

CHAPTER II

THE IMPORTANCE OF THE RUBBER INDUSTRY TO THE MALAYAN ECONOMY.

INTRODUCTION

Rapid expansion has characterised the development of the natural rubber planting industry over the fifty years of its existence. During this time, production in South East Asia has risen from a mere 500 to well over one-half million tons a year with Malaya and Indonesia as the major producers. The value of the total rubber exports from Malaya alone has considerably exceeded 2,000 million (Malayan) per year.

From Table 2-1, it can be seen that rubber accounts for about 59.4 per cent of the total value of exports from the Federation of Malaya, and about 26.7 per cent of the Gross Domestic Product.

THE IMPORTANCE OF THE RUBBER INDUSTRY.

IMPORTANCE TO MALAYA

Malaya's economic welfare is largely dependent on the fortunes of the rubber industry, and it is not unusual, therefore, to express great concern when the price of rubber is highly unstable due to the intrusion of economic and non-economic factors into the market structure. On account of such fluctuations we are subject to severe economic and social strains and our development planning becomes hazardous because the rubber industry is our major source of public revenue. Unless we can possibly stabilize price or maintain our competitive superiority over the other competing elastomers, the future of our Malayan economy will hang on the balance.

EMPLOYMENT STATISTICS

In 1947, the rubber industry provided employment for a total of 509,436 out of a given total number employed of 1,875,345. By 1957, the total rose to 614,487 out of 2,126,182 people employed in all industries. It can be seen, therefore, that rubber industry provides a bout a third of the total industrial employment.

TABLE 2-1

RUBBER AS PERCENTAGE OF EXPORTS AND
GROSS DOMESTIC PRODUCT 1955-1956.

Year	Net Rubber Exports (\$) Million 1	Total Exports (\$) Million 2	(1) as % of (2) 3	Income From Rubber (\$) Million 4	G.D.P. (\$) Million 5	(4) as % of (5) 6
1955	1,504	2,376	63.3	1,185	4,281	27.7
1956	1,285	2,256	56.9	1,163	4,414	26.3
1957	1,228	2,184	56.2	1,187	4,538	26.2
1958	1,009	1,884	58.3	1,236	4,578	27.1
1959	1,604	2,472	64.9	1,300	4,760	27.3
1960	1,660	2,928	56.7	1,324	5,115	25.9
Average:	1,397	2,350	59.4	1,232.5	4,614	26.7

SOURCES

Columns (1) and (2), Monthly Statistical Bulletin of Federation of Malaya Dept. of Statistics, Federation of Malaya, K.I.
Columns (4) & (5), Dorothy Walters - Report on the National Accounts of the Federation of Malaya, Table 3.

provides about a third of the total industrial employment.

From Table 2-2, it can be seen that the employment, directly and indirectly, influenced by the rubber industry is very substantial.

TABLE 2-2

EMPLOYMENT STATISTICS IN RUBBER AND
RUBBER PRODUCTS INDUSTRIES.
(1947 and 1957)

	1947			1957		
	Total	Males	Females	Total	Males	Females
Rubber Products	2,334	1,527	807	2,102	1,604	498
Rubber	509,436	342,297	167,139	614,487	384,063	230,424
Total All Industries	1,875,345	1,436,512	438,833	2,126,182	1,602,799	523,383

SOURCE:

Federation Year Book 1961 - Statistics of Employment by Industry, Table 55, page 484 - 485.

The rubber industry's importance as an employment contributor, cannot be overstressed.

GOVERNMENT REVENUE.

Stress must be given to the fact that rubber also contributes substantially in the form of export duties to Government revenue.

In 1959, \$246,290,000 (refer Table 2-3) was collected in the form of export duties when the Singapore average R.S.S. price was \$1.56 cents per pound. During that year an approximate of \$1,849,432 (refer Table 2-4) was in circulation and this goes to show how much rubber duties contribute to the Federal Budget.

