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Outlook Rosy owing to Energy Crisis?

by Dr Franz J. Jägeler, Hamburg *

This article deals with the relationship between natural raw materials and synthetics and particularly with the impact of the mineral oil crisis on their competitiveness.

Among the standard claims the Third World has always been making is the demand that the natural raw materials which they are best suited to produce should be made more competitive vis-à-vis similar synthetics from industrial countries. This demand was once again repeated in the recent draft programme designed to fill the prosperity gap between North and South — a programme which in April 1974 was adopted by an oral agreement, not by a formal vote, at the Sixth Special Session of the United Nations. The resolution, entitled "Programme of Action on the Establishment of a New International Economic Order", expresses this aspiration in the following terms: "All efforts should be made . . . to take measures to expand the markets for natural products in relation to synthetics". The industrial countries are asked to dispense with new investments with a view to increasing still further their productive capacity for synthetics and other substitute materials "in cases where natural materials can satisfy the requirements of the market"¹.

Change in the Competitive Situation

Until recently, such claims were undoubtedly to some extent justified in view of the fact that the producers of cotton, natural rubber, jute and sisal were facing a steadily rising flood of synthetically produced substitutes which threatened to drive them gradually from the international markets. Take cotton, for instance: in the ten years from 1963 to 1973 its share in the world consumption of textile fibres shrank from 63 p.c. to 50 p.c. And in the same period natural rubber's market share dropped from 42 p.c. to roughly 32 p.c. On the markets for wool, hard fibres, hides and skins as well as the other natural raw materials developments were similarly unfavourable.

The reasons for this general trend? First and foremost, of course, the much greater competitiveness of the man-made materials, but also superior marketing as well as qualitative advantages and, last but not least, greater dependability of the synthetics as far as prices and supplies are concerned.

This then was the situation until roughly two years ago when in autumn 1973 the oil crisis broke upon the world. Today, after the price for the black desert gold has rocketed to four times its previous level, much has changed. For the higher oil prices have resulted in considerable increases in the costs of manufacturing chemical fibres, artificial rubber and synthetic oils. This in turn could not fail to exercise automatically a decisive effect on the relative competitiveness of synthetics vis-à-vis natural raw materials. This at least was the conclusion formed during the first shock that followed the outbreak of the oil crisis. Since then opinions have become somewhat more discriminating, primarily because the rocketing oil prices have also triggered off a cost explosion in the production of natural raw materials.

Hard Fibres and Coconut Oil under Pressure

As early as September 1974 when the "Permanent Group on Synthetics and Substitutes" — a sub-committee of UNCTAD's Raw Material Committee — met in Geneva, the experts were almost unanimous on one point: in the medium-term future only one of the natural raw materials is sure to benefit from the oil crisis — and that is natural rubber. On the other hand, the benefits the producers of wool will derive from the changed situation are likely to be slight. Prospects for cotton are still unclear, and for jute, sisal and coconut oil the outlook is, if anything, less bright than before.

The producers of hard fibres and coconut oil have only themselves to blame for the unfavourable situation confronting them now, for it was they

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¹ United Nations General Assembly, Document A/AC. 166/L. 51, dated April 30, 1974, p. 2 et seqq.

who have been pursuing a policy of unreasonably high prices and have been making too frequent and too extreme changes in their prices and in the quantities offered for export. Between October 1973 and January 1975, the price for jute for instance, rose by more than 60 p.c., while that for sisal more than quadrupled². Their main synthetically produced competitor — polypropylene —, on the other hand, increased in price during the same period by no more than 27 p.c. in USA and by 61 p.c. in Western Europe. UNCTAD's experts are of the opinion that, unless corrective measures are taken immediately, the price relation between jute and sisal, on the one hand, and the synthetic fibres, on the other, will be such as to have grave consequences for the countries producing hard fibres — consequences which even the expected price increases for polypropylene resins — anything between 33 and 64 p.c. by 1980 — will not prevent. As for coconut oil, their conclusions are that its share in the market will not increase again "unless policies are directed towards achieving a greater volume, and a smoother flow, . . . at reasonably stable prices which would be competitive with other oils and fat prices"³.

