickness: ^{1/}
 General imports into Japan, by principal sources, 1928-39

Year	All countries	Principal countries			All other countries
		United States	Canada	Asiatic Soviet Union	
Quantity (1,000 board feet)					
1928	351,147	333,232	17,731	-	184
1929	224,895	212,079	12,721	-	95
1930	135,550	118,121	17,217	209	3
1931	114,657	101,416	12,123	1,074	44
1932	58,376	53,387	4,978	-	11
Average, 1928-32	176,925	163,647	12,954	257	67
1933	34,372	31,175	1,824	1,373	-
1934	22,759	21,573	1,185	-	1
1935	19,255	17,509	1,746	-	-
1936	19,118	17,988	940	-	190
1937	13,727	12,576	1,149	-	2
Average, 1933-37	21,846	20,164	1,369	274	39
1938	^{2/} 5,384	5,204	179	-	1
1939	^{2/} 2,806				
Value (1,000 yen)					
1928	21,120	20,021	1,088	-	11
1929	14,089	13,340	743	-	6
1930	6,893	5,975	902	15	1
1931	5,270	4,558	655	54	3
1932	3,720	3,255	463	-	2
Average, 1928-32	10,218	9,430	770	14	4
1933	2,751	2,260	388	103	-
1934	1,869	1,691	178	-	^{3/}
1935	1,731	1,501	230	-	-
1936	2,376	1,975	173	-	228
1937	2,446	2,131	315	-	^{3/}
Average, 1933-37	2,235	1,912	257	21	45
1938	^{2/} 1,544	1,460	84	-	-
1939	^{2/} 1,299				

^{1/} Classified as "from 65, not exceeding 150 m. m. in thickness, prior to March 31, 1929.

^{2/} Country detail not available.

^{3/} Less than 500 yen.

Note.— The only imports reported from Kwantung were 44 thousand board feet in 1931; the only ones from Manchuria were 1 thousand board feet in 1934.

Cedar (other than for pencils) pine, fir, hemlock and spruce - exceeding 200 m.m. in thickness ^{1/}: General imports into Japan, by principal sources, 1928-39

Year	All countries	Principal countries				All other countries
		United States	Canada	Asiatic Russia	Manchuria (Manchukuo)	
Quantity (1,000 board ft.)						
1928	540,168	486,139	53,640	378	-	11
1929	478,059	427,445	49,876	681	-	57
1930	330,280	243,040	83,456	3,784	-	-
1931	327,451	223,654	101,035	2,761	-	1
1932	232,096	172,099	57,686	2,311	-	-
Average, 1928-32	381,611	310,475	69,139	1,983	-	14
1933	233,530	184,420	49,110	-	-	-
1934	203,704	130,596	73,090	-	15	3
1935	227,554	173,650	53,664	-	240	-
1936	210,156	182,801	27,354	-	-	1
1937	196,743	159,532	36,256	-	900	55
Average, 1933-37	214,337	166,200	47,894	-	231	12
1938	^{2/} 39,477	34,948	4,528	-	-	1
1939	^{2/} 38,474	-	-	-	-	-
Value (1,000 yen)						
1928	32,739	29,317	3,390	29	-	3
1929	28,981	25,899	3,027	45	-	10
1930	15,602	11,470	3,983	148	-	1
1931	12,821	8,707	4,068	45	-	1
1932	10,916	8,033	2,832	50	-	1
Average, 1928-32	20,212	16,685	3,460	64	-	3
1933	13,437	10,535	2,902	-	-	-
1934	12,604	7,950	4,652	-	2	^{3/}
1935	14,600	11,000	3,584	-	16	-
1936	13,375	11,542	1,831	-	-	2
1937	19,739	15,879	3,763	-	90	7
Average, 1933-37	14,751	11,381	3,346	-	22	2
1938	^{2/} 3,956	3,498	458	-	-	-
1939	^{2/} 4,085	-	-	-	-	-

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^{1/} Classified as "exceeding 150 m.m. in thickness" prior to March 31, 1929.

^{2/} Country detail not available.

^{3/} Less than 500 yen.

Note.- No imports have been reported from Kwantung since 1929; they amounted to only 11 thousand board feet in 1928 and 58 thousand in 1929.

"Other" wood: ^{1/} General imports into Japan, by principal sources, 1928-39

Year	All countries	Principal countries					All other countries
		Phil. Is.	British Borneo	Neth. Indies	United States	Manchuria (Manchukuo)	
Value (1,000 yen)							
1928	2,432	1,263	-	380	279	^{2/} 171	339
1929	3,454	1,904	-	632	365	^{2/} 90	463
1930	2,670	1,457	196	301	222	^{2/} 39	455
1931	2,784	1,430	251	257	509	-	337
1932	3,322	1,660	269	374	793	25	201
Average, 1928-32	2,932	1,543	143	389	433	65	359
1933	5,215	2,512	798	984	515	192	214
1934	7,665	4,301	1,375	1,370	315	120	184
1935	9,946	5,089	2,542	1,485	514	146	170
1936	13,817	7,330	4,306	1,231	285	290	375
1937	17,962	11,260	3,198	1,970	424	476	634
Average, 1933-37	10,921	6,098	2,444	1,408	411	245	315
1938	^{3/} 12,449	6,691	1,980	1,883	373	1,006	516
1939	^{3/} 15,974						

^{1/} This class consists chiefly (72 percent from 1928-32 and 91 percent from 1933-37) of what are known as "South Seas" hardwoods; principally lauan (Philippine mahogany) and associated species; it does not include ebony, teak, cedar, pine, fir, hemlock, spruce, kiri, and aspen.

^{2/} May include small imports of ebony, teak, cedar, pine, etc., and aspen.

^{3/} Country detail not available.

Note.- Imports from Kwantung have not amounted to as much as 30,000 yen a year since 1931.

Lumber: ^{1/} Exports from Formosa to Japan, 1928-38

Year	Quantity	Value
	1,000 board feet	1,000 yen
1928	9,640	1,861
1929	11,131	2,147
1930	7,396	1,315
1931	8,023	1,145
1932	11,746	1,771
Average, 1928-32	9,587	1,648
1933	14,303	2,210
1934	12,716	1,852
1935	8,931	1,286
1936	11,578	1,994
1937	9,954	2,058
Average, 1933-37	11,496	1,880
1938	13,466	3,097

^{1/} This includes timbers and boards; over 95 percent in quantity was timbers. Conversions were on the basis of 1 cubic shaku equal to 11.76 board feet, and 1 square shaku equal to 1.18 board feet.

Lumber: ^{1/} Exports from Korea to Japan, 1928-40

Year	Quantity	Value
	1,000 board feet	1,000 yen
1928	12,082	894
1929	8,596	672
1930	4,941	382
1931	20,596	1,035
1932	19,101	871
Average, 1928-32	13,277	771
1933	10,178	523
1934	16,866	941
1935	29,195	2,275
1936	22,081	1,507
1937	27,635	1,973
Average, 1933-37	21,191	1,443
1938	20,424	1,739
1939	21,096	1,953
1940	29,630	3,522

^{1/} This includes logs, timbers, and boards; about 80 percent in quantity were logs from 1928-32, and 95 percent from 1933-37. Logs were converted to board feet on the basis of 1 cubic shaku equal to 11.76 board feet.

Logs and cants, softwoods: Exports (domestic produce),
by principal countries, 1934-39 ^{1/}

Year	All countries	Principal countries			All other countries
		Kwantung	China	Manchuria (Manchukuo)	
Quantity (1,000 board feet)					
1934	243,277	200,188	34,955	6,912	1,222
1935	81,372	45,163	29,291	5,942	976
1936	52,682	26,742	18,014	7,886	40
1937	97,717	65,197	21,739	7,518	3,263
Average, 1934-37	118,762	84,323	26,000	7,064	1,375
1938	^{2/} 174,207	69,982	84,357	19,194	674
1939	^{2/} 329,548				
Value (1,000 yen)					
1934	3,356	2,002	1,070	213	71
1935	3,927	2,440	1,248	194	45
1936	2,149	1,165	650	330	4
1937	3,278	1,942	984	289	63
Average, 1934-37	3,178	1,887	988	257	46
1938	^{2/} 12,408	5,296	5,856	1,170	86
1939	^{2/} 32,262				

^{1/} Not separately classified prior to 1934. ^{2/} Country detail not available.

Note.— Converted to board feet at 1 cubic meter equal to 424 board feet. Sugi in the most important variety.

Sawn hardwood: Exports (domestic produce), by principal countries, 1934-39 ^{1/}

Year	All countries	Principal countries									All other countries
		New Zealand	Ewantung	Netherlands	Belgium	Union of So. Africa ^{2/}	Great Britain	Australia	United States	Manchuria (Manchukuo)	
Quantity (1,000 board feet)											
1934	33,429	1,637	3,141	875	1,079	2,669	15,981	1,074	2,207	347	4,419
1935	40,005	1,598	3,724	1,465	1,439	1,803	18,988	849	5,008	567	4,564
1936	67,969	9,018	6,109	2,675	1,436	2,409	27,708	2,943	2,580	1,523	11,568
1937	52,390	3,400	4,835	3,603	2,108	2,067	29,911	608	1,511	541	3,806
Average, 1934-37	48,448	3,913	4,452	2,154	1,516	2,237	23,147	1,368	2,827	745	6,089
1938	38,695	1,958	9,849	2,133	995	1,162	11,862	477	285	3,768	6,206
1939	^{3/} 49,120										
Value (1,000 yen)											
1934	5,383	280	334	153	198	449	2,849	185	378	30	527
1935	6,625	270	363	256	264	304	3,475	143	850	52	648
1936	8,054	455	365	434	262	377	4,942	147	427	60	585
1937	11,448	740	709	638	441	365	7,291	137	290	117	720
Average, 1934-37	7,877	436	443	370	291	374	4,639	153	486	65	620
1938	7,359	493	1,169	412	211	254	3,193	133	74	241	1,179
1939	^{3/} 11,014										

^{1/} Not separately classified prior to 1934. See "Sawn wood, total."

^{2/} Classified as Cape Colony and Natal, 1928 and 1929.

^{3/} Country detail not available.

Note.- Converted to board feet at 1 cubic meter equal to 424 board feet.

Sawn hardwood: Exports (domestic produce), by principal countries, 1934-39 ^{1/}

Year	All countries	Principal countries									All other countries
		New Zealand	Kwantung	Netherlands	Belgium	Union of So. Africa ^{2/}	Great Britain	Australia	United States	Manchuria (Manchukuo)	
Quantity (1,000 board feet)											
1934	33,429	1,637	3,141	875	1,079	2,669	15,981	1,074	2,207	347	4,419
1935	40,005	1,598	3,724	1,465	1,439	1,803	18,988	849	5,008	567	4,564
1936	67,969	9,018	6,109	2,675	1,436	2,409	27,708	2,943	2,580	1,523	11,568
1937	52,390	3,400	4,835	3,603	2,108	2,067	29,911	608	1,511	541	3,806
Average, 1934-37	48,448	3,913	4,452	2,154	1,516	2,237	23,147	1,368	2,827	745	6,089
1938	38,695	1,958	9,849	2,133	995	1,162	11,862	477	285	3,768	6,206
1939	^{3/} 49,120										
Value (1,000 yen)											
1934	5,383	280	334	153	198	449	2,849	185	378	30	527
1935	6,625	270	363	256	264	304	3,475	143	850	52	648
1936	8,054	455	365	434	262	377	4,942	147	427	60	585
1937	11,448	740	709	638	441	365	7,291	137	290	117	720
Average, 1934-37	7,877	436	443	370	291	374	4,639	153	486	65	620
1938	7,359	493	1,169	412	211	254	3,193	133	74	241	1,179
1939	^{3/} 11,014										

- ^{1/} Not separately classified prior to 1934. See "Sawn wood, total."
^{2/} Classified as Cape Colony and Natal, 1928 and 1929.
^{3/} Country detail not available.

Note.- Converted to board feet at 1 cubic meter equal to 424 board feet.

