

# To examine the impact of WTO on the trade of Indian natural rubber and to find out the effect of the annual domestic productivity gain on imports

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## Abstract

This paper attempts to examine the impact of WTO on the trade of natural rubber in India and the domestic annual productivity gain on imports. The growth rate in the import of natural rubber steeped to negative, i.e., -40.48% during the pre-WTO policy period. It increased to highly positive i.e., 821% during the post-WTO period. In the case of exports there was a steep decline in the export share from 128.93% (pre-WTO period) to -87.63% (Post-WTO period). The excess import of natural rubber increased from 175877 (Pre-WTO period) to 1201825 tonnes (Post-WTO period). In the case of import of ribbed smoked sheets, the rate of growth was negative i.e., -73.62%. During the post-WTO period, the rate of growth of import accelerated to 283.94%. While analyzing solid block rubber, the rate of growth was only 56.17% in the pre-WTO period. The rate of growth steeply increased to 1663.42% during the post-WTO period. Productivity fell from 70.19% in pre-WTO phase to -8.82% in post-WTO phase. While analyzing the domestic annual productivity gain on imports, the decline in productivity with a unit increase in imports was sharper since 2000-01. Productivity gain fell by .000400 ( $p < 0.01$ ) with unit increase in imports during this period while it was to the tune of 0.000396 ( $p < 0.01$ ) for the entire period.

**Keywords:** WTO, Trade

## 1. Introduction

According to the WTO Agreement, Natural Rubber is considered as non-agricultural goods used as raw materials for industry. On the contrary, natural rubber did not come under AOA provisions, which included special treatment up to the extension concerning market access, domestic support, export subsidy, and safeguard provisions. United Nation's Commission for Trade and Development (UNCTAD) suggested that natural rubber is an agricultural good and, therefore, natural rubber received all the privileges from UNCTAD. Nevertheless, the WTO cannot accept natural rubber as an agricultural commodity (Joseph and Hari, 2019). In March 2001, India took away 715 items from quantity restrictions (QRs), including natural rubber, to meet the WTO commitment. As a result, natural rubber was shifted from the negative list of regulated items to the open general license, which resulted in the free importation of natural rubber. This is the major policy and the first policy which adversely and directly affected the Indian rubber economy. After completing the quantitative restriction elimination process, the government compiled a list of "State Trading List" items, including agricultural products such as wheat, rice, maize, coarse, grains, copra, and coconut oil to control imports. Natural rubber is a non-agricultural product under the WTO agreement and is excluded from the State Trading List for import Regulations. (GOI, 1999; Goldar, 2005; Mohankumar, 2014; Mehta, 2000)

## 2. Review of Literature

George, Joseph and Jom, (2003) has assessed the global trade and tariff policy on natural rubber and rubber production under the WTO. The primary objectives of the study area to understand the structural and sectoral composition of world exports in natural rubber and rubber products and b) to examine the extent of intra trade among major natural rubber producing nations namely India, Thailand, Indonesia, Malaysia, China etc. The study analyses the tariff policy on natural rubber adopted by the five major natural rubber producing countries. Thailand, being the largest producer and exporter of natural rubber, does not face any potential threat from imports. However, Malaysia and China's cases are different. Zero rates of duty will lead to more extensive and cheaper imports of natural rubber to these nations. India, however, has taken efforts to balance natural rubber production diversified rubber products. Malaysia, India and Thailand have adopted higher mean MFN (most favoured nations) tariffs to provide an increased level of protection to its value-added rubber products segment.

Joseph, Uma and Sreejith (2012), highlight the importance of database for policy-oriented research under the free trade agreement regime in the context of India's plantation sector. The study explains the significance of the plantation sector in India's economy as a means of foreign exchange earner, an instrument of modernization via the creation of (social overhead capital)

SOC, increased employment intensity etc. However, this historical significance has declined over the years, from the plantation sector, contributing 16% of India's export earnings in the 1970s to 0.5% in the 2000s.

