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VOLATILITY IN THE PRICE OF RUBBER: AN ANALYSIS ON KERALA RUBBER INDUSTRY

*Sunitha. L. F, **Dr. Aabha Benjamin

*Assistant Professor on Contract, Department of Economics, All saints College, Thiruvananthapuram.

**Assistant Professor, Department of Economics, University College, Thiruvananthapuram.

ABSTRACT

The most significant characteristic of rubber plantation industry in India/Kerala is the relatively slow growth and the degree of high variability that occur from time to time. The recent observations provide exciting experiences particularly in Kerala in the post-globalization scenario. The volatile characteristics attracted attention both from the private and government circles and have been the most significant dark spot in the era of globalisation. It should be remembered that fluctuations are inherent in every economic process and that such stochasticity is normally taken into account in every business and commercial decision. Instability becomes a problem only when it exceeds the bounds of normality that is anticipated in business activity. These bounds are by no means universal and can vary from one activity to another.

Keywords: Natural Rubber, volatility, cyclical oscillations.

INTRODUCTION

Rubber occupies a prominent place among the commercial crops cultivated in India. Kerala, the south most state in the Indian Union, accounts for 84 percent of the area under cultivation and 92 percent of the natural rubber produced in the country. With its ever growing demand for industrial purposes, cultivation of rubber has gained wide acceptance among the farmers in Kerala. Rubber is grown both in plantation and in small holdings in the state. The small holdings outnumber the large estates. 87 percent of the small holdings have an average area of less than two hectares. For most of the small holders the yield from rubber constitutes the main source of income. This adds to the importance of the crop in the states' economy.

The plantation economy, especially rubber economy has been inextricably linked to world trade and has becomes a topic for constructive debate and challenges in the post-globalization period. Large number of studies on rubber explores and cross examine with substantive proof of how it becomes an easy pray to cyclical oscillations, when policies of world trading partners change. In

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this context, we attempt to review major related literature to identify the challenging issues and prospects to make analysis of the impact of price trends in natural rubber in the larger globalization setting

The variation in the price of rubber is a matter of concern for the small farmers where it is a means of livelihood. The upswings and downswings in the price of rubber have its repercussions on the economy in general and on the family budgets of the farmers in particular. How the price variations of natural rubber affect the different sectors of the economy is a question worth examining. In the context of the growing importance of rubber in Kerala's economy, this question assumes special significance. The price variation affects the demand for and supply of natural rubber which in turn is reflected on its productions.

REVIEW OF LITERATURE

Jose Thomas (1979) attempted to study the role of the Rubber Board in the development of the rubber plantation in the state of Kerala. The various schemes introduced by the Rubber Board to increase the production of natural rubber to meet the requirements of the rubber based industries were evaluated in the study. The study also made an assessment of the new subsidy scheme introduced by the Rubber Board and the benefits to the cultivators of rubber in Kerala.

Another study Jose (1979) analysed the importance of the rubber plantation industry in Kerala. He came to the conclusion that the rubber plantation industry has important place in the regional economy of Kerala and that it has registered rapid growth in terms of area and production. He estimated profitability which showed that rubber cultivation was a reasonably profitable enterprise. A major defect of the study is that it is based on secondary data. Needless to say the estimation of cost of production requires detailed reliable data relating to each operation. The conclusions of the study, thus, have only limited validity.

The National Council of Applied Economic Research (NCAER) in 1980 conducted a study on the demand and supply of rubber in India and estimated the demand and supply prospects of rubber for the future decades. The study worked out the demand and supply gap in each decade, by taking into account the additional supply balance to maintain the stocks.

Sunil Mani (1983) conducted a study on the Indian natural rubber market with special emphasis on price movements and its impact on small scale cultivators. It attempted to analyze the trends in the natural rubber market and detected the factors that influenced price movements over the periods Production of natural rubber is sensitive to both international and farm gate prices and this in turn is linked to international consumption and export/import. More over both international and internal policies also affect prices, production and consumption. If we look internally, particularly when production is concentrated more in one state, policies should be

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drafted in such a way not to contradict with national strategy. Though the study is on national and international prices, emphasis has been given to Kerala, since large share of national production come from this State.