Plywood:^{1/} Exports (domestic produce) from Japan, by principal markets, 1928-39

Year	All countries	Principal countries						All other countries
		Great Britain	Kwantung	Union of South Africa ^{2/}	China	Belgo-Luxemburg	Manchuria (Manchukuo)	
Quantity (1,000 square feet) ^{3/}								
1928	9,751	2,259	39	19	^{4/} 980	-	^{5/}	6,454
1929	13,113	3,280	26	236	^{4/} 889	-	^{5/}	8,682
1930	7,653	3,146	218	309	^{4/} 276	246	^{5/}	3,458
1931	9,285	5,002	298	197	^{4/} 579	55	^{5/}	3,154
1932	20,664	10,016	548	274	1,564	1,490	^{5/} 60	6,712
Average, 1928-32	12,093	4,741	226	207	858	358	^{6/}	5,692
1933	40,679	15,685	2,573	1,598	2,985	4,875	477	12,486
1934	58,942	28,836	5,429	3,262	7,186	3,868	870	9,491
1935	64,028	23,142	9,302	2,827	14,477	4,279	2,204	7,797
1936	95,419	41,078	16,159	6,163	12,652	3,622	3,898	11,847
1937	136,015	59,157	21,406	8,034	10,985	3,373	6,512	26,548
Average, 1933-37	79,017	33,580	10,974	4,377	9,657	4,003	2,792	13,624
1938	99,495	22,324	22,549	3,706	17,324	1,183	13,905	18,504
1939	^{7/} 214,832							
Value (1,000 yen)								
1928	1,027	363	6	1	^{4/} 49	-	^{5/}	608
1929	1,460	560	4	22	^{4/} 68	-	^{5/}	806
1930	565	234	13	17	^{4/} 19	9	^{5/}	273
1931	554	362	24	16	^{4/} 28	5	^{5/}	119
1932	1,292	815	33	20	58	116	^{5/} 3	247
Average, 1928-32	980	467	16	15	44	26	^{6/}	411
1933	2,550	1,277	147	129	155	390	24	428
1934	4,011	2,201	287	237	361	339	33	553
1935	4,397	2,131	420	266	487	372	72	649
1936	5,965	3,320	584	453	366	307	119	816
1937	9,002	4,798	832	630	381	314	277	1,770
Average, 1933-37	5,185	2,745	454	343	350	344	105	844
1938	6,064	1,743	1,114	244	770	115	766	1,312
1939	^{7/} 12,499							

- 1/ Classified as "wood veneer plates" 1928-34, "veneer" 1935-38 and "plywood of lauan" and "other" in 1939.
 2/ Classified as Cape Colony and natal in 1928 and 1929.
 3/ Converted to 1,000 square feet in 1928-34 by using the factor 2.7 square feet per kin.
 4/ Includes Manchuria.
 5/ Not separately reported.
 6/ Not available.
 7/ Country detail not available.

Lumber: Imports into Korea from Japan, 1928-40

Year	Logs ^{1/}	Timber ^{1/}	Boards ^{1/}	Railway sleepers ^{2/}	Total
Quantity (1,000 board feet)					
1928	19,353	4,503	8,462	2,868	35,186
1929	17,212	3,322	8,251	1,981	30,766
1930	16,741	2,918	7,931	1,011	28,601
1931	13,827	2,245	6,100	271	22,443
1932	20,696	2,584	6,190	216	29,686
Average, 1928-32	17,566	3,115	7,387	1,269	29,337
1933	40,966	8,923	11,257	717	61,863
1934	54,302	23,169	17,209	1,787	96,467
1935	44,877	33,300	24,086	485	102,748
1936	49,323	53,646	27,250	156	130,375
1937	48,854	49,755	25,981	2,668	127,258
Average, 1933-37	47,664	33,758	21,157	1,163	103,742
1938	48,979	72,507	26,123	5,595	153,204
1939	84,347	117,000	50,895	14,753	266,995
1940	82,878	129,072	40,842	11,062	263,854
Value (1,000 yen)					
1928	1,193	450	969	489	3,101
1929	1,119	292	928	307	2,646
1930	837	271	826	162	2,096
1931	586	183	566	36	1,371
1932	858	196	586	29	1,669
Average, 1928-32	919	278	775	205	2,177
1933	2,003	782	1,210	58	4,053
1934	2,967	1,926	1,967	167	7,027
1935	2,484	2,599	2,405	45	7,533
1936	2,766	4,301	2,782	18	9,867
1937	3,168	4,617	2,864	527	11,176
Average, 1933-37	2,678	2,845	2,246	163	7,932
1938	3,766	8,840	3,580	939	17,125
1939	8,043	15,348	8,291	2,619	34,301
1940	9,674	19,507	6,935	1,810	37,926

^{1/} Converted on the basis of 1 cubic shaku equal to 11.76 board feet.

^{2/} Converted on the basis of 1 piece equal to 1 cubic shaku, and 1 cubic shaku equal to 11.76 board feet.

Lumber: Imports into Formosa from Japan, 1928-38

Year	Logs ^{1/}	Lumber ^{2/}	Railway sleepers ^{3/}	Total
Quantity (1,000 board feet)				
1928		53,268	28,175	
1929		69,524	22,508	
1930		66,193	23,699	
1931		73,658	23,979	
1932		102,778	25,638	
Average, 1928-32		73,084	24,800	
1933	64,092	38,762	22,559	125,413
1934	69,798	41,402	22,685	133,885
1935	93,259	64,090	29,501	186,850
1936	100,590	83,653	31,618	215,861
1937	99,028	74,901	30,313	204,242
Average, 1933-37	85,354	60,562	27,336	173,252
1938	103,217	56,770	31,361	191,348
Value (1,000 yen)				
1928		4,822	971	
1929		5,807	961	
1930		4,535	687	
1931		4,217	575	
1932		5,487	425	
Average, 1928-32		4,974	724	
1933	3,060	3,216	434	6,710
1934	3,544	3,728	480	7,752
1935	4,462	5,749	788	10,999
1936	4,538	7,398	872	12,808
1937	5,117	7,938	866	13,921
Average, 1933-37	4,144	5,606	688	10,438
1938	7,384	7,786	1,194	16,364

^{1/} Not separately classified before 1933. Converted on the basis of 1 cubic shaku equal to 11.76 board feet.

^{2/} Separately classified as "Timber and boards" through 1932; thereafter as "Lumber, other than logs." Converted on the basis of 1 square shaku equal to 1.18 board feet; and 1 cubic shaku equal to 11.76 board feet.

^{3/} Converted on the basis of 1 sleeper equal to 33 board feet.



WOOD PULP

Although Japan ranked sixth among the pulp producing nations of the world in the years immediately preceding her entrance into World War II, that country had not attained self-sufficiency in pulp production. The country depended to a large extent upon imports of pulp from foreign countries to maintain her paper-making industry and, more especially, her expanding synthetic fiber industry whose pulp requirements expanded eight-fold between 1932 and 1937.

Of the total output of pulp produced in the Japanese empire in 1939 about 50 percent was in Japan proper (25 percent in Kyushu, Shikoku, and Honshu and 25 percent in Hokkaido), 42 percent in Karafuto, 4 percent in Korea, 3 percent in Manchuria, and 1 percent in Formosa.

Imports of pulp for paper making and pulp for conversion into rayon and staple fiber increased from 82,000 short tons in 1928 to 550,000 tons in 1937. Imports declined substantially in succeeding years because of Japan's need to protect her foreign exchange and the adoption of a link system whereby imports of rayon pulp were held proportionate to the exports of rayon and staple fiber yarns and manufactures thereof.

Japanese imports of rayon pulp were first distinguished from paper pulp in 1935. In the peak year of pulp imports, 1937, the 325,000 tons of rayon pulp is estimated to have been equivalent to 50 percent of Japan's requirements for rayon grades of sulphite and the 225,000 tons of paper pulp equivalent to 35 percent of Japan's total consumption of paper pulp in that year.

Japan launched in 1932 an ambitious 5-year program to expand its pulp production by 1 million tons to meet total needs. The plan called for an output of 1,985,000 tons in 1942. Incomplete production data for 1939 and 1940 indicated some increase in the volume of pulp manufactured over preceding years, but it is not believed that the planned goal was reached.

Pulp for paper making and for artificial silk—total; General imports into Japan, by principal sources, other than Korea, 1928-39

Year	All countries	Principal countries						All other countries
		United States	Sweden	Norway	Canada	Finland	Manchuria (Manchukuo)	
Quantity (100 kin)								
1928	1,238,321	113,945	110,135	118,031	791,532	1/	-	104,678
1929	1,361,347	244,422	157,340	242,014	587,651	1/	-	129,920
1930	1,339,265	93,563	103,322	282,991	739,386	1/	-	120,003
1931	1,703,762	339,845	230,132	174,037	829,218	1/	-	130,530
1932	1,712,784	374,371	272,590	365,536	455,567	1/	-	244,780
Average, 1928-32	1,471,096	233,229	174,692	236,522	680,671	2/	-	145,982
1933	2,708,373	755,276	439,657	527,249	788,420	1/	-	197,771
1934	3,814,656	1,415,096	800,652	669,256	679,951	1/	-	249,701
1935	4,569,797	1,846,077	856,435	821,295	581,758	423,625	769	39,838
1936	5,528,532	2,603,407	952,184	944,566	469,888	524,417	-	34,070
1937	7,901,727	3,185,612	2,060,596	1,052,406	879,388	639,770	51	83,904
Average, 1933-37	4,904,617	1,961,094	1,021,905	802,954	679,881	2/ 529,271	164	121,057
1938	2,434,819	872,310	420,803	307,269	284,278	211,921	298,144	40,094
1939	2,834,939	834,968	238,101	452,557	155,902	335,834	1/	817,577
Value (1,000 yen)								
1928	11,454	1,289	1,156	1,517	6,250	1/	-	1,242
1929	13,485	2,317	1,482	3,286	4,625	1/	-	1,775
1930	12,084	832	921	3,608	5,459	1/	-	1,264
1931	11,840	2,418	1,220	2,013	5,200	1/	-	989
1932	15,328	3,951	1,792	4,115	3,144	1/	-	2,326
Average, 1928-32	12,838	2,161	1,314	2,908	4,936	2/	-	1,519
1933	27,066	7,801	3,571	7,577	6,043	1/	-	2,074
1934	44,256	16,321	7,438	10,464	7,445	1/	-	2,788
1935	55,101	22,812	7,734	13,201	5,991	4,982	2	379
1936	67,107	31,758	9,735	14,621	4,150	6,401	-	442
1937	116,720	49,181	26,994	17,071	12,619	9,496	1/	1,359
Average, 1933-37	62,050	25,575	11,094	12,587	7,210	2/ 6,960	1	1,408
1938	42,181	15,111	6,277	5,400	5,046	3,339	6,362	646
1939	56,537	18,767	4,191	9,387	2,034	5,776	1/	16,382

1/ Not separately reported.

2/ Not available.

3/ Average, 1935-37.

4/ Less than 500 yen.

Pulp for paper making: General imports into Japan, by principal sources, other than Korea, 1935-39

Year	All countries	Principal countries						All other countries
		Sweden	United States	Canada	Norway	Finland	Manchuria (Manchukuo)	
Quantity (100 kin)								
1935	2,430,661	789,408	920,174	467,589	5,293	210,694	769	36,734
1936	2,664,769	767,300	1,125,148	421,000	93,969	232,742	-	4,590
1937	2,981,993	1,395,457	845,070	532,766	112,400	87,914	51	8,235
Average, 1935-37	2,692,441	984,055	963,464	480,458	70,554	177,117	273	16,520
1938	502,906	217,643	150,692	9,809	45	37,646	84,613	2,458
1939	1/ 452,713							
Value in (1,000 yen)								
1935	21,171	6,699	8,178	4,113	55	1,786	2	338
1936	23,050	6,805	9,390	3,735	1,062	2,011	-	47
1937	36,349	16,412	10,418	6,581	1,786	1,013	2/	139
Average, 1935-37	26,857	9,972	9,329	4,810	968	1,603	1	174
1938	7,712	2,932	2,552	165	1	570	1,466	26
1939	1/ 7,659							

1/ Country detail not available.

2/ Less than 500 yen.

Pulp for artificial silk: General imports into Japan, by principal sources, other than Korea, 1935-39

Year	All countries	Principal countries						All other countries
		United States	Norway	Sweden	Finland	Canada	Manchuria (Manchukuo)	
Quantity (100 kin)								
1935	2,139,136	925,903	816,002	67,027	212,931	114,169	-	3,104
1936	2,863,763	1,478,259	850,597	184,884	291,675	28,868	-	29,480
1937	4,919,834	2,340,542	940,006	665,139	551,856	346,622	-	75,669
Average, 1935-37	3,307,578	1,581,568	868,869	305,083	352,154	163,220	-	36,084
1938	1,931,913	721,018	307,224	203,160	174,275	274,469	213,531	37,636
1939	1/ 2,382,226							
Value (1,000 yen)								
1935	33,930	14,634	13,146	1,035	3,196	1,878	-	41
1936	44,057	22,368	13,559	2,930	4,390	415	-	395
1937	80,371	38,763	15,285	10,582	8,483	6,038	-	1,220
Average, 1935-37	52,786	25,255	13,997	4,849	5,350	2,777	-	552
1938	34,469	12,559	5,399	3,345	2,769	4,881	4,896	620
1939	1/ 48,878							

1/ Country detail not available.

Fibrous pulp: Exports from Korea to Japan, 1928-40

Year	Quantity		Value	
	100 kin		1,000 yen	
1928	30,798		403	
1929	39,432		473	
1930	16,463		149	
1931	31,012		219	
Average, 1928-32	23,533		249	
1933	121,745		1,074	
1934	33,998		344	
1935	77,608		747	
1936	4,925		45	
1937	424,571		5,594	
Average, 1933-37	132,569		1,561	
1938	540,624		9,230	
1939	381,883		8,943	
1940	370,610		7,860	

PAPER

The manufacture of paper and board in the Japanese Empire is chiefly in Kyushu, Shikoku, and Honshu, with an estimated 10 percent of the total in Hokkaido and an additional 10 percent in Karafuto. Small quantities only are made in Manchuria, Korea, and Formosa. Practically all of the purely Japanese type papers are made in Japan proper, part of the total output representing the product of very small establishments.