Harilal and Dhanya (2015) have studied the impact of WTO's Agreement on Agriculture (AOA) on tropical commodities in South India. The study suggests that cooperation among commodity-producing countries can address commodity problems to a great extent. The study is relevant as it examines the intense competition among global producers while land holdings get fragmented and atomized in these nations. The primary objective of the study is to understand the characteristics of the new trade regime controlling tropical commodities (coffee, cocoa, tea, rubber, spices and vegetable oil) in the 21<sup>st</sup> century. The study argues that tropical commodities were traded much more freely with minimum state intervention even before GATT and WTO.

George, Joseph and Joseph (2002), study Indian natural rubber in Post-QRs phase. This article clears that the import of natural rubber accelerated tremendously while considering the natural rubber import after April 2001, i.e., after the removal of quantitative restrictions. Due to high import after the integration of the domestic market with the international market, the price of the domestic market became unstable and declined. The significant findings reveal that statutory minimum price helped to increase the production of natural rubber. The quality-based output helped to promote export. Though there is a controlling measure to prevent import through ports, the duty-free channel of DEPB will help to increase the imports that restrict. The research is descriptive based on secondary data.

### **3.Objectives**

- 1.To examine the impact of WTO on export and import of Indian natural rubber
- 2.To analyse the effect of the annual domestic productivity gain on imports

### **4.Materials and Methods**

The present paper is analytical and is based on secondary data. The data were obtained from The Indian Rubber Statistics (IRS) published by The Statistics and Planning Department, The Rubber Board. The data released by The Rubber Board during the period 1986-2016 were collected and examined for finding the intensity of impact of WTO on export and import of natural rubber in India. The effect of imports of rubber on domestic productivity of rubber was examined regressing domestic annual productivity gain on imports for each of the periods 1986-87 to 2000-01 and 2001-02 to 2015-16 and also for the entire period together.

### **5.Results and Discussion**

#### **Analysis of the impact of WTO on Indian natural rubber concerning Export and Import**

With the opening up of the economy in the year 1991, the Indian economy has become more of a market-oriented economy. The tools of liberalisation, privatisation and globalisation have used instruments to facilitate the opening up of the economy. India started to shift from an "Agrarian based Economy" to a "Market-Oriented Economy". The Indian Economy too started to spread its wings in tune with the international markets licenses, and the "License Raj" system was abolished. India too started to shift itself as per the international norms and as per the demands of its times became a founding member of the WTO. (Joseph and George, 2005).

WTO was formed to eliminate "trade distortion" and facilitate equal access to the markets among the trading partners. They stressed the elimination of direct and indirect subsidies that was resulting in a deceptive comparative advantage which further led to inefficient use of the world resources. India being a signatory to the WTO, had to comply with the provision of the WTO mandatorily. Unfortunately, WTO served as a tool to further the interests of the well-developed countries at the expense of the poor underdeveloped countries. As bilateral and multilateral agreements started to gain grounds among the members of the WTO, market access started to be easily accessible to the member countries.(Viswanathan and Shah, 2013).

The local producer had to produce as per the whims and fancies of the international market rather than the requirements of the domestic market. With the advent of the new millennium, India started to vigorously pursue its objective with respect to the compliance of the goals of the WTO. This included the easing of quantitative restrictions on imports. Natural rubber considered as an industrial raw material also led to ease the quantitative restrictions on its imports from other countries in a progressive and time-bound manner. (George, Joseph, and Joseph, 2002).

#### **Indian natural rubber after March 2001**

The liberalisation policy of trade was directly impacted by Indian natural rubber only after the easing of the quantitative restrictions on the import of natural rubber in accordance with the provisions stipulated by WTO since April 1<sup>st</sup> 2001. In order to compromise with the policy laid down by WTO, the government of India announced a progressive easing on the restrictions imposed on the import of around 715 items, including natural rubber. Due to the removal of these restrictions, natural rubber

automatically shifted from the category of the negative list to open general license list. In short, natural rubber can be imported from any member of WTO after paying a specified rate of import duty. This has hampered the economy of Indian natural rubber as there has been a massive inflow of imports in natural rubber over the years. The bound rate implemented on April 1<sup>st</sup> 2001, i.e., the rate that is fixed through the negotiations between the member countries and finalised for each product at the stage of the inception of WTO, stipulated that the duty rate should not cross the limit of a maximum of 25% for natural rubber products except latex. Moreover, there was easing on the restrictions imposed on the import of natural rubber through customs port since August 2004. The progressive reduction in import tariff over the years on the import of natural rubber has facilitated the increase in the imports of natural rubber from the rest of the world. (Joseph and George, 2005; George, Joseph, and Joseph, 2002).