From the Government point of view, a fall of 1 ct. Malayan in the price of rubber for one year will reduce the Malayan Trade Balance by \$14 Million (Malayan). Therefore, the Government's reliance on rubber as a major source of revenue is

of major importance. In fact it is over important, such that any fluctuations in the price of rubber within the range of a few cents per year will upset any development or Government expenditure plans to a very great extent as to be critical. Unless the assurance of price stability is maintained the whole economy may be at the mercy of the whims and fancy of the market.

(1) TABLE 2-3

DETAILS OF DUTY COLLECTED ON EXPORT OF RUBBER
FEDERATION OF MALAYA 1959
(in \$ 1,000 Malayan)

First Schedule Duty (ad. valorem)	184,455
Inflationary Cess	17,567
Third Schedule (Research Cess)	12,093
Replanting Cess	32,175

(2) TABLE 2-4

ESTIMATED MONETARY SUPPLY IN MALAYA (1959)
(in \$ 1,000 Malayan)

Active Circulation of Notes in Malaya and British Borneo	975,677
Active Circulation of Coins in Malaya and British Borneo	<u>45,998</u>
Active Circulation of Notes and Coins in Malaya and British Borneo	1,021,675
Deposited in Commercial Banks in the Federation of Malaya	826,224
Notes held by the Treasury in Malaya	<u>1,533</u>
Total Monetary Supply Existent	<u><u>1,849,432</u></u>

SOURCE:

- (1) Federation Year Book 1961 Table 17.
- (2) Federation Year Book 1961 Table 18.

INTERNATIONAL STATISTICS.

Malaya owes her position as the largest dollar earner in the Commonwealth to rubber and tin. Her economy is therefore, sensitive to the prosperity of the automobile industry, the key indication of economic health in the United States, and the development of synthetic rubber. The effect of changes in the price of rubber on the trade balances of Malaya are evident, particularly so because Malaya's ability to pay for her imports is reflected in the movements in her terms of trade by way of her sale of rubber.

PRODUCTION STATISTICS.

In 1961, the Malayan Rubber Industry produced about 736,700 long tons which is more than one-third of the total world production of 2,088,500 long tons. The total world consumption of natural for that year, however, was 2,135,000 tons which is approximately 46,500 long tons more than the 1961 total annual production figure. This indicates that demand exceeds supply and that there is a great potential for increased natural rubber production in Malaya, in view of the increasing consumption.

However, to base potentiality of increased production from past consumption figures would be highly unrealistic unless we can basically justify such contentions in view of the other competitiveness in the market. However, many authorities on the subject have tried to project their own forecast of such figures and to draw their conclusions therefrom.

According to recent statistical investigations the annual consumption of rubber is roughly doubling itself during each decade ever since 1900 and the so-called Paley Commission⁽³⁾ in 1952 has estimated world consumption by 1975 to be around 5,000,000 long tons.

There is, therefore, an expanding need for rubber. It must be noted, however, that predictions of rubber consumption are usually short term estimates made to guide the industry in planning production schedules. The planning of production schedules can be based on annual estimates of demand, but a long term supposition that production will be profitable 30 years after the date of planting contributes a

(3) Loren G. Polhamus. "Rubber: Botany, Production and Utilization" Leonard Hill Books Ltd., London, 1962. page 377.

major uncertainty to the industry.

The profitability of the rubber industry, therefore, depends upon a number of forces, the principal of which are prices and the synthetic threat.

PRICE DETERMINANTS

A study of rubber prices involves a knowledge of the determinants. Economic theory envisages the contention the price is determined by supply and demand. To say that that the price of natural rubber has been conditioned by the supply and demand forces, is an oversimplification. The chief components influencing the price of rubber are:-

1. the volume of production
2. the volume of exports
3. the volume of stocks held
4. the volume of rubber "afloat"
5. the volume of rubber imports
6. the volume of consumption
7. Consumer buying policy
8. Strategic stock-piling.
9. Market operations
10. Substitutes - Synthetics.