Table 1: Average Market Price of Natural Rubber in International Market (Bangkok) (Rs. per 100 Kg.)

Year	Bangkok (RSS-3)	Growth Rate (%)
1992-93	2608	
1993-94	2510	-3.8
1994-95	4171	66.2
1995-96	5016	20.3
1996-97	4509	-10.1
1997-98	3221	-28.6
1998-99	2885	-10.4
1999-00	2704	-6.3
2000-01	2958	9.4
2001-02	2793	-5.6
2002-03	4111	47.2
2003-04	5278	28.4
2004-05	5751	9
2005-06	7398	28.6
2006-07	9702	31.1
2007-08	9675	-1.1

Source: Indian Rubber Statistics 2008

It is evident from the Table that highest growth rate in price took place in the year 1994-95, just a year before the sudden decline in prices. From the year 1996-97, growth rate became negative and persisted during the next six years with an exception of positive growth in the year 2000-01. But since 2002-03, once again it gained momentum and positive growth rates persist. During this period, prices were rising, but with fluctuations. However the growth rate again got accelerated in the following two years from 2005-06 and 2006-07 with an annual growth rate of 29.2 and 31.6 per cent respectively.

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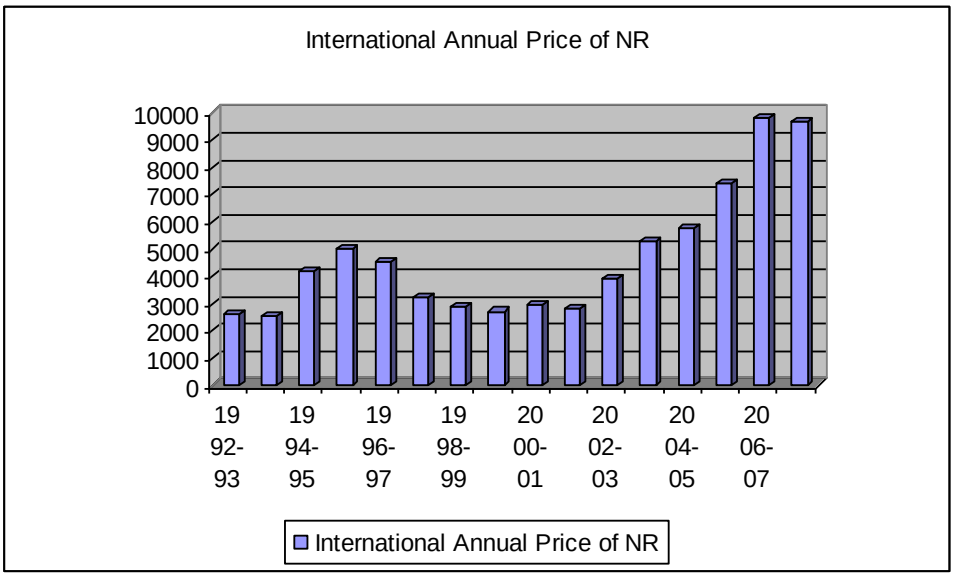
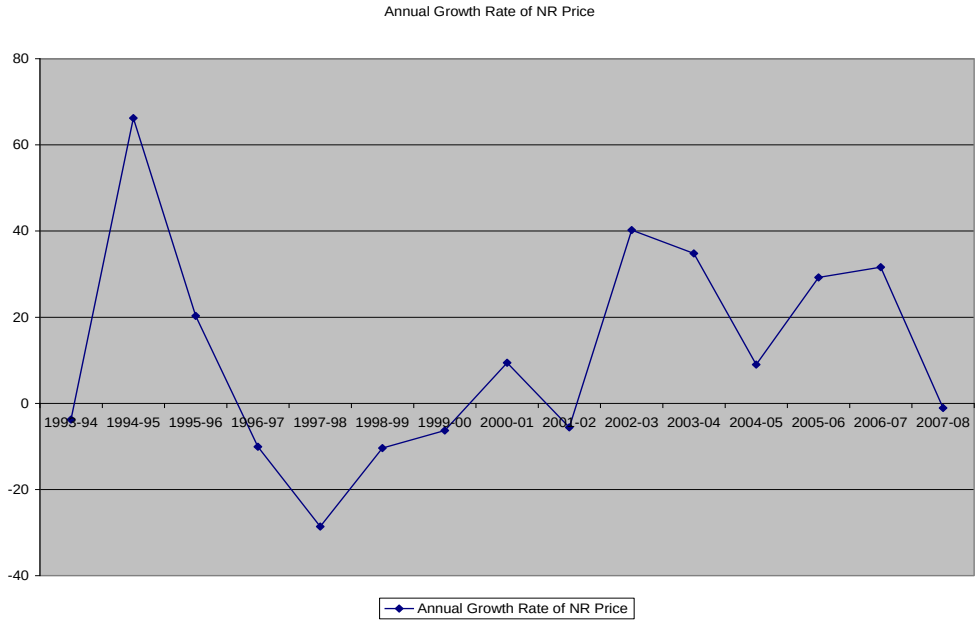
Figure 1: Price Trend of NR at International Market (Bangkok) (1992-93 to 2007-08)