This necessitates us to study the growth of Indian natural rubber as a non-agricultural product in two phases.

- a) The pre-WTO policy (before 2001)
- b) The post-WTO policy (after 2001)

**Export and import of Indian natural rubber during pre-WTO and post-WTO period**

The export and import of Indian natural rubber can be substantiated with the help of a table 1 during 1991-2001 and 2001-2016. This table may be explained by the fact that the import of natural rubber during the pre-WTO policy period shows a negative trend and post-WTO policy period showed a tremendous positive trend. The growth rate in the import of natural rubber steeped to negative, i.e., -80.22% during the pre-WTO policy period. It increased to highly positive, i.e., 821% during the post-WTO period. This accelerated growth of imports after 2001 is mainly due to the elimination of quantitative restrictions on imports which were implemented from April 1st 2001. On the other hand, in the case of exports, there has been a steep decline in the export share from 128.93% to -87.63%. This drastic fall in export share may be due to the excess import of natural rubber which has led to a decline in its price.

**Table 1:Export and import of Indian natural rubber during the pre-WTO and post-WTO period**

Trade	Pre-WTO Period (1986-2001)	Post-WTO Period (2001-2016)
Export	128.93%	-87.63%
Import	-80.22%	821%

Source: Indian Rubber Statistics, The Rubber Board (Ministry of Commerce and Industry) Government of India

The fall in the price of natural rubber directly affected the livelihood of farmers by which majority of them are smallholders. This forced the cultivators to change the investment decision in farming and even to change the cropping pattern. Due to this, production was vulnerably affected and finally in the growth of export of natural rubber. (Mohankumar and Chandy, 2005).

**Entire excess import of natural rubber during pre-WTO and post-WTO period**

The dumping of natural rubber in the name of import after the removal of quantitative restrictions is the main factor behind the illness of Indian natural rubber economy. This can be very well witnessed while analysing table 2. During the pre-WTO period (1986-2001), the excess amount of natural rubber which was imported, i.e., the amount does not need in the domestic market, was 175877 tonnes. After the post-WTO period, the excess amount of natural rubber which was imported, i.e., the amount which unbalanced the domestic rubber market and created excess supply and fall in price, was drastically accelerated to 1201825 tonnes. Here the growth rate of increase was 583.33% compared to pre-WTO period. This huge increase in the excess import of natural rubber really injured Indian domestic natural rubber market and ultimately rubber farmers of our country.

**Table 2:Entire excess import of natural rubber during the pre-WTO and post-WTO period in tonnes**

Natural rubber	Pre-WTO (1986-2001)	Post-WTO (2001-2016)	Growth rate
Production	6505894	11579265	77.98%
Consumption	6805530	12975475	90.66%
Import	475513	2598035	446.36%
Required Quantity (Production-Consumption)	299636	1396210	365.97%
Excess Quantity (Import-Required)	175877	1201825	583.33%

Source: Indian Rubber Statistics, The Rubber Board (Ministry of Commerce and Industry, Government of India

### Type wise import of natural rubber during pre-WTO and post-WTO period

Table 3 reflects the type-wise import of natural rubber during the pre-WTO (1991-2001) and post-WTO (2001-2016) period. In the case of import of ribbed smoked sheets, the rate of growth was negative, i.e., -73.62%. During the post-WTO period, the rate of growth of import accelerated to 283.94%. However, the rate of growth of latex seemed to be 120.11% in the pre-WTO period. During the post-WTO policy period, the rate of growth was accelerated to 199.40%. While analysing solid block rubber, the rate of growth was only 56.17% in the pre-WTO period. The rate of growth steeply increased to 1663.42% during the post-WTO period. Solid block rubber showed the highest growth rate during the post-WTO period compare to other types of natural rubber. The common trend we can see in this table is that during the post-WTO period type wised growth rate of the imported natural rubber was highly increased compared to pre- WTO period.

