

RECENT TRENDS IN THE WORLD RUBBER ECONOMY

I N Samarappuli

This paper examines the recent trends in the world rubber economy in relation to consumption, production, trade and prices. The contents of this study may provide some insight for those involved in the formulation of economic policies to develop the world rubber economy in general and Sri Lankan rubber economy in particular.

CONSUMPTION

The world total rubber consumption *viz* natural rubber (NR) and synthetic rubber (SR), increased significantly in the past two decades, even though the world economic recession prevailed in the early eighties severely depressed the rubber market (Table 1). The rubber consumption for the world as a whole increased steadily with a compound annual growth rate of 1.9% during the 1980s. Yet, some countries have shown only a moderate increase. In this group are the North American and most West European countries. Extremely high growth rates have been achieved by most Asian countries, such as Japan, Korea, Taiwan, China, India, and Malaysia. During the 1990 to 1993 period, rubber consumption declined or stagnated. There was a 5% decline in 1991, a 2.6% increase in 1992, and stagnation again in 1993, with North America and Asia in general performing well and the Western Europe stagnating or declining. The situation in Eastern Europe and the former USSR changed dramatically since the latter part of the last decade. For instance, rubber consumption in the former USSR contracted by nearly 18% in 1991 and by another 10% in 1992.

The bulk of the 15 million metric tons (Mn.MT) of present global rubber consumption is split between five main consuming regions: Asia Pacific, North America, West Europe, East Europe and other parts of the world (Samarappuli, 1993). In general, regional consumption of SR and NR follows the 2:1 ratio. However, this ratio is violated in two regions. Firstly, in Asia, where much of the world's NR is grown, the proportion of NR used is about 60 percent. This is higher than the global average, as it appears economically much more beneficial to consume a or cheaper resource (produced in the same or adjoining countries) than to spend cash on expensive imports from far away countries. Secondly, in the East Europe, approximately 90 percent of the rubber consumed consist of SR. This is a result of the former political and economic climate that withheld the use of NR.

Table 1. *Rubber: consumption growth rates (1960–1993)*

Period	(Percent per year)		
	NR	SR	NR + SR
1960–1970	3.7	14.0	6.9
1970–1980	2.5	5.6	3.8
1980–1990	4.3	1.3	1.9
1990–1991	1.9	-4.2	-3.4
1991–1992	3.1	0.7	1.6
1992–1993	4.4	-1.0	2.2

The time series consumption data depicted in Figure 1 reveals a continuous trend that has been evident for many years where the share of NR in the world economy has been steadily increasing, following its decline particularly during the 1970s. Since 1990, the much of the growth in consumption has been on the part of NR; the SRs show annual growth rates around only 1 percent per year against 3–4 percent for NR.

PRODUCTION

On the supply side, production possibilities of NR have shown a remarkable improvement largely due to the research and development effects pursued during the past few decades. On a world scale, NR production increased with a compound annual growth rate of over 3% during the 1980s. However, the NR production has somewhat stagnated since 1990, largely as a result of low rubber prices and increasing production costs.

The production statistics of NR producing countries for 1970, 1980, 1990 and 1993 are given in Table 2. Malaysia's overall production has declined since 1980s particularly as a result of a shift by farmers to other modes of employment, which provided a better pay or more attractive working environment. Indonesia increased steadily during the same period, without any significant ups and downs. Thailand materialized the ongoing replanting schemes to more than double their production, with much higher growth rates recorded in the 1980s compared to the 1970s. This trend continued into the 1990s.

