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Memorandum on Rubber

This memorandum is taken from a manuscript prepared for the Economic Handbook of the Pacific Area, to be published by the Institute of Pacific Relations later in 1934.

DURING the past quarter of a century, rubber has become one of the world's most important raw materials, chiefly because of the enormous growth of the automotive industry. The supply and price of rubber is of particular interest to Pacific countries. The production of rubber is almost entirely concentrated in British Malaya, Netherlands India, Borneo, Ceylon, India,

French Indo-China and Siam, with small additional quantities from Africa and South America. The United States annually consumes from 65 to 70% of the total output, the other industrial countries furnishing additional markets.

The following tables show the distribution of rubber production and consumption during recent years.

RUBBER (CRUDE) PRODUCTION
(thousand metric tons)

	1924	1925	1926	1927	1928	1929	1930	1931	1932
PACIFIC AREA*	403	487	596	576	639	849	813	796	711
British Borneo	11	14	16	18	18	19	18	18	12
Ceylon	38	47	60	56	59	81	77	63	50
India	8	10	10	11	11	12	11	8	4
Netherlands East Indies	151	192	208	233	233	259	245	261	214
French Indo-China	6	6	7	8	9	9	10	12	14
British Malaya†	186	214	291	246	304	464	449	429	413
Siam and Others	3	4	4	4	5	5	5	5	4
SOUTH AMERICA‡	24	28	25	30	21	22	14	12	6
WORLD	434	526	632	617	667	876	833	810	718
PACIFIC AREA AS % OF WORLD	92.9%	92.6%	94.3%	93.3%	95.8%	97.0%	97.8%	98.3%	99.0%

* Net Exports.

† Adjusted to allow for rubber smuggled out of Malaya during restriction scheme, 1922-28.

‡ Rubber from Amazon Valley—including parts of Brazil, Bolivia, Peru, Ecuador and Colombia.

CONSUMPTION OF CRUDE RUBBER
(thousand metric tons)

Country								% of World Trade			
	1925	1926	1927	1928	1929	1930	1931	1932	1925	1929	1932
United States	385	358	373	442	466	371	347	315	70	59	47
United Kingdom	30	41	45	48	72	75	76	79	5	9	12
France	36	39	38	41	62	60	61	60	7	8	9
Japan	13	18	20	24	34	33	38	53	2	5	8
Germany	35	22	38	35	50	47	36	41	6	6	6
Canada	19	20	26	30	35	28	23	19	3	5	3
Italy	11	10	11	12	16	18	10	13	2	2	2
Belgium	3	3	6	7	10	11	10	8	1	1	1
U. S. S. R.	8	7	14	8	13	18	27	—	2	2	—
Australia	5	9	9	9	15	5	7	82	1	2	12
World	552	534	590	667	785	685	669	670	100	100	100

Control of Rubber Production—At the close of the war, the control of rubber production was approximately 75% British and 25% Dutch. The relative importance of the different plantation countries as of January, 1922 was as follows:

	% of total production
Malaya	57.5
Ceylon	12.5
Netherlands India	25.5
South India and Burma	2.0
Other Countries	2.5

At that time the rubber industry was suffering from the results of a too rapid expansion, high stocks and falling prices. The normal unrestricted output for 1922 was estimated at 393,684 metric tons, world consumption at 295,263 metric tons and stocks on hand at 305,105 metric tons. After private efforts by the British Rubber Growers Association to restrict production had failed, the Colonial Office of the British government appointed a committee, headed by Lord Stevenson, to investigate the situation. A plan of cooperation with the Dutch was recommended but could not be secured because the government of the

Dutch East Indies had no machinery for enforcing the restriction of native grown rubber. In October, 1922 the Stevenson committee reported in favor of restriction by the British government and their recommendations were embodied in the so-called Stevenson Restriction Plan which became effective November 1, 1922.

The Stevenson Restriction Plan—The Stevenson plan was an experiment in direct government intervention for the control of production and price. It remained in operation for six years and as it was of profound importance in the development of the industry during that period and also because it was responsible for creating many of the difficulties with which the industry is now faced, a brief survey of its main provisions, their effects and defects, must be included.