Printing paper constituted about 50 percent of the aggregate output of paper in Japan in prewar years, and printing paper also represented the principal kind of paper imported and exported. Printing paper weighing not more than 58 grams per square meter, essentially newsprint, formed the bulk of total imports; Canada was the main source of supply. In the face of a considerable production and imports of newsprint, per capita consumption of newsprint in the Japanese Empire in 1939 is estimated to have been about 8 pounds compared with about 55 pounds in the United States.

Japan's exports of paper were more than twice as large as imports in the period 1928-37 and were of importance in the country's economy. About three-fourths of the total quantity exported consisted of a wide variety of papers, inclusive of wrapping, writing, art, cigarette, and strictly Japanese type papers, and the remaining one-fourth was printing paper.

Printing paper, weighing not more than 58 grams per square meter:
General imports into Japan, by principal sources, 1928-39

Year	All countries	Principal countries					All other countries	
		Canada	Norway	Sweden	Germany	Netherlands		Great Britain
Quantity (100 kin)								
1928	110,091	-	21,481	46,587	11,945	7,426	18,106	4,546
1929	60,894	-	3,546	33,358	10,045	2,961	8,888	2,096
1930	320,439	-	73,803	126,546	81,578	1,137	5,475	31,900
1931	607,567	178,285	127,373	237,016	18,680	1,701	3,026	41,486
1932	538,833	402,673	37,239	81,894	2,246	1,213	3,088	10,480
Average, 1928-32	327,565	116,192	52,688	105,080	24,899	2,888	7,717	18,101
1933	495,172	482,887	139	-	37	880	2,299	8,930
1934	733,753	714,900	665	71	18	648	2,275	15,176
1935	984,894	919,534	29,767	-	16	1,822	11,162	22,593
1936	1,212,704	1,113,854	28,564	38,541	825	1,510	2,203	27,207
1937	681,409	548,290	55,880	24,206	19,940	19,367	4,689	9,037
Average, 1933-37	821,586	755,893	23,003	12,564	4,167	4,845	4,526	16,588
1938	54,078	28,469	12,506	1,552	8,157	1,493	1,745	156
1939	1/ 233							
Value (1,000 yen)								
1928	1,498	-	263	515	158	124	377	61
1929	777	-	45	350	126	49	197	30
1930	2,656	-	585	1,047	636	18	110	260
1931	4,071	1,154	886	1,527	140	21	50	293
1932	4,539	3,491	268	574	33	18	63	92
Average, 1928-32	2,712	929	409	803	219	46	159	147
1933	3,100	2,976	2	-	1	15	54	52
1934	4,787	4,595	9	2	2	12	50	117
1935	7,443	6,844	260	-	1	21	137	180
1936	9,287	8,442	241	319	7	14	58	206
1937	8,315	6,658	627	334	261	201	107	127
Average, 1933-37	6,586	5,903	228	131	54	53	81	136
1938	681	360	173	25	84	16	21	2
1939	1/ 4							

1/ Country detail not available.

Note.- There were no imports from Manchuria during this period.

Foreign paper: Exports from Korea to Japan, 1928-40

Year	Quantity	Value
	100 kin	1,000 yen
1928	131,088	2,573
1929	131,215	2,341
1930	193,181	3,475
1931	210,131	3,257
1932	193,286	2,573
Average, 1928-32	171,780	2,844
1933	215,145	3,727
1934	187,235	3,922
1935	162,387	3,285
1936	173,575	3,465
1937	185,644	3,660
Average, 1933-37	184,797	3,612
1938	241,430	5,443
1939	221,336	5,668
1940	209,584	5,637

Papers - total: Exports (domestic produce) from Japan, by principal markets, 1928-39

Year	All countries	Principal countries							All other countries
		Kwantung	China	Netherlands Indies	Hong Kong	United States	British India	Manchuria (Manchukuo)	
Quantity (100 kin)									
1928	1,331,069	188,187	2/ 875,846	3,706	118,097	13,024	70,953	2/	60,656
1929	1,406,309	205,403	892,188	6,718	122,859	8,294	101,849	2/	47,536
1930	1,702,325	186,285	1,186,932	13,259	109,339	9,307	131,721	17,308	48,124
1931	1,413,933	124,864	938,458	10,572	116,842	8,781	149,867	11,748	52,801
1932	994,531	248,850	388,486	49,339	21,801	8,809	163,276	15,671	77,299
Average, 1928-32	1,369,633	190,718	856,382	16,719	102,108	9,043	123,531	2/ 16,562	57,283
1933	1,155,185	397,304	367,049	59,424	54,304	7,993	118,134	64,515	86,392
1934	1,293,299	431,632	399,888	33,621	100,680	7,537	125,037	88,913	105,991
1935	1,499,812	489,702	406,969	59,242	131,146	10,610	179,841	118,603	103,699
1936	1,688,103	684,844	409,329	46,221	101,966	15,349	144,005	144,293	144,096
1937	2,033,238	846,708	302,009	83,312	120,560	10,734	198,445	262,960	202,510
Average, 1933-37	1,533,927	570,038	377,049	56,364	101,731	11,045	153,092	135,871	128,138
1938	2,483,851	1,004,831	729,946	30,414	48,548	8,418	177,366	371,068	113,260
1939	3,171,119	1,061,328	1,143,786	55,328	38,319	9,079	154,399	579,730	149,150
Value (1,000 yen)									
1928	25,668	3,835	15,884	78	1,769	1,316	581	382	1,843
1929	26,282	4,056	16,003	108	1,736	1,071	876	390	2,042
1930	27,553	3,214	18,219	146	1,537	1,328	922	272	1,915
1931	20,995	2,089	13,669	129	1,496	918	983	155	1,556
1932	14,022	3,610	5,122	643	525	735	1,161	312	1,914
Average, 1928-32	22,904	3,361	13,779	221	1,413	1,074	905	302	1,849
1933	17,687	6,128	4,786	1,082	650	943	842	1,267	1,909
1934	20,650	6,851	6,153	514	1,251	636	750	1,924	2,561
1935	23,085	7,158	6,572	747	1,609	845	1,107	2,532	2,455
1936	27,545	9,699	7,413	916	1,413	1,116	1,025	3,008	3,155
1937	38,708	13,814	6,940	1,830	1,777	1,773	1,613	5,931	5,030
Average, 1933-37	25,535	8,730	6,373	1,018	1,312	1,063	1,067	2,938	3,034
1938	52,127	19,393	16,149	808	718	1,497	1,123	8,857	3,582
1939	77,946	26,024	27,663	1,241	535	1,797	1,333	16,128	3,225

1/ Includes Ceylon prior to 1934, and Burma prior to 1938.

2/ Includes Manchuria.

3/ Not available.

4/ Average, 1929-32.

Printing paper ^{1/} - total: Exports (domestic produce) from Japan, by principal markets, 1928-37

Year	All countries	Principal countries						All other countries
		China	Kwantung	Neth. Indies	Hong Kong	Australia	Manchuria (Manchukuo)	
Quantity (100 kin)								
1928	827,766	640,677	89,138	78	70,051	-	7,054	20,768
1929	865,077	645,223	115,312	748	78,304	7	11,078	14,405
1930	1,096,624	911,032	105,667	671	65,113	260	8,463	5,418
1931	934,719	745,851	75,860	334	87,648	6,935	7,946	10,145
1932	525,259	306,546	131,418	16,905	24,996	5,919	5,681	33,794
Average, 1928-32	849,839	649,866	103,479	3,747	65,222	2,624	8,044	16,906
1933	620,692	296,853	183,950	27,555	33,720	1,154	28,005	49,455
1934	580,135	244,222	192,375	19,753	60,361	1,574	36,809	25,041
1935	618,866	254,050	219,373	20,897	66,345	5,154	33,449	19,598
1936	609,137	247,249	235,159	21,460	37,074	11,982	28,973	27,440
1937	617,044	164,026	281,175	34,498	38,690	18,281	29,962	50,412
Average, 1933-37	609,175	241,280	222,406	24,833	47,238	7,629	31,440	34,349
1938	678,654	219,037	351,803	11,079	5,800	18,577	54,742	17,616
1939	1,134,978							
Value (1,000 yen)								
1928	12,938	9,952	1,421	2	1,053	-	100	410
1929	13,073	9,687	1,823	19	1,101	2/	156	287
1930	14,954	12,388	1,442	13	912	4	103	92
1931	11,626	9,262	978	6	1,077	109	79	115
1932	6,233	3,520	1,599	209	294	98	78	435
Average, 1928-32	11,765	8,962	1,453	50	887	42	103	268
1933	7,642	3,389	2,429	421	381	31	361	630
1934	7,676	3,199	2,585	295	694	37	559	307
1935	8,518	3,560	2,832	354	766	114	580	312
1936	8,174	3,152	3,054	364	501	197	531	375
1937	10,402	2,699	4,327	742	693	452	663	826
Average, 1933-37	8,482	3,200	3,045	435	607	166	539	490
1938	12,942	4,467	5,808	278	131	493	1,382	383
1939	2/ 23,748							

- 1/ Separately classified beginning 1937 as: Art paper; News printing paper; and other printing paper.
 2/ Country detail not available.
 3/ Less than 500 yen.

Foreign style paper: Imports into Korea from Japan, 1928-40

Year	Quantity	Value
	100 kin	1,000 yen
1928	239,739	5,660
1929	238,256	5,366
1930	239,847	5,225
1931	224,960	4,454
1932	277,126	5,576
Average, 1928-32	243,985	5,256
1933	303,763	6,469
1934	343,163	7,472
1935	450,228	9,465
1936	533,524	10,894
1937	601,294	13,756
Average, 1933-37	446,394	9,611
1938	683,890	16,859
1939	626,754	17,200
1940	543,375	16,302

Paper: Imports into Formosa from Japan, 1928-38

Year	Value
	1,000 yen
1928	3,233
1929	3,561
1930	3,251
1931	3,228
1932	3,470
Average, 1928-32	3,349
1933	3,970
1934	4,515
1935	5,061
1936	5,414
1937	6,339
Average, 1933-37	5,060
1938	7,178



RAW COTTON

Until legislative action restricted its use (beginning with import restrictions in 1937), raw cotton not only supplied 80 percent or more of the textile requirements of the people but it also supplied the raw material for Japan's important export trade in cotton textiles. Cotton has been cultivated in Japan; with the present density of population the land can be more economically used for food crops; it would be impossible, moreover, to grow 10 to 14 million piculs of cotton, the quantities used annually from 1931 to 1936. Empire areas supplied less than 2 percent; in fact, if exports of raw cotton and cotton wadding from Japan to Korea are taken into account, Japan's cotton trade with Empire areas has been on a net export basis. Cotton wadding, included with raw cotton exports to Korea, may, however, be made chiefly from cotton waste.

From 3 to 8 percent of the cotton imported was reexported, chiefly to China. Approximately 90 percent of the total consumed in Japan was reported as consumed in the spinning industry. The remainder was chiefly used as wadding in quilted clothing, which substituted for wool garments. Of the total quantity of cotton used in Japan, about 50 percent was retained for final consumption in Japan proper during the late 1920's, about 40 percent in the early 1930's, and, owing to measures restricting home consumption of imported goods, less than 10 percent in 1939. Restrictions were imposed to conserve foreign exchange for the importation of war materials and also to stimulate synthetic fiber production. Final consumption of cotton in Japan before restrictions were imposed averaged annually between 8 and 9 kin (over 10 pounds) per person. The cotton manufactured for export reentered foreign trade mainly in the form of cotton cloth.

India and the United States together supplied about 90 percent of the imports of raw cotton into Japan proper until 1936, in which year imports from Brazil, and from numerous small suppliers, increased. The proportion of Indian and of American cotton imported from year to year varied largely with the relative price. The price of the basic quality of Indian cotton in Japan was quoted at 68 percent of the basic quality of American cotton in 1929 and at 98 percent in 1932. Japanese spinners have particular success in mixing cottons of different qualities because of which the short Indian cotton competed more directly with American cotton in Japan than elsewhere.

The Japanese self-sufficiency program for textiles included, in addition to synthetic fiber production, expansion of cotton growing in Japanese-held territory, particularly in North China, but also in Manchuria, the Philippines, and the Netherlands Indies. Unginned cotton, small in quantity on a lint basis, entered Japan principally from the Netherlands Indies where it was grown by Japanese plantations on New Guinea.