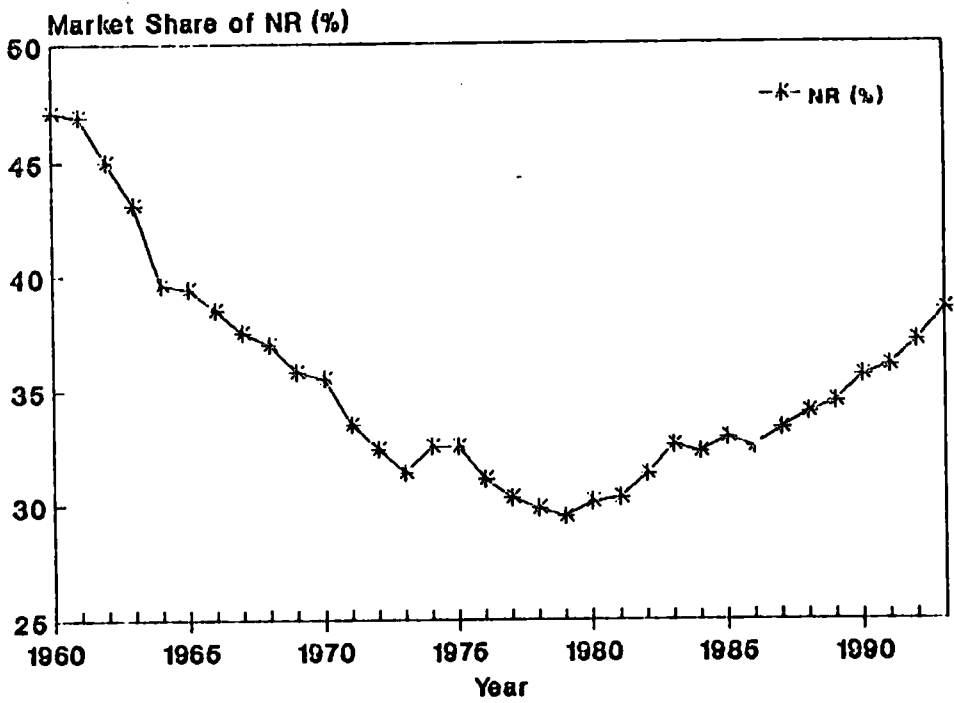
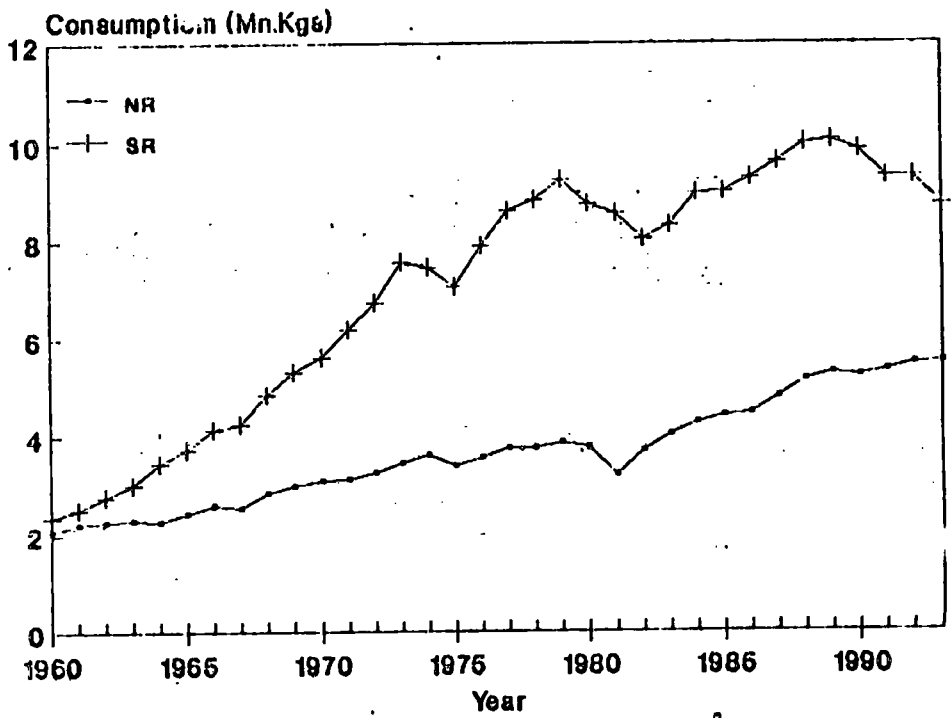


Fig. 1 World rubber consumption and market share of Natural Rubber (1960-93)

Table 2. *Production and growth rates of natural rubber (1970-93)*

Country/Region	Production ('000 MT)				Average Growth rates per year		
	1970	1980	1990	1993	70-80	80-90	90-93
Malaysia	1269	1530	1291	1074	1.9	-1.7	-5.6
Indonesia	815	1020	1262	1301	2.3	2.2	1.0
Thailand	287	501	1271	1570	5.6	9.8	7.9
Sri Lanka	159	133	113	104	-1.8	-1.6	-2.7
India	90	155	324	428	5.6	7.7	12.8
Philippines	20	70	185	172	13.6	10.2	-2.3
Vietnam	28	49	52	111	5.8	0.6	37.8
Cambodia	13	-	32	40	-	-	8.3
China	-	113	264	325	-	8.9	7.7
Other Asia and Oceania	18	25	18	18	3.3	-3.2	0.0
Liberia	83	78	40	30	-0.6	-6.5	-8.3
Nigeria	65	47	152	105	-3.2	12.5	-10.3
Cote d'Ivoire	11	23	69	74	7.7	11.6	2.4
Cameroon	12	17	38	50	3.5	8.3	10.5
Other Africa	41	30	20	18	-3.1	-4.0	-3.3
Brazil	25	28	30	27	1.1	0.7	-3.3
Other Latin America	7	20	32	38	11.1	4.8	6.3
Total	3140	3850	5210	5500	2.2	3.1	1.2