Chief Features of the Plan:

1. The authorities assigned to each rubber estate a "standard production" based on, but not necessarily equal to, the production for the year ending October

31, 1920. The amounts were later revised but always remained less than the productive capacity of the plantations by from 13 to 20%.

2. During the three months beginning November 1, 1922 no plantation was allowed to export at a rate which would exceed 60% of its standard production.
3. If during any quarter the price of rubber in London averaged less than one shilling a pound, 5% of standard production was to be deducted from the rate of permissible exports in the succeeding quarter, while in case of a rise in the average price to over one shilling three pence a pound, the quota was to be raised 5%.

The limiting was to be enforced by a prohibitive export tax. The pivotal price points of 24 and 30 cents a pound would, it was believed, yield the average grower a reasonable profit. Some idea of the immediate and ultimate effect of the restriction plan on rubber prices may be seen from the following table:

SPOT PRICES OF RUBBER IN NEW YORK, BY MONTHS; AVERAGE FOR EACH YEAR AND AVERAGE SPOT PRICE IN LONDON
(ribbed, smoked sheets—in cents per pound)

	1921	1922	1923	1924	1925	1926	1927	1928	1929	1930	1931	1932
January	19.2	18.8	32.7	25.9	36.4	79.6	39.3	40.0	20.1	15.1	8.27	4.41
March	17.1	14.5	34.2	22.8	41.3	62.1	38.2	31.6	24.2	15.8	7.78	4.09
February	18.2	16.1	35.1	25.3	35.6	58.4	41.0	26.9	24.6	15.3	7.69	3.31
April	16.6	16.0	32.5	22.5	44.5	50.9	40.9	19.9	21.5	14.8	6.33	3.05
May	16.5	15.2	27.4	19.9	57.1	48.1	40.8	18.9	21.8	14.1	6.57	3.14
June	13.1	15.1	26.9	18.8	77.1	43.1	37.0	19.3	20.6	12.5	6.36	2.67
July	13.5	14.7	26.1	22.2	104.2	41.3	35.0	19.2	21.2	11.4	6.34	2.88
August	14.2	13.9	28.8	26.2	80.8	38.0	35.1	19.2	20.7	9.87	5.38	3.74
September	14.8	14.4	29.0	27.6	89.3	41.3	33.8	18.3	20.4	8.32	4.95	3.92
October	15.9	19.8	26.9	31.1	99.6	42.7	34.4	18.7	19.8	8.15	4.92	3.52
November	17.9	23.9	27.1	34.3	104.8	39.9	37.9	18.2	16.7	8.95	4.61	3.44
December	19.8	27.4	26.6	37.9	100.0	38.2	41.0	17.9	16.1	8.94	4.58	3.24
Average	16.3	17.5	29.4	26.2	72.5	48.6	37.9	22.4	20.7	11.9	6.15	3.45
London Average	15.1	16.3	28.7	24.0	60.0	59.0	37.5	25.4	20.7	11.8	5.9	3.42

The first two years of the plan showed no marked increase in prices, the curtailed production from British estates being compensated by a rapid increase in output in Netherlands India and other areas not subject to British control. The spectacular rise in 1925 was due partly to actual limitation of production, but more especially to the accelerated growth of the automobile industry in the United States, the general adoption of balloon tires and the consequent increase in the demand for rubber.

This drastic rise in prices had two results. Native production in Netherlands India was tremendously stimulated. The area under rubber production by native growers increased from 180,000 hectares in 1923 to 540,000 hectares in 1927. The output of dry rubber was estimated to have risen from 3,937 metric tons in 1921 to 91,532 metric tons in 1927, and as being likely to reach 150-175,000 metric tons in 1933. The share of the Dutch producers in total rubber exports rose from 24.8% in 1922 to 36.9% in 1927. The second result was the indignation which was aroused in the United States by

the restriction plan and which gave rise to various measures for combatting the high prices. Most important of these was the great increase in the use of reclaimed rubber, shown in the following table:

UNITED STATES RUBBER CONSUMPTION

	Crude Rubber (000 metric tons)	Reclaimed Rubber (000 metric tons)	Ratio of Reclaimed to Crude %
1922	278.7	53.5	19.2
1923	314.7	73.0	23.5
1924	331.3	77.3	23.3
1925	381.5	134.8	35.3
1926	360.2	161.9	45.0
1927	367.1	186.5	50.8

Other measures taken by American manufacturers were the development of new plantations in the Amazon region, Liberia and Sumatra, and the formation, in 1925, of an American Rubber Buying Pool made up of the leading tire and automobile manufacturers.