For Wool a Silver Lining

In view of the fact that since autumn 1973 the price gap between wool and synthetic yarns has appreciably narrowed, UNCTAD's experts forecast, on the other hand, a slight improvement in the long run in the competitive position of the sheep breeders in Australia, New Zealand and South Africa. One factor in favour of the wool farmers is that energy is a relatively small item in their total production costs, another is recent improvements in breeding methods and a third is a growing consumer preference for the natural product. And yet, notwithstanding the fact that since April 1974 the share of wool in the manufacture of textiles in the leading consumer countries has for the first time in many years shown an increase (see Table 1), wool farmers are in the medium term in danger, in spite of their greater competi-

tiveness, of losing more ground vis-à-vis their competitors.

The reason why this further decline in the relative position of wool is expected is that, according to a forecast published by the International Wool Secretariat, the world's wool crop will be able to increase by 1979/80 from its present level of 2,434 million kg to no more than roughly 2,700 million kg⁴). This would represent an annual growth rate of no more than 0.6 p.c. which is likely to be considerably less than the expected increase in the clothing industry's total demand for fibres.

Uncertain Outlook for Cotton

To arrive at an accurate forecast of the relative positions of the most important natural fibre — cotton — and its synthetic competitors is extremely difficult. True, since the oil crisis the basic chemicals needed for the manufacture of polyester, for example, have registered price rises of between 60 and 65 p.c.⁵, but the share of petroleum derivatives in the total production costs is relatively small, (some 20 to 25 p.c.). For this reason, the British National Economic Development Office (NEDO) expects that by 1977 the increases in the cost of petroleum-based fibres purely as a result of higher oil prices will be kept within 15 to 20 p.c. only⁶.

As against this, the cotton producers, who in part employ advanced cultivation methods, requiring a large input of chemicals and energy, will also have to absorb appreciable cost increases. These are caused primarily by the fact that fertilizers, pesticides, herbicides and defoliants cost several times what they did before. Another reason is the higher energy bill which cotton farmers have to pay for using energy to cultivate their land, pick the cotton, gin and transport it. The higher energy costs are not the least important reason why the price relationship between cotton and synthetic fibres has in recent years undergone a considerable change. If polyester fibres cost until about 1970 still at least twice as much as their natural competitor, the gap between their respective prices has since nearly closed, with cotton having today a slight price advantage. But, as manufacturers tend to prefer synthetic fibres because of their greater price stability and steadiness of

Table 1
Virgin Wool as Percentage of Total Material Consumption at the Carding Stage in 7 Major Consuming Countries¹

	1972	1973	1974
1. quarter	45.4	39.9	30.6
2. quarter	45.3	36.9	32.5
3. quarter	44.3	33.7	32.6
4. quarter	42.4	30.9	32.3
Whole Year	44.4	35.5	32.0

¹ without Japan and Australia.

Source: Commonwealth Secretariat: Wool Intelligence, Vol. 28 (1975), No. 3, p. 133.

² For Jute the actual c.i.f. Liverpool price increased from £ 149 to £ 243 per metric ton, that for sisal from 275 US \$ to 1,125 US \$. Since then the prices for both commodities have declined, to £ 195 in case of jute and 650 US \$ in that of sisal.

³ Walter C. L a b y s : Market share and substitution pattern for coconut oil, in: UNCTAD-Dokument TD/B/C. 1/SYN 69, September, 17, 1974, p. 10.

⁴ International Wool Secretariat.

⁵ Cf. International Institute for Cotton: Inter-Fibre Competition and the Energy Crisis, UNCTAD-Dokument TD/B/C. 1/SYN 67, August 30, 1974, p. 5.