Source: Indian Rubber Statistics,2008

Figure 2: Annual Growth Rate NR Prices at International Market (Bangkok) 1993-94 to 2006-07



Source: Indian Rubber Statistics – Volume 31, 2008

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In the year 2006-07 international rubber price recorded ever highest market prices. However in the year 2007-08 the price slightly declined to Rs.9675 from Rs. 9702 in the previous year, thus registering a negative trend of 1.1 per cent. The trend in the annual growth rate of natural rubber at the international level is also shown in figure 2

Price Trends of Natural Rubber in Pre- reform Periods

The effect of convergence of market in the post-reform phase is evident fron decline of price ratio from 1.49 in the pre-reform phase to 1.04 in the post-reform phase. The price volatility of NR during the post-reform phase is evident that the differences in the price of inter-years bore negative signs in 5 out of 13 years during the post-reform period, whereas the negative sign during the pre-reform period of 13 years is only one.ie; in 1986.

An attempt to compare the natural rubber price trends in India/Kerala and at international level during the pre-reform period (1978-79 to 1990-91) and post-reform period (1991-92 to 2003-04) is made by Mohan Kumar and Binny Chandy (2005). The data presented in the table bring out the following facts.

1. The effect of convergence of market in the post-reform phase is evident from decline of price ratio from 1.49 in the pre-reform phase to 1.04 in the post-reform phase.
2. The effect of statutory regulations was obvious on the level of India/Kerala price in the pre-reform phase. It was 100 % more than the price that had prevailed in the international market till 1991.
3. The price volatility of NR during the post-reform phase is evident from the fact that the difference in the price of inter-years bore negative signs in five out of 13 years during the post-reform period, whereas the negative sign during the pre-reform period of 13 years is only once ie in 1986.
4. The price of NR in real terms (deflated with implicit deflator of SDP from agriculture in Kerala at 1993-94 prices) show that the price realized by farmers in 2001 was only 60 % of what they had received in a normal year of 1993-94. The price realized during the triennium ending in 1983-84 had been higher by 75 percent than that of the triennium ending in 1998-99 to 2000-01.
5. Moreover, the price at the trough point recorded in the pre-reforms phase was lower than the peak price of that period by a margin of only 30 %, whereas the difference between the trough and the peak prices in the post-reforms phase was 60 percent.