Cotton, ginned: General imports into Japan, by principal sources, 1928-39

Year	All countries	Principal countries						All other countries
		British India ^{1/}	United States	Egypt	Brazil	China	Manchuria (Manchukuo) ^{2/}	
Quantity (100 kin)								
1928	9,729,662	4,602,178	3,871,587	175,724	-	^{2/} 1,030,496	^{3/}	49,677
1929	10,762,827	5,136,459	4,485,130	233,571	-	^{2/} 772,474	^{3/}	135,193
1930	9,543,896	4,724,923	3,883,477	182,586	-	^{2/} 702,558	^{3/}	50,352
1931	11,135,402	4,807,479	5,321,022	287,168	-	^{2/} 713,151	^{3/}	6,582
1932	12,713,615	2,741,052	9,101,698	330,362	-	530,696	-	9,807
Average, 1928-32	10,777,080	4,402,418	5,332,583	241,882	-	749,875	^{4/}	50,322
1933	12,457,818	3,976,857	7,434,873	280,454	1,156	562,212	-	202,266
1934	13,525,151	5,792,383	6,486,727	549,550	29,221	327,583	24	339,665
1935	12,244,434	5,211,036	5,758,430	536,917	39,212	423,038	16,437	259,364
1936	15,158,648	6,726,944	5,928,744	445,463	707,526	460,904	10	889,057
1937	13,680,231	7,016,238	4,223,964	670,390	838,580	399,005	604	531,450
Average, 1933-37	13,413,256	5,744,691	5,966,548	496,555	323,139	434,548	3,415	444,360
1938	9,342,689	3,096,085	3,248,976	404,720	833,254	1,432,414	32	327,208
1939	^{5/} 10,068,187							
Value (1,000 yen)								
1928	549,612	232,241	245,925	17,722	-	^{2/} 49,587	^{3/}	4,137
1929	572,639	231,108	276,357	22,170	-	^{2/} 33,546	^{3/}	9,458
1930	361,715	147,684	176,800	12,592	-	^{2/} 21,983	^{3/}	2,656
1931	296,115	113,255	153,700	11,619	-	^{2/} 17,366	^{3/}	175
1932	447,130	91,800	320,752	15,300	-	18,875	-	403
Average, 1928-32	445,442	163,218	234,707	15,880	-	28,271	^{4/}	3,366
1933	604,468	168,790	381,655	19,085	60	24,273	-	10,605
1934	730,936	252,435	400,919	39,787	1,962	15,650	1	20,182
1935	713,682	259,037	371,952	43,009	2,318	20,652	894	15,820
1936	849,648	315,061	372,415	36,415	44,764	22,741	1	58,251
1937	849,749	363,635	306,388	58,759	56,488	23,574	38	40,867
Average, 1933-37	749,697	271,792	366,666	39,411	21,118	21,378	187	29,145
1938	436,323	113,331	166,414	27,529	41,366	71,790	2	15,891
1939	^{5/} 461,627							

- ^{1/} Includes Ceylon prior to 1934, and Burma prior to 1938.
^{2/} Includes Manchuria.
^{3/} Not separately reported.
^{4/} Not available.
^{5/} Country detail not available.

Cotton, ginned and wadding: Imports into Korea from Japan, 1928-40

Year	Quantity	Value
	100 kin	1,000 yen
1928	105,205	6,056
1929	124,974	6,630
1930	140,908	5,177
1931	162,791	4,317
1932	178,416	6,488
Average, 1928-32	142,459	5,734
1933	176,061	8,553
1934	230,853	11,805
1935	326,005	16,237
1936	472,218	24,317
1937	557,723	33,905
Average, 1933-37	352,572	18,963
1938	83,296	4,554
1939	10,826	713
1940	4,310	282

Ginned cotton: Exports from Korea to Japan, 1928-40

Year	Quantity	Value
	100 kin	1,000 yen
1928	113,624	6,020
1929	117,589	6,578
1930	176,357	7,546
1931	85,080	2,609
1932	85,983	3,504
Average, 1928-32	115,727	5,251
1933	142,252	6,488
1934	147,447	8,137
1935	225,180	13,471
1936	202,394	11,457
1937	135,945	8,266
Average, 1933-37	170,644	9,564
1938	139,006	7,994
1939	165,834	11,872
1940	208,417	14,414

COTTON YARN

The cotton spinning industry in Japan has been one of its most important manufacturing industries, ranking third among the various textile industry groups in both number of employees and value of product. In the consumption of raw cotton Japan ranked second among the countries of the world, being exceeded only by the United States. The output of cotton yarn in the decade before World War II ranged between 1 and 1.6 billion pounds, about 98 percent of which was consumed within the country in the fabrication of cotton cloth and other textile products.

Japan has, however, a substantial trade in cotton yarn, importing from China and Kwantung and exporting chiefly to British India and the Netherlands Indies. The smaller imports, approximately 1 percent of production, are mainly supplemental to domestic consumption. On the average from 1934 to 1937 about 2.5 million yen were yarns "not exceeding 24s" and an equal amount were "not exceeding 42s."

Cotton yarn: Imports into Korea from Japan, 1928-40

Year	Quantity	Value
	100 kin	1,000 yen
1928	79,771	7,167
1929	72,920	6,519
1930	75,281	4,841
1931	74,301	4,069
1932	123,118	5,885
Average, 1928-32	85,078	5,696
1933	98,014	5,993
1934	151,493	9,491
1935	118,429	9,621
1936	69,713	5,738
1937	40,305	3,828
Average, 1933-37	95,591	6,934
1938	18,778	1,775
1939	2,444	305
1940	3,255	467

Cotton yarns—total: ^{1/} General imports into Japan, by principal sources, 1928-39

Year	All countries	Principal countries				All other countries
		China	Kwantung	Great Britain	Manchuria (Manchukuo)	
Quantity (100 kin)						
1928	10,992	^{2/} 6,458	76	4,328	^{3/}	130
1929	15,718	^{2/} 4,395	5,163	5,972	^{3/}	188
1930	27,159	^{2/} 11,137	11,100	4,864	^{3/}	58
1931	346,611	^{2/} 247,181	90,091	9,198	^{3/}	141
1932	85,763	20,568	54,833	10,008	^{2/70}	84
Average, 1928-32	97,249	57,948	32,253	6,874	^{4/}	120
1933	176,904	100,860	65,745	10,210	63	26
1934	163,557	88,517	65,348	9,597	78	17
1935	53,823	12,472	31,060	10,283	^{5/}	8
1936	43,347	3,684	32,229	7,325	110	^{4/}
1937	34,388	797	26,651	5,553	1,218	169
Average, 1933-37	94,404	41,266	44,207	8,594	294	43
1938	^{6/} 6,415	2,015	2,614	966	820	-
1939	^{6/} 2,400					
Value (1,000 yen)						
1928	1,562	^{2/} 688	9	832	^{3/}	33
1929	1,798	^{2/} 355	435	953	^{3/}	55
1930	1,904	^{2/} 706	574	611	^{3/}	13
1931	15,550	^{2/} 10,075	4,558	890	^{3/}	27
1932	5,924	1,876	2,863	1,145	17	23
Average, 1928-32	5,348	2,740	1,688	886	^{4/}	30
1933	14,477	8,025	4,887	1,553	6	6
1934	13,252	6,491	5,112	1,637	7	5
1935	5,153	1,309	2,133	1,709	^{7/}	2
1936	4,244	350	2,561	1,345	9	^{4/}
1937	4,068	91	2,667	1,166	126	18
Average, 1933-37	8,243	3,253	3,472	1,482	30	6
1938	^{6/} 743	131	279	246	86	1
1939	^{6/} 490					

^{1/} Classified as "cotton yarns" for the years 1928-33. Beginning 1934 it is broken down into six classes. Detail data for 1934 and later years are shown in separate tables for the more important classes.

^{2/} Includes Manchuria.

^{3/} Not separately reported.

^{4/} Not available.

^{5/} Less than 100 kin.

^{6/} Country detail not available.

^{7/} Less than 500 yen.

Cotton yarns: Exports (domestic produce) from Japan,
by principal markets, 1928-39

Year	All countries	Principal countries					All other countries
		British India ^{1/}	Netherlands Indies	Hong Kong	Kwantung	Manchuria (Manchukuo)	
Quantity (100 kin)							
1928	214,969	51,781	8,627	47,765	7,782	36,355	62,659
1929	202,205	82,541	7,203	20,965	6,591	23,360	61,545
1930	178,848	60,118	5,754	39,523	6,508	15,600	51,345
1931	95,177	48,596	5,441	7,258	5,101	4,033	24,748
1932	268,816	152,986	21,978	24,504	11,171	13,373	44,804
Average, 1928-32	192,003	79,204	9,801	28,003	7,431	18,544	49,020
1933	144,916	55,296	11,953	3,426	6,259	33,638	34,144
1934	194,533	72,955	13,556	1,059	5,221	36,189	63,553
1935	289,749	134,641	39,564	10,555	6,111	50,826	48,052
1936	331,573	126,528	46,147	20,349	5,259	74,863	58,427
1937	389,192	110,657	92,138	31,259	12,772	82,727	59,639
Average, 1933-37	269,993	100,015	40,672	13,330	7,164	55,649	53,163
1938	315,795	141,614	67,553	7,326	2,811	32,569	63,922
1939	626,249	214,935	144,191	73,501	27,925	48,832	116,865
Value (1,000 yen)							
1928	25,893	9,178	827	4,193	768	3,489	7,438
1929	26,753	13,447	769	2,118	679	2,406	7,334
1930	15,031	6,574	445	2,592	452	1,073	3,895
1931	8,509	5,590	356	447	292	250	1,574
1932	21,545	14,341	1,442	1,336	668	934	2,824
Average, 1928-32	19,546	9,826	768	2,137	572	1,630	4,613
1933	15,710	7,603	1,234	289	615	3,098	2,871
1934	23,485	11,112	1,695	129	512	3,632	6,405
1935	35,873	20,093	4,403	944	540	4,628	5,265
1936	38,345	18,051	5,489	1,840	448	6,391	6,126
1937	54,906	19,846	13,790	3,625	1,423	8,334	7,888
Average, 1933-37	33,664	15,341	5,322	1,365	708	5,217	5,711
1938	39,355	20,575	7,583	642	368	3,232	6,955
1939	71,090	28,959	14,094	5,010	3,999	6,671	12,357

^{1/} Includes Ceylon prior to 1934, and Burma prior to 1938.

COTTON WASTE

Cotton waste accumulates from every step in the processing of raw cotton into manufactures. Very short fuzz, mixed with leaf and trash, is first removed; longer and cleaner fibers suitable for spinning are a residue from carding and combing. Later processes insert twist in the yarn being spun. Waste containing twist is called hard waste or thread waste. The short fuzz is used mainly for stuffing material in upholstery and for poor qualities of wadding. Card strips and comb waste are used to spin soft yarns, and for good qualities of stuffing material, quilt filling, wadding, and absorbent cotton. Thread waste is either shredded and respun or used for wiping machinery.

Japan, as the second or third largest consumer of cotton in the world, was also an important producer of cotton waste. In the years 1928-32 an annual average of about 9.2 million piculs of raw cotton were used in spinning mills and 7.9 million piculs of yarn were produced, leaving a production of waste amounting to about 1.3 million piculs of which about 15 percent was exported. In the years 1933-37 an annual average of 12.4 million piculs of raw cotton were consumed, and 1.7 piculs of waste were produced of which about 30 percent was exported. The quantity retained for consumption averaged about the same, slightly more than 1 million piculs, in each period.

Cotton and cotton yarn waste—Total: Exports (domestic produce) from Japan, by principal markets, 1928-39

Year	All countries	Principal countries					All other countries	
		United States	Germany	Great Britain	Belgium	Australia		Manchuria (Manchukuo)
Quantity (100 kin)								
1928	263,196	49,483	89,554	47,313	20,399	11,618	1/	44,829
1929	281,923	41,843	88,988	54,172	29,089	12,517	1/	55,314
1930	227,655	52,961	51,171	37,510	26,228	9,836	1/	49,949
1931	142,632	21,219	33,224	34,214	12,767	11,468	1/	29,740
1932	185,141	10,976	45,886	63,000	15,403	15,083	131	34,662
Average, 1928-32	220,109	35,296	61,765	47,242	20,777	12,104	2/	42,899
1933	275,400	40,710	67,652	63,590	24,200	20,175	203	58,870
1934	366,430	76,580	77,453	78,108	20,036	21,922	703	91,628
1935	642,280	243,807	142,225	103,691	26,831	20,185	607	104,934
1936	704,969	306,718	109,131	93,072	43,355	23,114	2,489	127,090
1937	646,253	177,739	113,575	97,639	53,528	22,304	5,081	146,387
Average, 1933-37	527,066	169,111	108,007	87,220	33,590	21,540	1,817	105,781
1938	95,742	565	32,902	8,678	362	6,968	11,674	34,593
1939	54,766							
Value (1,000 yen)								
1928	4,757	808	1,527	1,018	315	260	1/	829
1929	5,096	637	1,433	1,277	385	280	1/	1,084
1930	3,312	720	496	810	292	160	1/	834
1931	1,580	243	246	488	89	145	1/	369
1932	2,215	88	484	880	147	187	2	427
Average, 1928-32	3,392	499	837	895	246	206	2/	709
1933	4,112	395	1,001	1,177	331	312	3	893
1934	6,598	1,265	1,271	1,852	348	366	15	1,481
1935	12,664	4,422	3,127	2,384	475	341	16	1,899
1936	14,932	5,249	3,145	2,688	856	462	64	2,468
1937	13,878	3,312	3,086	2,612	1,110	541	159	3,058
Average, 1933-37	10,437	2,929	2,326	2,143	624	404	51	1,960
1938	2,154	14	570	149	6	128	502	785
1939	2,784							

1/ Not separately reported.

2/ Not available.

3/ Country detail not available.