Comparing the three major producers; Malaysia lost its role as leading producer in 1991 to Thailand, while Indonesia remained in second place. Also India, the Philippines and China among the Asian producers more than doubled production within the last decade and the growth continued into early part of the nineties. The increase in the Philippines was so sudden. After the turbulent period, Vietnam and Cambodia came back to produce NR, and more is likely to come, as there appears to be plenty of scope for expansion. Sri Lanka in fact was the only stagnating NR

producer in Asia, apart from Malaysia; major factor was the diversification of land for other comparatively profitable ventures. In Africa, war-torn Liberia virtually lost all its production by 1990/1991, while Nigeria and Cote d'Ivoire trebled production during the 1980s as a result of a strong focus on agriculture; Cameroon and Gabon are among the new producers. In Latin America, Brazil stagnated and Guatemala was a new and fast growing producer.

TRADE

The number of NR rubber producers and consumers involved in the rubber industry are not only large and scattered, but also, separated by long distances. Thus, the middleman provides a useful linkage between the producer and the consumer by providing services and facilities in a manner that will expedite the flow of the commodity in the form, at the time and the place so required.

About 70 percent of the world's NR production reached the export market in 1992 (Table 3). Producing countries have retained only a small though growing share of their output for domestic use; this share grew from 2.5 in 1952 to 8.5 percent in 1972 and to 28.5 percent in 1993.

Table 3. *Net export of natural rubber (1960-1993)*

Country	1960	1970	1980	1990	1993
Malaysia	775 (99%)	1304 (103%)	1482 (97%)	1186 (92%)	770 (72%)
Indonesia	587 (95%)	790 (97%)	976 (96%)	1077 (85%)	1214 (93%)
Thailand	170 (100%)	279 (96%)	457 (91%)	1151 (91%)	1394 (89%)
Sri Lanka	106 (107%)	154 (97%)	121 (91%)	87 (77%)	70 (67%)
Other	257	257	234	519	482 (33%)
World	1895 (94%)	2785 (90%)	3270 (85%)	4020 (77%)	3930 (72%)

* Figures in parenthesis indicate the exports as a percentage of total production

Asia has remained the main source of NR exports. In 1993, Asian countries have accounted for 93 percent of the world total exports, and the remainder has largely come from Africa. Of the major NR exporters, Thailand accounts for 35 percent of world total exports, Indonesia for 30 percent, Malaysia for 19 percent and Sri Lanka for 1.7 percent. Trends in NR exports have followed closely those in production.

The situation is almost the opposite in the case of SRs where only 39 percent of world production is exported (Table 4). World trade in SRs is not only small in relation to the volume of production; most of it takes place among developed countries. For instance, developed countries account for 87 percent of world exports and 74 percent of world imports. The United States is the largest single net exporter of SR closely followed by Japan, CIS, France and Germany.

Table 4. *Production and Net exports of Synthetic Rubber (1960 - 93)*

Country	Activity	Year				
		1960	1970	1980	1990	1993
USA	Prod.	1460	2232	2215	2114	2170
	Exports	347(24%)	300(13%)	449(20%)	524(25%)	562(26%)
Japan	Prod	23	698	1094	1426	1310
	Exports	1(4%)	193(28%)	234(21%)	308(22%)	379(29%)
Germany	Prod	81	302	396	542	572
	Exports	21(26%)	107(35%)	221(56%)	367(68%)	335(59%)
France	Prod	18	316	511	522	486
	Exports	6(33%)	165(52%)	355(70%)	410(79%)	412(85%)
USSR/CIS	Prod	420	798	2040	2365	1020
	Exports	32(8%)	74(9%)	150(8%)	256(11%)	150(15%)
China	Prod	3	25	123	316	385
	Exports	-	-	-	-	-
Rep.of Korea	Prod	-	-	76	227	297
	Exports	-	-	1(1%)	64(28%)	119(40%)

Country	Type	Year				
		1960	1970	1980	1990	1993
UK	Prod	92	316	212	299	290
	Exports	20(22%)	119(38%)	111(52%)	240(80%)	233(80%)
Taiwan	Prod	-	-	77	154	214
	Exports	-	-	31(40%)	56(36%)	106(50%)
Italy	Prod	67	155	250	300	300
	Exports	37(55%)	46(30%)	104(42%)	207(69%)	224(75%)
Canada	Prod	162	205	253	213	198
	Exports	110(68%)	112(55%)	129(51%)	161(76%)	169(85%)
Others	Prod	124	833	1443	1532	1298
	Exports	66(68%)	314(38%)	535(37%)	747(49%)	641(49%)
World	Prod	2450	5880	8690	10010	8540
	Exports	640(26%)	1460(25%)	2320(27%)	3340(33%)	3330(39%)

* The figures in parenthesis indicate the exports as a percentage of total production

PRICES

After the second world war as SRs became increasingly important in world markets, their prices began to set the overall price trend, and NR producers became, to a large extent, price takers. Economies of scale and technical innovations in the SR reduced production costs and prices of SRs thereby depressing NR prices. However, the oil crisis of 1973-74 and the subsequent quadrupling of crude oil prices substantially affected both the short run and long run cost curves of the NR and SR industries (Grilli *et al*, 1978).