⁶ Cf. International Institute for Cotton, op. cit., p. 6.

supply, it is doubtful whether cotton will be able to hold the small ground it managed to gain in the course of 1974 (see Table 2).

Table 2
World Consumption of the Most Important
Textile Fibres 1964–1974
(in p.c.)

Year	Cotton ¹	Wool (washed)	Chemical Fibres ²		
			Cellulosics	Synthetics	total
1964	61.6	8.8	19.6	10.0	29.6
1965	61.5	8.4	18.6	11.5	30.1
1966	60.8	8.1	17.8	13.3	31.1
1967	60.6	7.5	17.1	14.8	31.9
1968	56.9	7.6	17.1	18.4	35.5
1969	55.2	7.5	16.7	20.6	37.3
1970	54.6	7.2	15.7	22.5	38.2
1971	52.8	6.7	14.9	25.6	40.5
1972	52.5	6.1	14.8	26.6	41.4
1973	50.4	5.6	14.3	29.7	44.0
1974 *	51.7	5.8	13.6	28.9	42.5

* Provisional.

¹ In each case the relevant season which ends on the 31. 7. of the stated year.

² These data come from the production area, as production and processing are assumed to be one and the same; their validity is therefore limited.

Source: Bremen Cotton Exchange, annual report 1974, Bremen 1975, p. 30.

The synthetic fibre producers are in any case definitely optimistic. They have considerably increased their output capacity in the last few years. (According to an estimate of the New York Textile Economics Bureau Inc., the world's production capacity for polyester and acrylic increased from 1973 to 1975 by 54 p.c.). Faced with such an expansionist market policy, the producers of cotton will continue to have a hard time in future. As it is, many of them, attracted by the high prices for wheat and other basic foodstuffs, have already gone over to different crops.

Favourable Chances for Natural Rubber

Only the producers of natural rubber may thus look forward to better times. They have this advantage that the manufacturers of synthetic rubber are affected to a greater extent than any other producers of artificial raw materials by the rise in the prices for chemical petroleum derivatives. The reason is this: The manufacturing process of synthetic rubber is relatively simple; the number of production stages is very much smaller than for instance the number of stages through which synthetic fibres have to pass. This is why the higher costs of the basic materials have a greater impact on total production costs. Take for example the case of Styrol-Butadiene (SBR): At the end of 1972 the cost of the basic chemical elements required to produce this most important synthetic all-purpose rubber accounted for some 40 to 50 p.c. of total production costs⁷. Therefore by the end

of 1974 the costs of producing SBR are estimated by the FAO to have risen by 120 p.c. as a direct consequence of the oil crisis. The corresponding rate of increase for polyisoprene, the synthetic rubber which in its technical characteristics is most closely akin to natural rubber, was — again according to FAO — anything between 70 and 125 p.c., depending on the method of production employed⁸.

Whereas in the case of polyisoprene production costs have always been so high that it has nearly always been dearer than natural rubber, the manufacturers of SBR have at all times endeavoured to stay just below the price of natural rubber. Already at present — with the price of natural rubber being only just 30 cents per pound — they can indulge in this undercutting only at the cost of severe inroads into their profit margins. And as the manufacturers of synthetic rubber must reckon with further severe increases in production costs⁹, they will find it in future still more difficult to remain competitive pricewise. True, the producers of natural rubber, too, have to put up with not inconsiderable increases in their costs as a result of higher prices for fertilizers, chemical stimulants and pesticides, higher wages and transport charges. They are however in a better position to absorb these additional charges by raising their productivity in various ways such as modernizing their methods of cultivation and tapping, rationalizing the processing and improving their marketing techniques.

Another important point is this: The natural rubber producing countries in South-East Asia (which provide roughly 87 p.c. of the world's total output) appear to be well on the way towards gradually removing one of the main disadvantages natural rubber has in comparison with the synthetic product — frequent and excessive price fluctuations. In the last six months prices for natural rubber quoted on the international rubber exchanges, fluctuated at most $\pm 7-8\%$ — a remarkable steadiness, a relative price stability which at least as far as the post-war period is concerned, is quite a novelty.