COTTON CLOTH

The United States is the world's largest producer of cotton cloth. In yards of cotton cloth produced in the 1930's Japan ranked second or third, with India as the other alternate important supplier. The output of cotton cloth in Japan averaged about 3.5 billion yards in the decade 1930-39, attaining a peak of 4.2 billion yards in 1937.

Of the total production of cotton cloth in the prewar decade, Japan exported annually from 55 to 80 percent, principally to British India, Netherlands Indies, China, Kwantung, Egypt and other African countries, and South America. In 1933 Japan took the lead as a world exporter of cotton piece goods; exports averaged about 2.6 billion square yards annually from 1933 to 1939. The apparent consumption in this period ranged between 600 million and 1,450 million square yards, reaching a low point in 1939, when production declined to 3 billion yards while exports were maintained at 2.5 billion yards.

Imports of cotton cloth into Japan are relatively small, amounting to less than 2 percent of consumption and a fraction of 1 percent of production. (See Special Industry Analysis for Cotton Cloth.)

Cotton cloth—total: Exports (domestic produce) from Japan to principal markets, other than Korea and Formosa, 1928-39

Year	All countries	Netherlands Indies	British India	Kwantung	Argentina	Kenya, ^{2/} Uganda, and Tanganyika	United States	Thailand	Australia	Straits Settlements	Philippine Islands	China	Egypt	Manchuria	All other countries
Quantity (1,000 square yards)															
1928	1,418,812	172,706	357,712	53,714	8,955	19,061	1,129	6,344	12,282	15,944	30,973	312,333	77,595	✓	130,064
1929	1,790,763	193,572	581,722	56,380	17,695	38,190	595	17,919	13,844	29,593	26,753	331,886	107,462	✓	175,154
1930	1,571,827	182,874	404,246	45,394	7,286	26,620	354	16,120	14,135	44,547	35,125	436,384	109,007	✓	239,738
1931	1,413,781	212,101	404,403	37,937	10,540	52,824	485	5,877	20,934	41,312	33,423	239,453	103,810	✓	250,682
1932	2,033,723	353,267	644,680	88,837	22,417	76,416	1,647	24,393	35,986	82,228	21,409	187,417	195,532	✓	284,317
Average, 1928-32	1,645,781	222,904	478,553	56,452	13,379	44,622	842	14,131	19,436	42,725	29,536	385,495	118,681	✓	215,990
1933	2,090,228	423,056	451,603	86,042	34,951	85,025	7,496	39,829	54,877	95,757	34,910	113,225	210,353	✓	361,173
1934	2,577,264	440,980	410,554	83,637	66,366	82,320	17,371	60,556	74,499	90,990	75,748	99,445	233,688	✓	710,678
1935	2,725,109	370,463	556,206	68,087	103,377	83,498	48,336	71,504	86,634	44,761	87,281	56,046	163,737	✓	823,695
1936	2,709,885	351,718	479,677	127,097	82,169	100,386	73,444	72,186	70,058	48,367	44,314	37,330	106,147	✓	893,217
1937	2,643,429	432,392	331,191	117,605	131,010	103,098	123,776	72,815	52,529	51,785	54,174	45,100	49,687	✓	865,039
Average, 1933-37	2,549,183	404,172	445,846	96,494	83,575	90,865	54,085	63,178	67,723	66,332	59,325	62,229	152,722	✓	730,764
1938	2,180,810	246,436	469,880	58,328	66,544	85,071	16,115	79,946	64,394	26,294	32,677	110,643	21,418	✓	787,907
1939	2,445,537	368,674	475,977	153,779	18,453	94,085	71,548	83,128	73,726	29,561	37,040	22,933	37,338	✓	1,110,306
Value (1,000 yen)															
1928	357,201	39,261	70,177	15,054	2,162	3,834	240	1,346	2,380	3,506	6,781	158,481	17,626	✓	31,353
1929	412,688	42,269	109,124	15,342	4,154	8,422	118	3,799	2,917	5,787	5,615	150,098	24,398	✓	40,645
1930	272,119	28,249	61,198	9,169	1,431	6,392	60	2,569	2,430	6,265	5,423	86,877	20,516	✓	41,500
1931	198,704	28,257	49,864	6,151	1,395	6,794	58	783	2,840	5,192	4,142	43,048	14,942	✓	35,258
1932	288,689	50,206	80,632	16,089	3,276	9,776	254	3,314	4,856	11,209	2,751	37,136	27,045	✓	38,904
Average, 1928-32	304,820	37,652	74,195	12,361	2,484	7,044	146	2,362	3,085	6,392	4,942	95,132	20,905	✓	37,532
1933	383,190	78,249	71,408	18,798	6,577	14,108	1,283	6,756	10,007	17,586	5,763	25,581	38,327	✓	87,094
1934	492,351	82,829	66,815	19,232	13,956	15,601	2,763	10,818	14,764	17,395	13,206	13,029	46,834	✓	134,851
1935	496,097	66,578	85,182	15,211	20,126	15,956	8,184	13,463	17,176	8,484	14,492	11,912	31,683	✓	151,907
1936	483,591	55,391	72,517	28,332	14,780	18,724	13,780	13,620	13,984	9,188	7,680	7,860	20,525	✓	159,989
1937	573,065	85,603	63,041	29,426	29,295	23,003	22,179	16,149	13,527	12,231	12,057	11,296	10,510	✓	189,000
Average, 1933-37	485,659	73,730	72,793	22,200	16,951	17,478	9,638	12,161	13,896	12,979	10,640	13,936	29,576	✓	140,568
1938	404,239	39,485	67,878	17,388	13,130	15,882	2,407	14,905	15,070	5,053	6,053	23,911	3,347	✓	141,721
1939	403,946	53,156	62,364	5,716	3,177	16,685	10,162	14,163	15,119	5,451	5,985	10,908	5,811	✓	191,201

1/ Includes Ceylon prior to 1934, and Burma prior to 1938.

2/ Classified as "East Africa" of which Kenya, Uganda, and Tanganyika absorbed the bulk of exports.

3/ Includes exports to Manchuria.

4/ Not separately reported.

5/ Not available.

Cotton cloth, gray: Exports (domestic produce) from Japan to principal markets, 1928-39

Year	All countries	Netherlands Indies	British India ^{1/}	Kwantung	China	Australia	Kenya, Uganda and Tanganyika	Egypt	Manchuria	All other countries
Quantity (1,000 square yards)										
1928	607,764	55,625	261,321	20,715	2/ 135,755	6,420	10,842	49,263	1/	67,423
1929	816,090	55,055	435,335	18,955	2/ 117,480	7,557	29,174	65,151	1/	87,383
1930	672,439	46,333	294,864	16,305	2/ 109,250	8,128	27,398	57,224	1/	112,937
1931	561,317	48,051	246,556	13,200	2/ 37,212	12,671	34,357	56,852	1/	112,418
1932	749,340	70,613	314,822	34,869	2/ 17,130	19,799	44,301	88,050	4,878	154,878
Average, 1928-32	681,390	54,135	310,580	20,809	83,365	10,915	29,214	63,308	1/	107,088
1933	611,304	59,419	194,830	34,820	7,641	26,166	47,894	72,763	28,897	138,874
1934	772,502	78,036	218,986	31,479	7,428	34,563	27,332	61,814	49,473	263,391
1935	945,254	75,717	313,520	34,090	8,835	38,211	33,396	49,401	65,810	326,274
1936	963,383	94,777	274,789	28,993	16,937	27,770	37,563	24,103	112,777	345,674
1937	810,516	106,431	123,189	35,663	29,430	28,449	33,785	13,349	91,188	349,032
Average, 1933-37	820,592	82,876	225,063	33,009	14,054	31,032	35,994	44,286	69,629	284,649
1938	828,991	66,208	274,292	14,731	45,002	33,469	36,460	10,135	58,052	290,642
1939	852,806	89,103	300,837	10,166	3,499	43,188	35,834	18,121	1,604	350,454
Value (1,000 yen)										
1928	123,324	10,337	47,135	4,845	2/ 32,072	980	2,832	11,242	1/	14,411
1929	157,937	8,900	75,811	4,328	2/ 26,734	1,363	6,320	14,726	1/	19,755
1930	106,239	6,364	41,425	2,819	2/ 17,992	1,293	4,851	11,753	1/	19,742
1931	68,352	5,362	28,009	1,753	2/ 4,740	1,607	4,332	8,014	1/	14,535
1932	88,806	8,026	34,650	5,169	2/ 2,526	2,289	5,232	10,963	763	19,188
Average, 1928-32	108,932	7,798	45,406	3,783	16,813	1,506	4,607	11,340	1/	17,526
1933	93,495	8,532	25,879	6,291	1,313	4,238	7,574	11,334	5,417	22,917
1934	123,580	11,259	30,393	6,067	1,645	6,155	4,621	9,489	10,255	43,646
1935	145,356	9,978	41,562	6,975	2,144	6,873	5,462	7,243	12,629	52,490
1936	143,581	12,457	33,107	5,725	3,250	5,047	6,099	3,613	20,760	53,523
1937	148,404	18,534	16,916	8,022	6,729	6,467	5,832	2,114	20,840	62,950
Average, 1933-37	130,883	12,152	29,571	6,616	3,016	5,756	5,918	6,759	13,980	47,115
1938	126,263	9,077	32,916	4,355	9,099	6,810	5,748	1,298	13,952	43,048
1939	110,860	11,124	31,632	3,512	966	7,443	5,207	2,254	835	47,887

- ^{1/} Includes Ceylon prior to 1934, and Burma prior to 1938.
^{2/} Includes exports to Manchuria.
^{3/} Not separately reported.
^{4/} Not available.

Cotton cloth, bleached: Exports (domestic produce) from Japan to principal markets, 1928-39

Year	All countries	Netherlands Indies	United States	British India ^{1/}	Kwantung	Egypt	China	Manchuria	All other countries
Quantity (1,000 square yards)									
1928	114,910	7,461	309	7,005	5,376	475	^{2/} 76,879	^{3/}	17,405
1929	128,151	10,785	137	16,436	6,212	862	^{2/} 75,803	^{3/}	17,916
1930	162,892	13,756	21	28,413	5,246	2,195	^{2/} 77,190	^{3/}	36,069
1931	190,158	22,084	47	67,502	6,412	3,264	^{2/} 46,399	^{3/}	44,450
1932	359,923	66,466	229	143,091	3,729	20,605	33,134	1,206	86,463
Average, 1928-32	191,207	24,110	149	52,490	6,395	5,480	61,881	^{4/}	40,461
1933	463,704	133,927	2,141	107,434	9,749	32,310	31,419	6,085	140,639
1934	509,798	98,912	12,211	99,192	9,804	39,165	26,724	11,530	252,260
1935	511,335	58,772	37,225	69,687	8,510	33,299	30,890	16,938	256,014
1936	528,970	64,878	59,347	54,168	33,557	16,046	13,266	21,013	266,695
1937	648,585	119,372	108,683	72,917	34,884	12,857	10,112	24,544	265,216
Average, 1933-37	532,478	95,172	43,921	72,660	19,301	26,735	22,482	16,022	236,165
1938	510,419	65,408	14,855	81,815	13,181	5,040	45,211	23,479	261,430
1939	516,265	49,883	67,548	54,578	2,778	6,627	4,561	434	329,856
Value (1,000 yen)									
1928	27,240	1,705	54	1,459	1,175	82	^{2/} 18,699	^{3/}	4,066
1929	29,646	2,530	26	3,375	1,395	180	^{2/} 18,070	^{3/}	4,070
1930	27,397	2,169	1	4,421	868	321	^{2/} 13,761	^{3/}	5,856
1931	25,681	3,153	4	8,555	851	421	^{2/} 6,766	^{3/}	5,931
1932	48,855	9,698	25	18,650	1,196	2,869	4,805	170	11,442
Average, 1928-32	31,764	3,851	22	7,292	1,077	775	12,420	^{4/}	6,273
1933	78,026	23,377	324	16,894	1,668	5,299	5,502	1,067	23,895
1934	88,917	18,265	1,725	10,104	1,701	6,790	4,659	1,988	43,685
1935	85,304	10,403	5,412	11,360	1,486	5,761	5,299	3,001	42,582
1936	85,285	10,633	8,702	9,210	5,967	2,569	2,021	3,435	42,748
1937	124,653	24,703	17,510	13,011	6,983	2,533	2,201	4,935	52,777
Average, 1933-37	92,437	17,476	6,735	12,116	3,561	4,590	3,936	2,885	41,138
1938	88,905	11,936	2,000	11,957	3,180	846	9,110	5,361	44,515
1939	79,506	8,576	8,764	8,121	671	974	1,255	329	50,816

- ^{1/} Includes Ceylon prior to 1934, and Burma prior to 1938.
^{2/} Includes Manchuria.
^{3/} Not separately reported.
^{4/} Not available.