However, to generalize, we can reclassify the items under the supply and demand forces, and other market forces. Supply covers production, exports, rubber afloat, imports etc.. Demand embodies consumption, strategic stock piling etc.. Other market forces include market operations, consumer buying policy, synthetics etc..

If a number of the above factors occur simultaneously the magnitude of price fluctuations will increase. For instance, abnormally heavy exports in the month may depress the market price. Consumer buying may decline in consequence and there may be a liquidation of stocks held by producers and dealers who fear an even lower price, all of which together may cause a substantial loss in price. However, abnormal exports cannot continue for long. Consumers cannot reduce their purchases indefinitely and liquidation of stocks or "long positions" is not a continuing operation.

It is because of such unpredictable forces that the price of natural rubber is highly unstable and that thus reflects the instability of the rubber industry. Many economists and prominent rubber research experts have tried to eliminate price fluctuations - if not completely then at least to eliminate the extremities of such fluctuations. Marketing improvements through contract systems and the elimination of auction markets may invariably eliminate price extremities.

Falling prices reflect the present intense competition. In a free market a price decline is the means whereby the relatively inefficient producers of both natural and synthetic will be forced to withdraw from the market in order to bring supply and demand into equilibrium. In this painful process, it is the most efficient, low cost producers who will end up operating at full capacity and with the biggest share of the market.

In times of high prices, competition is introduced into the market. The more important of such intrusions is scrap rubber which offer as much competition as synthetic is to natural rubber. When discussing competitiveness in the rubber industry stock-pile releases must also be borne in mind since this offer a great deal of competition to the rubber industry as a whole.

THE INTRODUCTION OF SYNTHETIC RUBBER

One of the difficult problems encountered in the discussion of synthetic competition is the broad number of types available and in use, couple with the extraordinary diversity of end uses which may, one way or another, be competitive with natural rubber. The use of the very general term "synthetics" covers the whole range of synthetic elastomers which are in competition with natural one way or another, both in the diversity of uses in the diverse industries like automobile industry, latex and foam industries, carpet backing fields, and so on, where natural rubber has a very competitive hold against synthetics as to the volume of consumption and use. However, it must be borne in mind that though we do not foresee any significant impact of the synthetic competition on natural it does not mean to say that the natural rubber industry can sit back and relax. Such attitudes are usually devastating.

Natural rubber prices always undergo serious fluctuations and it is because of this instability and other technicalities, that users of natural as a major raw material cost have been induced to increase their efforts to use a replacement product - for instance, synthetic has a more stable price pattern.

It must be understood that the increased usage of synthetics in the major markets are realised because prices of such latices are relatively low ranging from 84.177 cents to 97,952 cents (Malayan) per pound, as compared with the price of natural at 91.83 cents to 97.952 cents per pound(4)

(4) It must be noted that this quotation is the New York rubber market quotation and not in the Malayan equivalent. The prices are direct conversions of \$1 (U.S.) to \$3.061 (Malayan) The figs. quoted are 1961 prices given in the Rubber Statistics Handbook 1961.

Coupled with this is the economic cannibalism of synthetic. Synthetic rubber producers have chosen to pay no heed to the world's total rubber consumption and have built up capacities for production which are greatly in excess of the "gap" - to something like half a million tons at the present time. Bearing down on the market as a whole, this excess capacity serves to hurt the natural rubber producer, although on balance the synthetic producers themselves are having the harder time.

Synthetic production is increasing at twice the rate of natural rubber per annum. To make up to the world demand the synthetic growth is at five percent per annum while natural rubber is contented with $2\frac{1}{2}$ percent.

The threat of synthetic rubber has been enhanced, not only, by the increased capacity of its production through the erection of new plants throughout the world, but also through the introduction of stereo-regular rubbers which are claimed to be a complete replacement of natural rubber.

We have to accept the fact that increasing competition from synthetic rubbers will mean that the price of natural rubber will have to follow a downward trend towards the end of the decade. The industry must, therefore, be prepared to be in a position to sell at a price highly competitive with that of its synthetic counterpart.

