

## The Impact of Antidumping Measure on Indian Imports of Raw Silk from China: An Economic Analysis

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### Authors' contributions

*This work was carried out in collaboration between all authors. Author SMM designed the study, wrote the protocol and supervised the work. Authors SMM and NSN carried out all data collection work and performed the statistical analysis. Author KPN managed the analyses of the study. Author SMM wrote the first draft of the manuscript. Author VB managed the literature searches and edited the manuscript. All authors read and approved the final manuscript.*

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### ABSTRACT

Globalization has led to increase in the trade between countries but it has resulted in several other new issues, one such issue is dumping of goods. This paper analyses the impact of anti-dumping duty imposed by India on the imports of raw silk from China during 2003 to 2013. There are certain exceptions, despite the fact that free trade is expected from the members of the World Trade Organization (WTO). One concern is that goods are being dumped in the foreign market, i.e. the exporter sells his product at a lower price in the foreign market than that prevailing in the home market. Article VI in GATT regulates this together with the Anti-dumping Agreement. In 2003 and 2013, Indian imposed an anti-dumping duty on raw silk imported from China. This measure was effective until 2014. As a result of this duty, it is expected that the imports of Chinese raw silk by

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India should have decreased. Accordingly by using a multiple regression analysis, we observed that the imports of Chinese raw silk to India decreased significantly. Since the industry's overall sales in India increased during the same period, it can be concluded that imposition of anti-dumping duty has met its objectives.

*Keywords: Antidumping duty; raw silk; dumping; price, imports.*

## 1. INTRODUCTION

In recent World Trade Organization (WTO) rounds of negotiations (i.e., Doha round), developing countries are seeking freer trade. The main concerns on the table are gradual reduction of tariffs and domestic support or production subsidies and the elimination of different forms of export subsidies. However, it is often noticed that trade liberalization by countries often involves moving from one set of distortions to another rather than a movement to free trade [1]. Particularly, it is observed that in the case of trade liberalization in manufacturing sector, countries have replaced lower tariffs with antidumping duties. Feinberg and Reynolds [2] empirically showed that countries that agreed to larger tariff reductions under the Uruguay Round are more likely to use antidumping measures to protect their domestic industries.

Many economists are promoting free trade as the ideal trade policy that each country should attempt to achieve. They believe that free trade leads to further gains when the distortion of production and consumption are gone [3]. Trade policy measures like tariffs and quotas are usually imposed to protect the interests of certain groups. Governments often claim that protection policies are of interest for the society as a whole, while economists have repeatedly argued that free trade is better for the welfare of the nation. That said, even most economists agree that there also exist some certain situations where protection might be a better option [3].

One of the disadvantages of free trade is dumping of goods. Dumping is the act of a manufacturer in one country exporting a product to another country at a price which is either below the price it charges in its home market or is below its costs of production. Anti-dumping is a measure to rectify the situation arising out of the dumping of goods and its trade distorting effect. Thus, the purpose of anti dumping duty is to rectify the trade distorting effect of dumping and re-establish fair trade. The use of anti-dumping measure as an instrument of fair competition is permitted by the WTO. The anti-dumping duty is

an instrument for ensuring fair trade but nowadays governments are using it as a measure of protection for the domestic industry. It provides relief to the domestic industry against the injury caused by dumping. According to Article VI of the General Agreement on Tariffs and Trade (GATT) 1994, dumping occurs when the export price of a product is below the normal selling price on the domestic market.