Cotton cloth, others^{1/} Exports (domestic produce) from Japan
to principal markets, 1928-39

Year	All countries	Netherlands Indies	British India ^{2/}	Argentina	Kenya, Uganda, and Tanganyika ^{3/}	Kwantung	Thailand	Philippine Islands	Straits Settlements	Egypt	Australia	Hong Kong	China	Manchuria	All other countries
Quantity (1,000 square yards)															
1928	696,138	169,620	89,386	4,536	5,775	27,623	4,409	22,660	14,452	27,857	4,261	61,682	6,319,599		13,087
1929	846,523	132,732	129,951	8,000	7,968	31,313	13,202	22,778	26,199	41,649	5,697	60,971	6,072,602		18,010
1930	736,496	122,785	80,967	4,506	7,478	23,823	13,702	29,190	40,341	49,588	5,612	63,106	6,724,922		15,819
1931	662,306	111,966	90,345	5,088	15,541	18,325	2,714	27,880	34,926	43,694	7,777	67,927	6,107,825		14,077
1932	924,170	216,166	186,767	17,284	24,322	45,479	13,520	19,281	52,179	86,877	17,891	16,168	4,771,171		14,000
Average, 1928-32	773,184	121,158	119,141	6,311	12,111	29,214	9,509	24,758	33,619	49,841	7,178	61,928	6,210,700		14,000
1933	1,015,220	229,710	149,339	30,872	11,252	41,473	21,748	27,006	62,292	105,280	25,122	16,112	5,145	10,000	14,000
1934	1,294,965	262,032	132,376	21,484	48,177	42,354	11,790	54,192	60,277	132,709	21,386	16,112	20,000	10,000	14,000
1935	1,268,530	235,974	172,899	72,390	43,942	35,487	22,077	62,774	78,911	81,038	20,289	16,112	20,000	10,000	14,000
1936	1,217,531	192,063	150,770	52,284	51,066	54,547	42,767	31,785	32,287	65,999	11,848	16,112	7,125	10,000	14,000
1937	1,184,328	208,590	135,085	86,753	59,997	47,059	37,355	37,436	39,011	73,484	11,111	16,112	1,558	10,000	14,000
Average, 1933-37	1,196,113	225,074	128,104	55,356	46,885	44,184	35,071	42,639	44,156	81,701	27,898	16,112	21,170	10,000	14,000
1938	841,400	114,820	113,773	47,057	40,753	30,416	37,537	27,150	16,544	6,743	19,174	8,724	5,000	10,000	14,000
1939	1,076,466	224,688	120,562	10,758	50,626	2,135	35,964	29,173	23,164	12,590	17,454	29,120	12,871	10,000	14,000
Value (1,000 yen)															
1928	201,637	27,219	21,563	1,178	1,424	9,034	906	5,407	3,104	6,302	1,031	12,107	107,710		1,000
1929	224,105	30,839	29,938	2,053	1,839	9,619	2,794	4,778	5,028	9,492	1,419	15,516	107,794		1,000
1930	136,483	19,736	15,352	836	1,275	5,482	2,116	4,388	5,594	8,447	1,074	11,803	51,122		1,000
1931	104,671	19,742	13,240	680	2,100	3,547	478	3,700	4,397	6,507	1,114	6,803	31,542		1,000
1932	151,028	32,482	27,332	1,918	3,553	9,724	1,790	2,481	7,366	13,213	2,111	1,855	29,805		1,000
Average, 1928-32	164,185	26,004	21,497	1,313	2,036	7,481	1,437	4,085	5,102	8,791	1,363	9,477	65,891		1,000
1933	211,669	46,340	28,635	4,147	5,607	10,839	3,833	4,550	12,586	21,694	2,763	3,480	16,766		1,000
1934	279,855	53,304	26,317	9,918	9,800	11,455	6,274	9,918	12,433	30,555	6,983	4,349	6,725		1,000
1935	265,438	46,198	32,261	15,943	9,351	6,750	9,065	10,738	6,026	18,079	8,728	6,241	4,461		1,000
1936	254,725	32,301	30,200	10,300	10,743	16,640	8,983	5,710	6,668	14,343	6,990	9,417	2,589		1,000
1937	300,008	42,367	33,114	20,724	15,180	14,421	14,496	8,719	8,700	5,862	5,094	4,798	2,104		1,000
Average, 1933-37	262,339	44,102	30,105	17,026	10,136	12,023	7,530	7,927	9,283	18,227	6,406	5,501	6,981		1,000
1938	189,071	18,472	23,005	7,858	8,859	9,853	7,803	5,176	3,434	1,203	5,494	1,865	5,742		1,000
1939	213,580	33,456	22,611	2,009	10,167	1,033	7,100	4,891	4,353	2,583	4,866	5,917	4,687		1,000

^{1/} Other than gray and bleached cotton cloth.

^{2/} Includes Ceylon prior to 1934 and Burma prior to 1938.

^{3/} Classified as East Africa 1928-33. Exports in those years are largely to Kenya, Uganda, and Tanganyika.

^{4/} Includes Manchuria.

^{5/} Not separately reported.

^{6/} Not available.

Cotton cloth and silk cloth: Imports into Formosa from Japan, 1928-38

Year	Value	
	1,000 yen	
1928	15,078	16,874
1929	13,394	13,596
1930	13,358	14,460
1931	15,106	17,250
1932	20,265	19,325
Average, 1928-32	21,635	18,716
1933	17,250	22,002
1934	20,265	
1935	19,325	
1936	21,635	
1937	18,716	
Average, 1933-37	22,002	
1938		

Cotton cloth: Imports into Korea from Japan, 1928-40

Year	Quantity	Value
	1,000 square yards	1,000 yen
1928	169,115	42,766
1929	143,520	35,967
1930	165,979	31,422
1931	162,869	23,524
1932	196,134	30,002
Average, 1928-32	167,523	32,736
1933	215,297	43,785
1934	207,963	44,160
1935	174,587	36,322
1936	163,498	32,118
1937	135,094	32,380
Average, 1933-37	179,288	37,753
1938	92,976	25,629
1939	18,049	10,137
1940	4,564	3,050

Cotton cloth: Exports from Korea to Japan, 1928-40

Year	Quantity	Value
	1,000 square yards	1,000 yen
1928	1,258	1,161
1929	922	736
1930	1,707	833
1931	5,480	1,319
1932	1,193	606
Average, 1928-32	2,112	931
1933	1,380	734
1934	2,431	913
1935	3,602	1,188
1936	4,311	1,219
1937	22,657	4,920
Average, 1933-37	6,876	1,795
1938	12,247	4,320
1939	29,751	9,651
1940	19,345	5,422

MANUFACTURES OF COTTON

Japan has a substantial production and also export trade in a number of different articles made of cotton, chief among which are towels, blankets, tablecloths, handkerchiefs, sheets, and fish nets and netting. Cotton rags, mainly wiping rags, have also been important in exports. From available data, it appears that Japan exports a large percentage of the production of articles made of cotton, and that they compete in foreign markets because of their low prices.

Cotton blankets were shipped to Asiatic countries, while towels, tablecloths and wiping rags were shipped to the United States and Australia as well as to Asia. About 20 percent of the production of cotton towels was exported and probably an even greater proportion of the output of blankets. Although available data respecting fish nets and netting show only imports into Korea, Japan is known to be a large producer and exports to other countries, including the United States. Home consumption of fish nets and netting is probably large since the fishing industry of Japan has been of major importance. Handkerchiefs are produced largely for exports, the United States having been an important market.

Blankets, of cotton: Exports (domestic produce) from Japan to principal markets, 1928-39

Year	All countries	British India ^{1/}	Thailand	Australia	Kenya, Uganda, and Tanganyika ^{2/}	Netherlands Indies	Kwantung	Manchuria	All other countries
Quantity (100 kin)									
1928	28,077	5,534	1,820	152	19	2,913	532	503	16,514
1929	32,991	4,935	4,408	262	65	4,087	615	284	20,336
1930	41,555	4,636	4,561	162	67	5,596	485	256	25,792
1931	23,194	3,361	2,269	95	114	4,131	226	38	12,960
1932	27,411	5,184	4,880	755	347	6,333	1,351	491	8,070
Average, 1928-32	31,046	4,730	3,588	285	122	4,612	642	332	16,735
1933	50,890	3,724	14,806	1,349	2,486	9,745	1,698	1,255	15,827
1934	72,126	11,067	19,220	1,486	2,623	13,877	1,121	1,847	21,905
1935	106,604	15,646	34,138	3,990	2,150	8,739	2,351	8,812	30,778
1936	96,317	22,949	18,650	5,319	6,265	2,247	2,806	12,841	25,140
1937	91,679	15,168	12,493	7,374	4,264	3,561	3,605	12,055	33,159
Average, 1933-37	83,727	13,711	19,861	3,904	3,558	7,654	2,316	7,362	25,361
1938	75,377	349	5,285	3,860	1,755	2,441	11,523	35,277	14,887
1939	66,845	1,057	7,228	3/	1,298	2,638	3/	21,574	33,050
Value (1,000 yen)									
1928	2,787	587	166	15	1	274	56	58	1,630
1929	3,409	466	414	25	6	405	61	27	2,005
1930	3,490	410	366	16	6	494	36	20	2,142
1931	1,470	212	128	6	8	250	17	3	846
1932	1,708	314	305	38	22	369	84	24	552
Average, 1928-32	2,573	398	276	20	9	358	51	26	1,435
1933	3,662	314	985	99	149	682	112	60	1,261
1934	5,380	853	1,175	128	200	893	71	81	1,979
1935	7,452	1,390	1,935	278	179	522	155	538	2,455
1936	6,908	1,894	1,087	376	552	186	161	693	1,959
1937	8,092	1,610	945	618	391	356	235	821	3,116
Average, 1933-37	6,299	1,212	1,225	300	294	528	147	439	2,154
1938	6,321	40	502	315	163	270	957	2,547	1,527
1939	7,731	126	745	3/	135	273	3/	2,731	3,721

^{1/} Includes Ceylon prior to 1934, and Burma prior to 1938.

^{2/} Classified as East Africa 1928-33. The bulk of exports are to Kenya, Uganda, and Tanganyika.

^{3/} Not separately reported.

Table cloth, cotton and other: Exports (domestic produce) from Japan to principal markets, 1928-39

Year	All countries	United States	United Kingdom	Canada	Australia	Kwantung	Manchuria	All other countries
Quantity (100 kin)								
1928	4,945	425	2,820	388	134	164	1/	1,014
1929	4,669	340	2,709	207	192	140	1/	1,081
1930	4,866	483	2,307	169	148	87	1/	1,672
1931	3,983	416	1,634	151	82	75	1/	1,625
1932	4,549	840	1,099	201	276	148	3	1,982
Average, 1928-32	4,602	501	2,114	223	166	123	1/	1,475
1933	8,773	2,862	2,170	28	303	181	34	3,195
1934	10,788	3,950	2,646	75	684	297	95	3,041
1935	23,049	11,971	5,110	96	1,638	315	98	3,821
1936	74,160	55,874	7,818	764	2,950	239	87	6,428
1937	104,080	78,355	7,003	4,994	3,425	365	200	9,738
Average, 1933-37	44,170	30,602	4,949	1,191	1,800	279	103	5,246
1938	27,982	11,128	4,513	2,501	3,379	442	375	5,644
1939	2/ 79,012							
Value (1,000 yen)								
1928	1,123	101	671	68	53	27	1/	203
1929	970	84	571	39	38	28	1/	210
1930	1,006	92	520	35	23	19	1/	317
1931	751	70	318	30	13	14	1/	306
1932	908	163	257	35	44	28	2/	381
Average, 1928-32	952	102	467	41	34	23	1/	285
1933	1,857	681	448	7	64	29	3	625
1934	2,168	838	561	22	114	60	12	561
1935	4,078	2,152	887	26	233	67	14	699
1936	10,429	7,678	1,174	104	386	67	14	1,006
1937	16,035	11,982	1,047	762	511	83	32	1,618
Average, 1933-37	6,913	4,666	823	184	262	61	15	902
1938	4,575	1,903	616	396	500	93	79	988
1939	2/ 12,290							

1/ Not separately reported.

2/ Country detail not available.

3/ Less than 500 yen.

Cotton towels: Exports (domestic produce) from Japan to principal markets, 1928-39

Year	All countries	Australia	Union of ^{1/} South Africa	Netherlands Indies	British India ^{2/}	Kwantung	Thailand	Manchuria	All other countries
Quantity (1,000 dozen)									
1928	1,580	96	41	256	265	92	10	^{3/}	820
1929	1,820	115	36	279	435	93	50	^{3/}	812
1930	1,699	151	33	311	314	84	77	^{3/}	729
1931	1,340	130	55	207	253	71	24	^{3/}	600
1932	2,568	281	41	527	500	120	154	^{3/}	941
Average, 1928-32	1,801	155	41	316	353	92	63	^{3/}	781
1933	3,038	385	98	454	441	132	184	127	1,217
1934	3,503	446	114	398	408	137	177	187	1,636
1935	3,402	376	147	247	305	178	203	236	1,710
1936	3,609	393	208	286	232	222	155	251	1,862
1937	4,473	598	300	274	178	269	196	309	2,349
Average, 1933-37	3,605	440	173	332	313	188	183	222	1,754
1938	3,346	591	285	152	14	200	106	260	1,738
1939	4,841	573	396	201	11	302	137	^{3/}	3,221
Value (1,000 yen)									
1928	3,395	148	86	481	724	131	24	^{3/}	1,801
1929	3,722	217	75	524	1,033	127	136	^{3/}	1,610
1930	2,966	228	67	503	777	99	142	^{3/}	1,150
1931	2,014	172	103	306	436	69	50	^{3/}	878
1932	3,823	383	64	749	877	122	288	^{3/}	1,337
Average, 1928-32	3,184	230	79	513	769	110	128	^{3/}	1,355
1933	6,040	656	251	894	1,005	159	505	120	2,450
1934	7,216	720	315	844	1,101	156	425	168	3,487
1935	6,477	526	437	502	771	201	552	233	3,255
1936	6,830	496	634	536	563	238	444	241	3,678
1937	8,936	904	872	593	586	343	311	344	4,983
Average, 1933-37	7,100	660	502	674	805	219	447	221	3,572
1938	6,961	861	985	327	47	357	409	442	3,533
1939	9,835	957	1,273	362	33	667	469	^{3/}	6,074

^{1/} Classified as Cape Colony and Natal in 1928, and as Federation of South Africa, 1929-36.
^{2/} Includes Ceylon prior to 1934, and Burma prior to 1938.
^{3/} Not shown separately.