However, as economists believe under conditions of excessive supply, prices will continue to fall until enough productive capacity has been made unprofitable to eliminate the excess substantially.

EFFECT OF RISING PRICES

In competitive equilibrium, high prices mean the increasing use of a good cheap substitute. There is no exception in the natural rubber industry. High prices coupled with the relative short-run inelastic supply of rubber has made suitable alternatives as replacement of natural. This is one of the reasons why there has been an increasing reliance of rubber consumers on synthetics especially those synthetic regulars which have natural rubber qualities. Synthetic has made big strides in the field of quality advancement. The principal result of synthetic rubber research has been in the improvement of quality and reduction in the cost of compounds for the uses for which synthetic rubbers are preferred. These include, for instance, the manufacture of passenger car tyres, mechanical goods, shoe-soleing, and applications requiring resistance to chemicals and oils.

Just as the entrance of synthetic has made its foothold in the rubber market in times of rubber shortages and high prices, the impact of scrap rubber is also apparent.

The history of such use can be traced to the late 19th Century, where the desirability of using up scrap rubber followed the discovery of vulcanization which had led to an increasing demand for rubber. However, there seems to be a tendency for people to regard reclaim as a cheap substitute for raw rubber. Improvement in quality has continued until now reclaimed rubber is held to have valuable properties as a compounding ingredient which assure its continued use regardless of the state of the raw rubber market. Before the development of the synthetic market, Americans regarded the use of reclaim as a definite check on excessive rises in raw rubber prices.

The U.S. consumption of reclaimed rubber is as follows:

1861	-	1,000 tons
1893	-	10,000 tons
1920	-	75,300 tons
1921	-	41,400 tons
1928	-	223,000 tons
1933	-	85,000 tons
1951	-	346,000 tons (5)

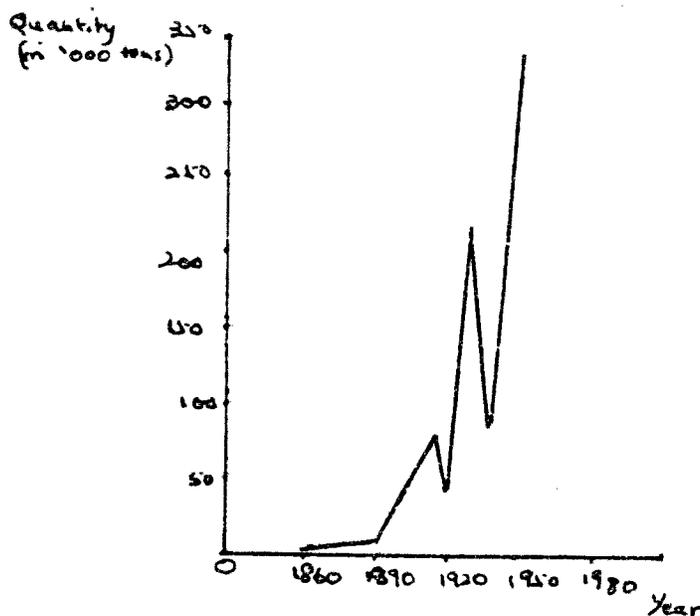


Figure 1. Graphical presentation of United States Consumption of Reclaimed Rubber.

(5) G.L. Wallace "History of Rubber Industry" page 338.

The graphical presentation shows 1921 of usage of reclaim falling from 75,300 tons in 1920 to 41,400 tons in 1921, reflecting a fall in price during that year. In 1928, the increased use of reclaim at 223,000 tons was apparent because of rising prices, and the drop in 1933 to 85,000 tons also indicates the situation at that time namely, the trade depression of the 1930's.

The threat to the natural rubber industry has been further enhanced by stock-pile releases by the G.S.A. and other stock-pile releases. Although this has been a problem, it is not as great a threat compared to the competitiveness of synthetic.

No single unqualified measure can be introduced as a solution to such a problem. Measures which might be taken to offset the impact of such competition will be dealt in more detail in the course of this exercise.