The decline in prices in 1926 led to further restrictions which raised the pivotal price points to nearly twice the level of those provided in the act of 1922. In spite of

this prices continued to fall and the British government, realizing that in view of the enormously increased output from other areas, their efforts at control were becoming increasingly costly and futile, announced that the restriction plan would end on November 1, 1928.

The Rubber Industry 1929-1933—The immediate effect of this announcement was a decline in the price of rubber to about 20 cents, at which level it remained throughout most of 1929. Production expanded sharply in 1929, as a result of increased output from British possessions. Between 1929 and 1932 world rubber production declined by nearly 18%, while British Malaya's share in the world market rose from 50 to 57%. The proportion of Netherlands India remained almost unchanged at about 30%, but that of Ceylon declined from 9 to 7%. World consumption of rubber declined sharply between 1929 and 1931 due to the general industrial depression and the especially adverse conditions in the automobile industry, but showed a slight increase in 1932. Production exceeded consumption between 1929 and 1931 to such an extent that accumulated stocks at the end of 1931 amounted to nearly a year's supply. As a result of low prices, production was severely curtailed in 1932, but owing to the size of the surplus, prices did not rise until May 1933.

Within a year after the abandonment of the Stevenson plan, agitation for limiting supplies was renewed; but in

September, 1930 the Governor-General of Netherlands India stated that restriction was contrary to the policy of his government and that even should this policy be reversed, the administration of the restriction of native output would be "very difficult or scarcely possible." Negotiations were resumed in 1931, but in April, 1932 the British and Dutch Governments reached the conclusion that it was impossible to frame and operate "an international scheme which would guarantee the effective regulation of the production or export of rubber." Early in 1933 the advocates of regulation again returned to the attack and are now claiming to have the support of the Dutch authorities who have been encouraged by their experiences in tea and tin restriction. The British authorities have made it clear that any initiative must come from the Dutch, because the chief political and administrative difficulties are found in the Dutch possessions. The native producers are steadfastly opposed to any form of government regulation, and apparently the only means of preventing an increase in native production is a low level of prices, illustrated by the decline from 41.7% in 1929 to 28.6% in 1932, in the proportion of native production to the total production of Netherlands India. The importance of the native producer is clearly indicated in the following table showing the distribution of acreage under rubber in British Malaya and the Netherlands India at the end of 1931, the small holding being almost entirely in the hands of native producers.

ACREAGE UNDER RUBBER — DECEMBER 31, 1931
(000 hectares)

	LARGE ESTATES			SMALL HOLDINGS			TOTAL
	Mature	Immature	Total	Mature	Immature	Total	
Malaya	584	166	750	409	85	494	1,244
Netherlands India	382	200	582	467	267	734	1,316
Ceylon	137	9	146	65	9	74	220
World	1,234	474	1,708	1,024	487	1,511	3,219

The potential production of small holdings in the Dutch East Indies alone was estimated at 246,052 metric tons in 1932 and is expected to reach 344,473 metric tons by 1935.

Interest is now centered on the development of negotiations in Netherlands India. A meeting of the District Commissioners was held in Batavia on November 24th, and although no official announcement was made it is reported that the majority were in favor of restriction. There is little likelihood, however, of any immediate introduction of a restriction scheme. The difficulty of controlling native production remains unsolved, with the native growers firmly opposed to any form of regulation; while the Dutch authorities themselves have not reached any definite agreement as the method which they would like to adopt. In the meantime, expectation of restriction has been responsible for a 100% increase in the price of rubber in London between March and November. As a result native production has been rapidly increasing

and the quantity of native rubber exported from Netherlands India has trebled between February and September. World stocks have again begun to increase and are likely to rise considerably if the present price is maintained and restriction is delayed. If government control is not introduced, the ensuing collapse in prices is bound to have a disastrous effect upon many of the large commercial estates and will relatively strengthen the position of the native producer who operates at a much lower cost.

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- Articles in the *Rubber Age*, and in the British and American press.

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