Handkerchiefs: Exports (domestic produce) from Japan to principal markets, 1928-39

Year	All countries	United States	British India ^{1/}	United Kingdom	Netherlands Indies	The Straits Settlements	Kwantung	Manchuria	All other countries
Quantity (1,000 dozen)									
1928	2,189	684	239	38	284	48	90	2/	806
1929	2,309	749	196	45	393	41	81	2/	804
1930	1,587	289	214	36	288	31	53	2/	676
1931	2,001	357	342	193	383	20	42	2/	664
1932	4,409	183	964	274	1,031	32	69	-	1,856
Average, 1928-32	2,499	452	391	117	476	34	67	2/	962
1933	7,597	569	1,604	291	1,344	266	91	48	3,384
1934	9,970	1,202	1,615	496	1,060	333	95	124	5,045
1935	14,707	4,005	1,643	1,696	1,018	449	151	153	5,592
1936	18,118	5,553	1,973	2,342	1,040	385	157	171	6,497
1937	17,253	3,159	2,270	2,713	1,149	413	197	291	7,061
Average, 1933-37	13,529	2,898	1,821	1,508	1,122	369	138	157	5,516
1938	10,455	1,468	1,734	487	630	39	186	209	5,702
1939	2/ 12,514								
Value (1,000 yen)									
1928	5,785	1,520	956	185	344	82	82	2/	2,616
1929	4,978	1,351	690	160	384	99	64	2/	2,230
1930	2,929	626	482	112	253	50	44	2/	1,362
1931	2,193	547	379	205	221	21	27	2/	793
1932	3,165	227	770	304	519	50	47	-	1,248
Average, 1928-32	3,810	854	655	193	344	60	53	2/	1,651
1933	6,110	651	1,431	465	802	258	67	24	2,412
1934	8,368	953	1,906	612	614	379	69	58	3,777
1935	9,578	1,967	1,522	1,102	673	335	111	72	3,796
1936	11,100	2,755	1,732	1,493	645	324	121	85	3,945
1937	14,329	2,951	2,272	1,918	948	451	174	162	5,453
Average, 1933-37	9,897	1,855	1,773	1,118	736	349	108	80	3,878
1938	7,283	1,045	1,021	614	374	50	205	154	3,820
1939	2/ 8,924								

^{1/} Includes Ceylon prior to 1934, and Burma prior to 1938.

^{2/} Not separately reported.

^{3/} Country detail not available.

Fishing nets and materials thereof: Imports into Korea from Japan, 1928-40

Year	Quantity	Value
	100 kin	1,000 yen
1928	15,523	1,987
1929	17,663	2,481
1930	13,677	1,646
1931	8,900	769
1932	8,104	756
Average, 1928-32	12,773	1,528
1933	12,951	1,210
1934	20,262	1,709
1935	21,472	2,195
1936	27,188	2,789
1937	33,289	3,542
- Average, 1933-37	23,033	2,289
1938	39,461	4,749
1939	25,756	3,874
1940	25,709	4,137

Rags—total: Exports (domestic produce) from Japan to principal markets, 1928-39

Year	All countries	Principal countries					All other countries
		United States	United Kingdom	Kwantung	China	Manchuria (Manchukuo)	
Quantity (100 kin)							
1928	729,846	645,388	7,920	22,665	1/ 15,677	2/	38,196
1929	805,863	695,499	20,533	31,833	1/ 29,356	2/	28,642
1930	542,062	431,942	13,210	20,169	1/ 48,079	2/	28,662
1931	529,575	429,196	12,580	12,134	1/ 53,961	2/	21,704
1932	549,330	345,874	37,754	36,146	1/ 73,849	3,137	52,570
Average, 1928-32	631,335	509,580	18,399	24,589	44,184	2/	33,955
1933	664,788	429,358	62,604	57,326	58,176	13,375	43,949
1934	734,669	408,847	96,123	58,638	69,077	12,531	89,453
1935	1,155,743	762,250	113,777	79,314	100,041	15,133	85,228
1936	1,425,503	984,816	138,677	81,748	105,949	15,538	98,775
1937	1,300,353	844,978	179,867	63,830	51,505	16,059	144,114
Average, 1933-37	1,056,211	686,050	118,210	68,171	76,950	14,527	92,304
1938	2/ 588,002	260,449	65,401	132,741	30,957	35,627	62,827
1939	2/ 274,380						
Value (1,000 yen)							
1928	8,426	7,222	136	304	1/ 279	2/	485
1929	9,818	8,308	269	456	1/ 380	2/	405
1930	5,277	4,005	140	185	1/ 630	2/	317
1931	4,963	3,753	165	83	1/ 730	2/	232
1932	5,348	3,030	440	356	943	39	540
Average, 1928-32	6,760	5,264	230	277	592	2/	396
1933	6,328	3,525	789	681	645	165	523
1934	8,720	4,838	1,166	679	581	186	1,270
1935	12,823	7,542	1,736	1,070	846	198	1,431
1936	15,776	9,723	2,250	1,146	812	243	1,602
1937	17,134	9,512	2,978	1,129	673	370	2,472
Average, 1933-37	12,156	7,028	1,784	941	711	232	1,460
1938	11,295	4,015	1,257	2,654	729	877	1,762
1939	2/ 9,052						

1/ Includes Manchuria.

2/ Not separately reported.

3/ Country detail not available.

Rags, cotton: Exports (domestic produce) from Japan to principal markets, 1937-39

Year	All countries	Principal countries					All other countries
		United States	United Kingdom	Kwantung	China	Manchuria (Manchukuo)	
Quantity (100 kin)							
1937	1,187,367	748,364	177,593	60,916	49,425	14,847	136,222
1938	564,911	241,822	65,201	131,529	30,479	35,342	60,538
1939	1/ 273,137						
Value (1,000 yen)							
1937	15,724	8,393	2,937	1,056	649	314	2,375
1938	10,801	3,813	1,252	2,525	670	852	1,689
1939	1/ 8,951						

1/ Country detail not available.



RAW SILK

Before the war, Japan accounted for about three-fourths of the world output of raw silk. During 1933-37, mulberry cultivation (principally for silkworm feeding) was conducted on nearly 10 percent of the total arable area of Japan. Silkworm husbandry together with mulberry growing was carried on by about one-third of the agricultural households in Japan. The annual output of cocoons produced by silkworms averaged 726 million pounds valued at 372 million yen. Cocoons accounted for 12 percent of the annual farm revenue during this period and ranked next in value to rice as a source of income.

Substantially the entire output of cocoons was retained within Japan. Reeling of raw silk from the cocoons was performed largely on power-operated equipment in filatures, of which there were 2,700. The power filatures (which constituted less than 5 percent of the total number of reeling enterprises in Japan) provided employment for 290,000 operators and produced over 95 percent of the total output of raw silk. Hand reeling of raw silk was carried on in about 40,000 rural households having an average of 52,000 reelers.

The total output of raw silk, including both machine reeled and hand reeled silk, averaged 95 million pounds (718,000 bales) valued at almost 500 million yen during 1933-37. In that period exports were nearly two-thirds of the total production. The United States was the chief customer, receiving about 85 percent of the silk exports of Japan. Silk constituted 60 percent of the total exports of all commodities from Japan to the United States.

Until the collapse in silk prices in the early thirties, silk represented one-third of the total value of all Japanese exports to foreign countries. In the period 1934-to 1939 silk exports fell to less than 15 percent of the annual export trade but continued to provide more foreign exchange than any other export item. Raw silk and silk textiles were the only major export products of Japan, other than marine products, which were not manufactured or processed from imported raw materials. Silk exports, therefore, normally produced about twice as much net foreign exchange as did cotton goods exports.

Imports of raw silk, which averaged less than 6 million pounds annually, were mainly from Korea and consisted in large part of wild silk not produced in Japan.

Consumption in Japan averaged nearly 35 million pounds annually in 1933-37 or 36 percent of production and increased to 52 million pounds or 56 percent in 1939. A considerable part was utilized in the manufacture of silk fabrics for export. In the latter thirties, the increased domestic consumption of silk reflected enlarged domestic textile needs caused by the restrictions on imports of cotton and wool. (See Special Industry Analysis on Raw Silk.)

Raw silk: Exports (domestic produce) from Japan, by principal markets, 1928-39

Year	All countries	Principal countries					All other countries
		United States	Great Britain	France	British India ^{1/}	Australia	
Quantity (100 kin) ^{2/}							
1928	547,964	513,847	2,817	26,399	16	1,512	3,373
1929	574,849	555,895	3,159	9,770	24	1,711	4,290
1930	469,896	448,674	3,350	10,562	60	2,783	4,467
1931	555,925	536,644	9,244	2,897	198	2,809	4,133
1932	546,590	512,996	12,957	11,957	477	4,417	3,786
Average, 1928-32	539,045	513,611	6,306	12,317	155	2,646	4,010
1933	483,275	437,462	18,384	20,850	364	4,156	2,059
1934	505,999	433,537	22,878	36,574	4,067	5,523	3,420
1935	553,156	466,566	28,433	34,792	13,632	5,081	4,652
1936	503,382	427,616	28,938	27,702	7,281	6,402	5,443
1937	473,370	379,977	34,674	30,262	10,993	8,630	8,834
Average, 1933-37	503,836	429,032	26,662	30,036	7,267	5,958	4,882
1938	477,471	393,274	33,609	31,323	2,358	7,840	9,067
1939	386,029	331,524	27,303	13,942	795	7,287	5,178
Value (1,000 yen)							
1928	732,696	687,464	3,716	34,982	27	2,035	4,472
1929	781,040	755,376	4,121	13,252	29	2,352	5,910
1930	416,644	398,713	2,912	8,166	45	2,782	4,026
1931	355,391	342,478	6,160	1,894	130	1,928	2,801
1932	382,364	360,145	9,256	7,104	300	3,164	2,395
Average, 1928-32	533,627	508,835	5,233	13,080	106	2,452	3,921
1933	390,899	355,838	14,654	15,376	273	3,296	1,462
1934	286,794	244,379	14,237	20,334	1,789	4,017	2,038
1935	387,032	328,911	21,451	23,765	5,534	4,233	3,138
1936	392,809	333,935	23,628	21,772	3,872	5,231	4,371
1937	407,118	325,225	31,222	26,111	8,460	8,132	7,968
Average, 1933-37	372,930	317,658	21,038	21,472	3,986	4,982	3,794
1938	364,124	297,882	26,175	24,644	1,520	6,461	7,442
1939	506,845	437,611	36,920	16,180	581	9,381	6,172

^{1/} Includes Ceylon prior to 1934, and Burma prior to 1938.

^{2/} 100 kin equal to one bale of 132.27 pounds.

Note.- There were no exports to Manchuria.

Raw silk: Exports from Korea to Japan, 1928-40

Year	Quantity	Value
	100 kin	1,000 yen
1928	12,713	16,251
1929	15,690	20,143
1930	19,687	16,834
1931	20,474	12,015
1932	16,488	11,666
Average, 1928-32	17,010	15,382
1933	18,516	14,009
1934	22,107	11,474
1935	19,518	14,189
1936	19,693	15,421
1937	23,169	18,962
Average, 1933-37	20,601	14,811
1938	21,454	15,832
1939	17,174	24,169
1940	19,654	28,625

Cocoons: Exports from Korea to Japan, 1928-40

Year	Quantity 100 kin	Value 1,000 yen
1928	15,777	3,815
1929	18,257	4,332
1930	13,740	2,121
1931	13,034	1,553
1932	13,516	1,267
Average, 1928-32	14,865	2,618
1933	12,706	1,762
1934	8,520	785
1935	11,060	1,179
1936	11,036	1,393
1937	13,277	1,435
Average, 1933-37	11,320	1,311
1938	8,866	978
1939	6,722	1,521
1940	5,207	1,337

Tussah silk: Exports from Korea to Japan, 1928-40

Year	Quantity 100 kin	Value 1,000 yen
1928	20,839	12,500
1929	18,203	9,397
1930	16,162	7,067
1931	24,199	6,985
1932	22,439	7,763
Average, 1928-32	20,369	8,752
1933	23,773	9,176
1934	20,579	6,523
1935	17,719	5,714
1936	11,174	4,432
1937	19,455	6,230
Average, 1933-37	18,540	6,419
1938	19,051	6,647
1939	14,760	7,945
1940	11,812	9,675



SILK FABRICS

The silk weaving industry in Japan is older than that in any other country except China. Formerly a hand-loom industry carried on largely in rural households, it became extensively modernized following the expansion in foreign trade after World War I.