The burden of the price-support policy, by which it was possible to achieve this stability, has so far been borne by one country — Malaysia (which supplies admittedly 45 p.c. of the world's natural rubber). Now, however, after many failures in the past, the Association of Natural Rubber Producing Countries (ANRPC), which comprises Malaysia, In-

⁷ Cf. FAO, Commodity Review and Outlook, 1973-1974, Rome 1974, p. 41.

⁸ Cf. *ibid.*, p. 41 et seqq.

⁹ The FAO expects that in the period from 1972 to 1980 production costs will rise by between 160 and 180 p.c. in the case of SBR, 200 p.c. in that of Butadiene and by 200 to 300 p.c. in that of Polyisoprene, cf. FAO, *op. cit.*, p. 42.

donesia, Thailand, Sri Lanka, Vietnam and Singapore, have succeeded in agreeing on the creation of an International Rubber Buffer Stock to stabilize the prices for natural rubber.

As ANRPC aims also at coordinating the production policy of the member countries — their experts have already suggested that in 1975 total exports be reduced by 380,000 tons to 2,813 mn tons¹⁰ — there seems to be a fair chance of the policy of keeping prices stable continuing to be successful — always provided, of course, that the endeavours made so far are not vitiated by national strife or one country going its own way, pursuing some short-sighted objective, some temporary economic advantage.

Share in Total Consumption already Rising

At all events the improved competitiveness of natural rubber is already reflected in the international consumption statistics. After the almost uninterrupted decline ever since the fifties in the share of natural rubber in the total rubber consumption, something like a turning point seemed to have been reached already towards the end of 1973 when the downward trend was arrested. Then, in the course of 1974, the producers of natural rubber were able, not only to stabilize their market position, but even to push back the synthetic competition ever so slightly — by one percentage point in fact. This development has since continued during the first months of 1975 (see Table 3).

In Malaysia, euphoria reigns already in view of these successes. At all events, Enche B. C. Sekhar, chairman of the Malaysian Rubber Research and Development Board (MRRDB) believes that it will be possible to retrieve still larger market shares from the manufacturers of synthetic rubber. He estimates that by the early eighties natural rubber will be expected to supply 42–43 p.c. of world

demand, and he is of the opinion that rubber growers will be able to step up their output from the present level of 3.5 mn tons to roughly 6 mn tons¹¹.

Table 3
Share of Natural Rubber in World Rubber Consumption 1955–1975
(in p.c.)

Year	p.c.	Year	p.c.
1955	64.0	1970	34.7
1960	48.0	1972	32.9
1962	43.5	1973	31.7
1964	40.0	1974	32.6
1966	38.8	1975 January	33.9
1968	36.3	February	33.6

Source: International Rubber Study Group, Rubber Statistical Bulletin, Vol. 29 (1975), No. 9.

Irrespective of whether these ambitious schemes of MRRDB will turn out to be capable of realization, the example of the natural rubber producing countries points the way other producers of natural raw materials who are in competition with synthetic products must take to stay in business. Following the cost explosion triggered off by the oil crisis, their chances of removing the price advantages the competing synthetic products have hitherto been enjoying are now greater than ever before, always provided that they withstand any temptation to snatch temporary advantages by demanding exorbitant prices in times of scarcity such as may perhaps develop as early as 1976 as a result of a revival of world demand. What is wanted instead: a reasonable policy of profitable but competitive, and, above all, stable prices — a policy which, if at all possible, should be agreed by all the important producer countries. In any case, the example of natural rubber shows that developing countries are capable of concentrating their efforts in order to increase productivity, rationalize production, improve the quality and marketing of the raw materials they produce.

¹⁰ Cf. Natural Rubber News, June 1975, p. 1 (blue section).

¹¹ Cf. Natural Rubber News, November 1974, p. 2 et seqq. (blue section).

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