There are a number of commodity exchanges where NR is traded. The last decade has seen action being reduced in particular on futures markets in Europe and the USA. Some of the reasons for this are the increase in direct trade, shift of consumption of rubber away from Western Europe and the USA to the countries in South East Asia and the effect of the International Natural Rubber Organization (INRO) which tends to stabilize the prices.

The market for NR is highly competitive, and it is expected that prices to reflect even small changes in the supply and demand imbalance. Between 1975 and 1993, the average percentage deviation of prices from the 3 and 5 year moving average was 8.5 and 14.3 percent respectively.

The prices for NR and SBR (the type of SR being largely consumed) are shown in figure 2. Wide fluctuations in prices are evident for NR when compared to SBR. Moreover, prices of different types of rubber such as RSS1, RSS2, TSR *etc* broadly follow a parallel pattern. Five major price peaks can be clearly identified in the price series for NR. In the years 1969, 1974, 1980, 1983 and 1988; NR prices rose substantially above trend. The 1974, 1980 and 1983 peaks can largely be attributed to "exogenous" factors: the oil crisis in particular. The import demand for NR was very strong in 1974 and in 1988, a consequence of a boom in industrial production which took place almost simultaneously in all the developed countries.

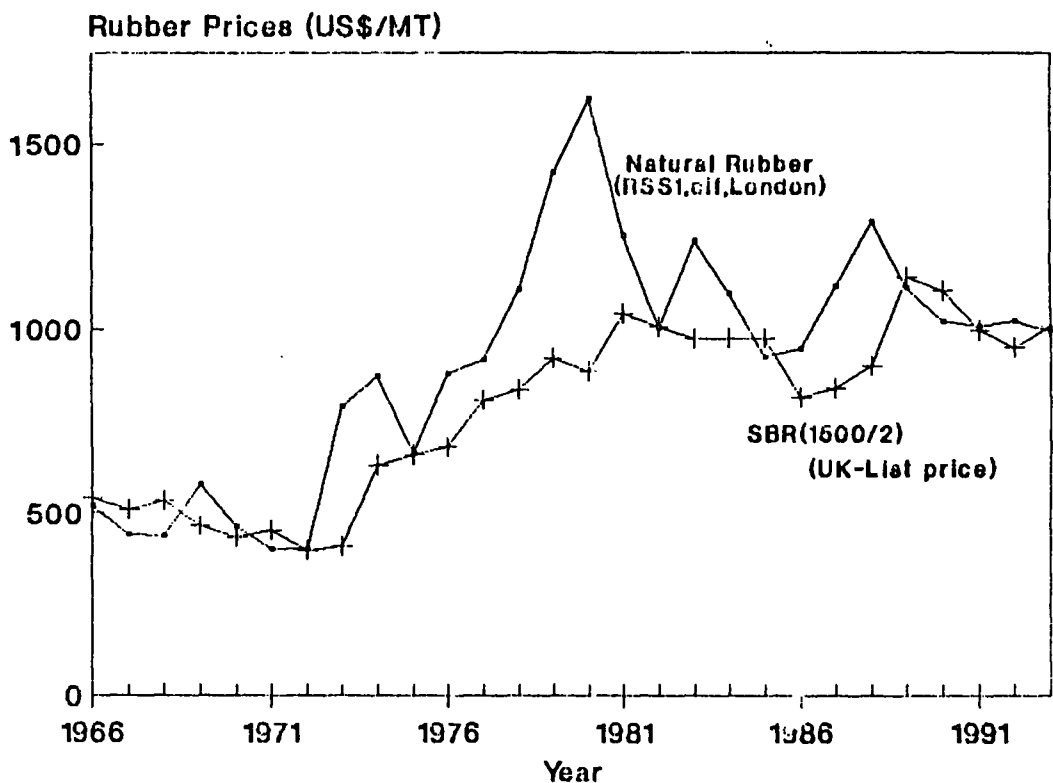


Fig. 2. Natural rubber and synthetic rubber (SBR) price trends (1966-93)

FUTURE OUTLOOK

Considering the recent trends of supply and demand for NR, it is evident that instability of the NR prices may continue even in the future, giving a century-long perspective. However, the prices will fluctuate at a much higher price level than ever before, largely due to excess demand for NR.

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