Silk fabrics woven in Japan fall into two clearly distinct groups—cloths made primarily for domestic consumption and cloths made primarily for export. Manufacture of each group constitutes an almost separate industry with its own organization and method of production. The group engaged in weaving goods for export is predominantly, though by no means exclusively, a power loom industry. It produces mainly all silk fabrics averaging 36 inches in width. The export fabrics are generally distinctly oriental in type and not directly competitive with the fabrics produced in Occidental countries. They include habutae (popularly called "China silk" in the United States), Fuji cloth (of yarns spun from silk waste) and pongee. Crepe, the most important export cloth made in recent years, is, on the other hand, similar in construction to the crepe produced in the United States and Europe.

The division of the silk weaving industry engaged in producing fabrics for domestic consumption is still predominantly a hand-loom industry, using largely narrow looms and producing an extensive variety of native cloths ranging from 9 to 28 inches in width. The output includes special narrow fabrics such as obiji used as sashes for kimonos.

The silk weaving industry is concentrated largely in Fukui, Gumma, Kyoto, and Ishikawa. During the period 1933-37, it had an average of 71,000 factories, 280,000 workers, and 330,000 looms in place, including broad and narrow power looms and hand looms. Over 85 percent of the establishments had less than 5 looms each and only about 1 percent had more than 50 looms each. Most of the silk weaving mills in Japan also produce rayon fabrics interchangeably with silk.

Quantity data for production are incomplete and in dissimilar units for the various classes of goods. In value, the total production of all-silk and silk-mixed fabrics, including broad and narrow goods, averaged 624 million yen during the period 1933-37.

The export trade of Japan in silk fabrics was built up on habutae. In recent years crepes and Fuji cloth, however, have predominated. Total exports, including shipments to all Empire areas, averaged 81 million yen annually in 1933-37 or about 13 percent of production. Exports to Empire areas (principally Korea) were about 15 percent of the total exports during this period, but increased to 34 percent in 1938 and to 60 percent in 1939.

Japan is self-sufficient in raw materials for its silk industry. It is the world's largest producer of raw silk. It also is an important manufacturer of spun silk yarn made from waste. Japanese imports are mainly Tussah (or wild) silk from Korea and Manchuria, used for weaving pongees, one of the 4 leading export fabrics.

Silk fabrics (including cotton mixtures)—Total: Exports (domestic produce) from Japan to principal markets, except Korea, 1928-39

Year	All countries	Principal countries											All other countries
		British India ^{1/}	United States	United Kingdom	The Straits Settlements	Union of So. Africa ^{2/}	Egypt	Kwantung	Ceylon	Australia	Argentina	Manchuria (Manchukuo)	
Quantity (1,000 square yards)													
1935	130,977	29,178	17,071	18,172	4,829	6,443	5,250	3,730	1,775	10,202	1,429	663	32,235
1936	120,968	24,413	19,339	13,156	5,954	6,368	5,074	3,107	3,540	5,830	1,234	555	32,398
1937	122,362	25,707	27,544	13,491	7,195	4,958	5,774	1,853	3,941	3,228	2,619	322	25,730
Average, 1935-37	124,769	26,433	21,318	14,940	5,993	5,923	5,366	2,877	3,085	6,420	1,761	513	30,170
1938	90,652	17,755	23,702	15,286	1,812	1,994	3,391	2,907	2,643	2,404	533	1,690	16,535
1939	59,666	8,560	13,215	10,598	798	1,151	2,229	3,254	3/	1,553	104	4,833	13,371
Value (1,000 yen)													
1928	134,053	17,068	15,403	9,728	2,503	6,299	1,443	2,236	4/	28,310	2,134	519	48,410
1929	149,950	24,712	14,699	10,322	6,065	5,912	2,189	2,786	4/	26,268	1,868	976	54,153
1930	65,770	6,247	6,465	6,563	799	4,843	2,856	170	4/	13,615	1,451	6	22,755
1931	43,047	4,970	4,520	4,218	595	4,016	3,036	370	4/	8,733	1,897	2	10,670
1932	50,282	10,398	3,807	4,640	781	2,527	3,454	563	4/	13,720	2,134	4	8,254
Average, 1928-32	88,620	12,683	8,979	7,094	2,149	4,719	2,596	1,225	4/	18,129	1,897	301	28,848
1933	63,538	15,254	5,558	7,615	1,125	4,734	3,314	1,197	4/	10,795	2,501	104	11,341
1934	77,488	20,087	5,258	10,588	3,396	4,651	3,601	2,678	1,144	8,840	1,369	404	15,472
1935	77,444	18,074	6,778	12,069	3,105	4,008	2,559	3,327	1,017	6,691	1,310	824	17,682
1936	68,027	13,203	7,544	8,306	3,613	4,005	2,333	3,474	2,320	4,076	1,142	681	17,330
1937	72,286	13,838	11,531	9,518	4,577	3,531	3,158	2,839	2,726	2,664	2,043	393	15,448
Average, 1933-37	71,757	16,091	7,334	9,619	3,167	4,186	2,993	2,703	2/1,802	6,613	1,673	481	15,455
1938	49,352	7,896	8,282	9,023	1,122	1,454	1,772	4,049	1,642	1,923	620	1,494	10,075
1939	47,397	5,416	7,413	7,541	656	1,069	1,704	4,914	3/	1,457	207	6,356	10,664

- ^{1/} Includes Ceylon prior to 1934, and Burma prior to 1938.
^{2/} Classified as Cape Colony and Natal in 1928.
^{3/} Not separately shown.
^{4/} Not separately reported. Shown with British India prior to 1934.
^{5/} Average, 1934-37.

Silk crepes (including cotton mixtures): Exports (domestic produce) from Japan to principal markets, 1928-39

Year	All countries	Principal countries											All other countries
		British India ^{1/}	United Kingdom	The Straits Settlements	Australia	Union of So. Africa ^{2/}	Ceylon	Kwantung	Argentina	United States	Canada	Manchuria (Manchukuo)	
Quantity (1,000 square yards)													
1928	26,647	4,092	513	614	7,990	1,365	^{3/}	14	408	892	5,985	^{3/}	4,744
1929	26,194	4,089	519	946	6,971	1,593	^{3/}	27	465	814	4,798	^{3/}	5,942
1930	20,727	2,374	548	474	5,025	2,024	^{3/}	14	529	517	2,866	^{3/}	6,356
1931	21,175	2,699	876	513	5,630	2,378	^{3/}	151	816	233	2,169	^{3/}	5,680
1932	23,785	3,865	1,762	622	8,555	1,258	^{3/}	163	1,055	84	108	1	6,312
Average, 1928-32	23,706	3,423	856	634	6,834	1,724	^{3/}	74	661	508	3,185	^{3/}	5,807
1933	28,844	5,965	4,465	707	6,147	2,129	^{3/}	170	1,372	237	26	13	7,613
1934	42,953	10,242	7,646	2,171	5,518	2,778	^{4/}	814	753	1,009	64	94	11,167
1935	50,477	12,507	9,904	2,220	6,065	2,682	^{4/}	581	1,252	963	185	184	12,356
1936	42,173	10,304	6,269	2,592	3,258	2,905	^{4/}	2,073	802	744	820	143	140
1937	40,692	12,099	6,267	2,734	1,977	2,122	^{4/}	1,932	506	1,047	752	75	69
Average, 1933-37	41,028	10,223	6,910	2,085	4,593	2,523	^{4/}	1,321	709	976	879	99	100
1938	^{5/} 26,440	8,175	6,060	702	1,421	920	^{5/}	1,537	609	380	332	50	140
1939	^{5/} 14,724						^{5/}						6,114
Value (1,000 yen)													
1928	35,429	5,847	747	806	10,904	2,046	^{3/}	20	681	928	6,728	^{3/}	6,652
1929	33,961	5,223	732	1,056	9,657	2,296	^{3/}	35	861	898	5,330	^{3/}	7,873
1930	21,793	2,608	605	500	5,395	2,109	^{3/}	20	741	494	2,368	^{3/}	6,953
1931	17,968	2,160	793	443	4,678	2,107	^{3/}	145	923	202	1,442	^{3/}	5,075
1932	18,893	2,936	1,364	472	6,800	952	^{3/}	165	1,012	64	74	1	5,053
Average, 1928-32	25,609	3,755	848	655	7,487	1,902	^{3/}	77	844	531	3,188	^{3/}	6,321
1933	25,187	4,889	3,984	542	5,589	1,829	^{3/}	151	1,560	211	18	14	6,400
1934	34,546	8,138	6,292	1,604	4,711	2,207	^{3/}	513	709	813	49	124	8,776
1935	38,827	9,922	7,680	1,644	4,475	2,098	^{3/}	401	1,157	925	1,296	139	8,794
1936	31,274	7,162	4,875	1,721	2,633	2,174	^{3/}	1,482	1,113	723	762	87	8,292
1937	30,831	7,890	5,505	1,906	1,859	1,714	^{3/}	1,526	1,145	1,064	754	48	7,300
Average, 1933-37	32,133	7,600	5,667	1,483	3,853	2,004	^{4/}	980	835	996	767	68	161
1938	^{5/} 19,477	4,425	4,807	464	1,261	737	^{5/}	1,008	1,423	418	345	31	4,363
1939	^{5/} 13,865						^{5/}						

- ^{1/} Includes Ceylon prior to 1934, and Burma prior to 1938.
^{2/} Classified as Cape Colony and Natal in 1928.
^{3/} Not separately reported.
^{4/} Average, 1934-37.
^{5/} Country detail not available.

Silk textiles: Imports into Korea from Japan, 1928-40

Year	Quantity	Value
	1,000 square yards	1,000 yen
1928	4,359	6,529
1929	3,967	6,024
1930	4,005	4,864
1931	4,220	4,625
1932	5,720	5,410
Average, 1928-32	4,454	5,490
1933	6,184	6,211
1934	9,220	9,043
1935	9,824	10,022
1936	10,107	10,831
1937	8,811	10,505
Average, 1933-37	8,829	9,322
1938	15,743	16,654
1939	30,798	44,193
1940	26,525	57,222



SILK KIMONOS

Kimonos, under which term are included also related items such as lounging pajamas, coolie coats, and "happy coats" for beach wear, constitute the second largest class of silk wearing apparel exported, ranking next in importance to shawls. Exports consist of hand-embroidered garments and plain garments, made of Jacquard figured and printed fabrics. The bulk are distinctly oriental in design and workmanship.

Exports of silk kimonos have been greatly exceeded in recent years by exports of rayon kimonos. Data as to production of kimonos, which is concentrated in and around Yokohama, are not available.

Kimonos, silks Exports (domestic produce) from Japan, by principal markets, 1928-39

Year	All countries	Principal countries								All other countries
		United States	Panama ^{1/}	Union of So. Africa ^{2/}	Curacao	British India ^{3/}	Netherlands Indies	Great Britain	Manchuria (Manchukuo)	
Quantity (100 kin) ^{4/}										
1935	26,609	9,024	2,183	1,172	427	1,393	497	465	11	11,156
1936	31,099	11,677	4,167	1,420	1,147	1,701	173	419	3	10,102
1937	7,806	1,974	726	749	405	409	137	48	5/	3,154
Average, 1935-37	21,838	7,558	2,359	1,114	659	1,168	269	311	5	8,395
1938	1,259	158	283	59	75	19	21	14	2	628
1939	6/ 801									
Value (1,000 yen)										
1928	1,030	184	7/	63	7/	194	99	33	7/	457
1929	1,310	266	7/	43	7/	207	88	67	7/	639
1930	2,882	744	7/	112	7/	265	88	464	7/	1,209
1931	2,691	638	7/	151	7/	181	88	566	7/	1,067
1932	4,249	952	7/	140	7/	520	231	365	-	2,041
Average, 1928-32	2,432	557	8/	102	8/	273	119	299	8/	1,082
1933	8,230	1,895	7/	234	7/	1,099	389	346	-	4,267
1934	11,046	3,104	611	371	-	1,014	414	241	1	5,290
1935	9,643	3,561	810	349	166	508	146	159	12	3,932
1936	9,296	3,803	1,166	389	356	426	60	141	1	3,954
1937	3,353	1,258	382	197	140	120	32	21	2/	1,203
Average, 1933-37	8,314	2,724	10/ 742	308	10/ 166	633	208	182	3	3,529
1938	732	116	137	28	38	10	12	12	2	371
1939	6/ 574									

- ^{1/} Does not include Panama Canal Zone.
^{2/} Classified as Cape Colony and Natal in 1928 and 1929.
^{3/} Includes Ceylon prior to 1934, and Burma prior to 1938.
^{4/} Quantity not reported prior to 1935.
^{5/} Less than 100 kin.
^{6/} Country detail not available.
^{7/} Not separately reported.
^{8/} Not available.
^{9/} Less than 500 yen.
^{10/} Average 1934-37.