**Table 3:Type wise Import of natural rubber during the pre-WTO and post-WTO period in tonnes**

Type wise Import	Pre-WTO (1991-2001)	Post-WTO (2001-2016)
Ribbed Smoked Sheets	-73.62%	283.94%
Latex	120.11%	199.40%
Solid Block	56.17%	1663.42%

Source: Indian Rubber Statistics, The Rubber Board, (Ministry of Commerce and Industry) Government of India

### Type wise export of natural rubber during pre-WTO and post-WTO period

Table 4 depicts the growth rate of the export of different types of natural rubber during the pre-WTO and post- WTO period. The rate of growth of type-wise export of natural rubber seemed to be highest in the pre -WTO policy period compared to the post- WTO period. After post- WTO period, the rate of growth witnessed lowest or negative. During the pre-WTO period, latex showed the highest growth rate, i.e. 6400%. It highly decreased to 176.83%in post-WTO period. In the case of ribbed smoked sheets during the pre-WTO period, 116% growth rate is witnessed. The growth rate reduced to -97.55% in the post-WTO period. During the pre-WTO period, the growth rate of import of solid block rubber was 388.57%. It steeply declines to -31.93% in the post-WTO period.

**Table 4:Type wise Export of natural rubber during the pre-WTO and post-WTO period in tonnes**

Type wise Export	Pre-WTO (1991-2001)	Post-WTO (2001-2016)
Ribbed Smoked Sheets	116.06%	-97.55%
Latex	6400%	176.83%
Solid Block	388.57%	-31.93%

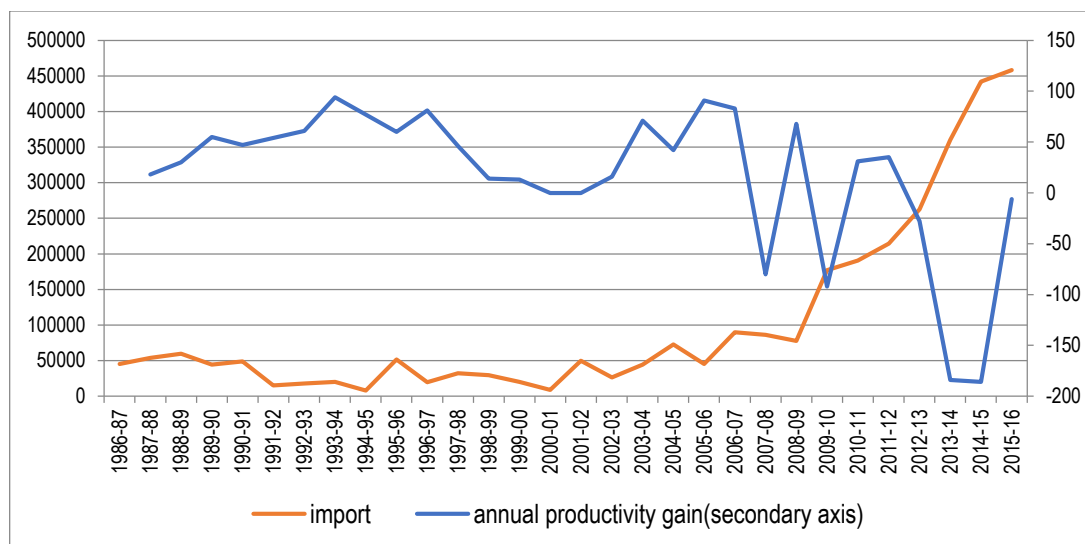
Source: Indian Rubber Statistics, The Rubber Board (Ministry of Commerce and Industry, Government of India

### The annual domestic productivity gain on imports

The effect of imports of rubber on domestic productivity of rubber was examined regressing domestic annual productivity gain on imports for each of the periods 1986-87 to 2000-01 and 2001-02 to 2015-16 and also for the entire period together (figure 1). The econometric specification used was

$$\Delta \text{productivity}_t = \alpha + \beta \text{import}_t + \epsilon_t \quad (1)$$

The domestic annual productivity gain was inversely related with imports. Though the coefficient exhibited the expected negative sign in the pre-WTO period, it was not statistically significant.