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6. The differences in instability in NR price during the pre-and post-reforms phases are clear from the fact that the instability has significantly increased from 8.93 in the pre-reform phase to 26.81 during the post-reform phase.

Table 2: Price of NR in India/Kerala and International Market

Year	Price at Kottayam	Price at Kuala Lumpur	Ratio of India/Kerala Price to International Price (Col 2/Col 3)	Kottayam Price in Real Terms
Pre-reform Phase (1978-79 to 1990-91)				
1978	885	789	1.12	3569(115)
1979	1024	1011	1.01	4138(133)
1980	1154	1083	1.07	3947(127)
1981	1423	872	1.63	4405(142)
1982	1473	789	1.99	4304(139)
1983	1672	1042	1.6	4569(147)
1984	1689	1040	1.62	4225(136)
1985	1694	890	1.9	4005(129)
1986	1670 (-)	988	1.69	3702(119)
1987	1766	1217	1.45	3631(117)
1988	1811	1600	1.13	3301(106)

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1989	2040	1482	1.38	3503(113)
1990	2147	1425	1.51	3379(109)
Average Price Ratio Instability	8.93		1.47*	

Price Trends of Natural Rubber in the Post-reform Period

The price volatility of NR during the post-reform phase is evident from the fact that the difference in the price of inter-years bore negative signs in five out of 13 years during the post-reform period, whereas the negative sign during the pre-reform period of 13 years is only once ie in 1986. The price of NR in real terms (deflated with implicit deflator of SDP from agriculture in Kerala at 1993-94 prices) show that the price realized by farmers in 2001 was only 60 % of what they had received in a normal year of 1993-94. The price realized during the triennium ending in 1983-84 had been higher by 75 percent than that of the triennium ending in 1998-99 to 2000-01.

Year	Price at Kottayam	Price at Kuala Lumpur	Ratio of India/Kerala Price to International Price (Col 2/Col 3)	Kottayam Price in Real Terms
Post-reform Phase (1991-92 to 2003-04)				
1991	2128(-)	1796	1.18	2985(96)
1992	2463	2457	1.00	2894(93)
1993	2546	2538	1.00	2837(91)
1994	3107	3455	0.90	3107(100)
1995	5059	5030	1.01	4621(149)
1996	5122	4764	1.08	4249(137)

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1997	3988(-)	3614	1.10	3030(98)
1998	3013	2884	1.04	2102(68)
1999	2997(-)	2644	1.13	1943(63)
2000	3125	3007	1.04	1948(63)
2001	3109(-)	2732	1.14	1969(60)
2002	3621	3696	0.98	2115(68)
2003	4814	4985	0.97	
Average Price Ratio Instability	26.81		1.04*	

Source: Mohan Kumar &BinnyChandy (2005), Ibid.

It is worth focusing the unique year (2006-2007) to verify whether there are monthly fluctuations during the year. It was observed that fluctuations persisted during the fifteen year duration between 1992-93 and 2006-07. A comparison between the monthly prices at Kottayam (representing Kerala and thus India) and international prices is attempted in table 2

Among the Indian states, Kerala is blessed with all parameters of natural rubber production to become world leader in quality rubber production. The relation of production and the community living, the core element in rubber plantation is the added property of Kerala economy in comparison with elsewhere.

In Kerala, the significant share of production has been in small holdings and the contribution of large estates is relatively insignificant in determining price and supply. the price trend in Kerala/India lying behind the world price, implying the continued future prospects of rubber industry in Kerala. In this context it would be suggestive to translate the pulse of world trading by incorporating mechanisms of futures trading as has been implemented at the time of price doom in Kerala.

The emergence of Kerala as one of the leading players in rubber trading is due to its natural advantage of cheap labourers and favourable soil and climate. The programs, policies and mechanisms to regulate and direct market supply are highly warranted to take advantage of the price boom resulting from the domestic and international prices of Natural Rubber.

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