**Fig. 1:Imports against annual domestic productivity gain of rubber**

However, the decline in productivity with a unit increase in imports was sharper since 2000-01. Productivity gain fell by .000400 ( $p < 0.01$ ) with a unit increase in imports during this period while it was to the tune of 0.000396 ( $p < 0.01$ ) for the entire period. This is evident from Fig. 1 and tables 5, 6 and 7.

**Table 5:Annual domestic productivity gain of rubber regressed on Imports: 1986-87 to 2000-01**

Dependent Variable: $\Delta$ productivity				
Method: Least Squares				
HAC standard errors and covariance				
	Coefficient	Std. Error	t-Statistic	Prob.
<i>A</i>	55.53291	24.12052	2.302309	0.0400
<i>B</i>	-0.000296	0.000482	-0.615093	0.5500
R-squared	0.034700	F-statistic		0.431372
Adjusted R-squared	-0.045741	Prob(F-statistic)		0.523713
S.E. of regression	28.81724			

**Table 6:Annual domestic productivity gain of rubber regressed on Imports: 2000-01 to 2015-16**

Dependent Variable: $\Delta$ productivity				
Method: Least Squares				
HAC standard errors and covariance				
	Coefficient	Std. Error	t-Statistic	Prob.
<i>A</i>	60.00876	20.34118	2.950112	0.0113
<i>B</i>	-0.000400	0.000119	-3.363736	0.0051
R-squared	0.432073	F-statistic		9.890266
Adjusted R-squared	0.388386	Prob(F-statistic)		0.007748
S.E. of regression	69.91464			

**Table 7:Annual domestic productivity gain of rubber regressed on Imports: 1986-87 to 2015-16**

Dependent Variable: $\Delta$ productivity				
Method: Least Squares				
HAC standard errors and covariance				
	Coefficient	Std. Error	t-Statistic	Prob.
<i>A</i>	58.98131	11.61902	5.076274	0.0000
<i>B</i>	-0.000396	7.93E-05	-4.994992	0.0000
R-squared	0.491556	F-statistic		26.10318
Adjusted R-squared	0.472725	Prob(F-statistic)		0.000023
S.E. of regression	52.19588			

## 6. Conclusion

The objective of the study was to analyse the impact of WTO on the trade of Indian natural rubber. The growth rate in the import of natural rubber steeped to negative, i.e., -40.48% during the pre-WTO policy period. It increased to highly positive, i.e., 821% during the post-WTO period. This accelerated growth of imports after 2001 is mainly due to the elimination of quantitative restrictions on imports which were implemented from April 1st 2001. In the case of exports, there has been a steep decline in the export share from 128.93% to -87.63%. This drastic fall in export share may be due to shrinkage in the production of natural rubber with the response to price volatility in natural rubber after the excess import. During the pre-WTO period (1986-2001), the excess amount of natural rubber which was imported was 175877 tonnes. After the post-WTO period, the excess amount of natural rubber which was imported, i.e., the amount which unbalanced the domestic rubber market and created excess supply, drastically accelerated to 1201825 tonnes. The growth rate of increase was 583.33% compared to pre-WTO period. In the year of implementation itself (April 1<sup>st</sup> 2001), India imported 49769 quantity of rubber, which was 454.84% increase in the growth rate of import compared to the previous period, i.e., 8970 tonnes during 2000-2001 which was beyond the required amount. The domestic annual gain of productivity on imports is analysed. The decline in productivity with a unit increase in imports was sharper since 2000-01. Productivity gain fell by .000400 with a unit increase in imports during this period while it was to the tune of 0.000396 for the entire period.

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