At global level, the anti-dumping initiations were lowest during 1995 and highest during the year 2001. This was due to more dumping cases during the year 2001. Anti-dumping (AD) activity dropped significantly in 2014 compared with the previous year. It remains at levels similar to those seen for the past 10 years (Table 1). Before 1990, very less number of cases was initiated by developing countries while developed countries were the biggest users of anti-dumping (Prusa [4], Fu [5]). However, presently the situation has changed spectacularly, with India, South Africa and Argentina being the most active and biggest users of anti-dumping (Table 2). But on the flipside, countries most affected by anti-dumping cases were Asian countries, especially PR China, Taiwan, India, Japan and Indonesia as the targets of anti-dumping measures (Table 3). If we see sectors which affected most over the last decade, we can see that more than 60 percent of Anti-dumping investigations have involved chemicals or metals/metals articles while against textiles and footwear sector 8.10 percent of total antidumping duties were initiated (Fig. 1). The same has been reported in cases initiated against India, where chemicals and allied products has the highest share (40.33 percent) in anti-dumping cases initiated against India during the period 1995 to 2014, followed by Metal and Metal articles (Fig. 2).

Agriculture and clothing are the two sectors that are the most protected industries. It is especially the apparel industry in clothing production that has been heavily protected with both tariffs and quotas. The apparel industry is labour intensive and the technology is also simple and therefore the low-wage nations have a most comparative advantage. The workers only need a little capital,

there is no need of formal education and the technology is easily transferred to poor countries [3].

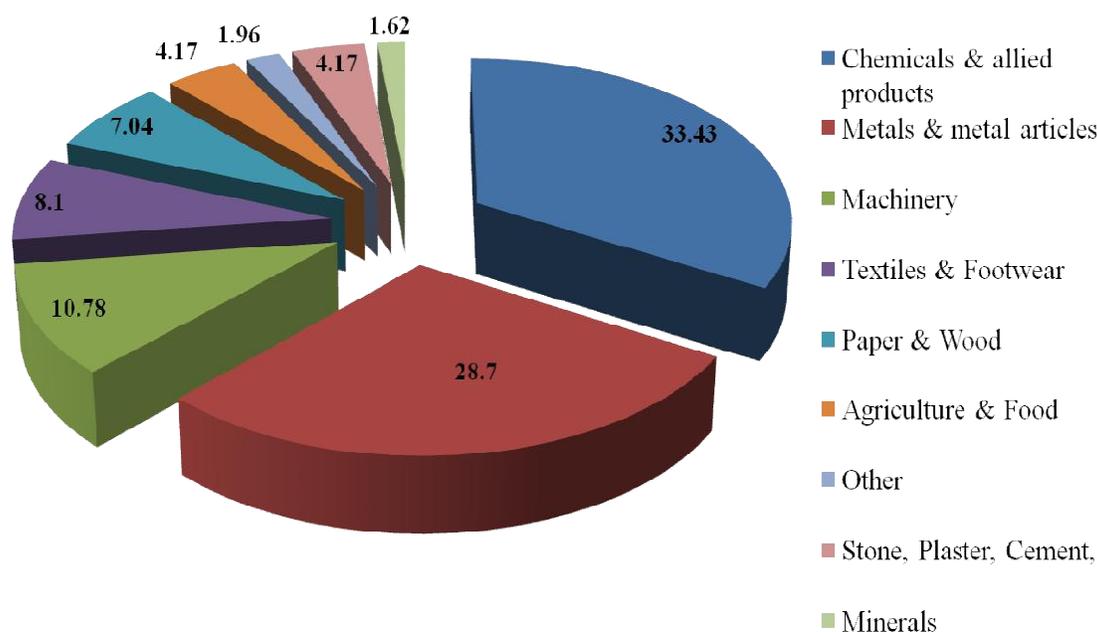
**Table 1. Anti-dumping investigations initiated at global level (1995-2014)**

Year	Number of AD investigations
1995	157
1996	226
1997	246
1998	264
1999	359
2000	292
2001	364
2002	311
2003	234
2004	220
2005	200
2006	203
2009	217
2010	173
2011	165
2012	208
2013	287
2014	215
<b>Total</b>	<b>4627</b>
<b>CGAR</b>	<b>-2.25</b>

Source: [www.wto.org](http://www.wto.org)

One of those countries with low-cost labour is the People’s Republic of China, its enormous population can produce raw silk cheaper than anywhere else in the world. The People’s Republic of China has been accused of dumping production of raw silk in India and has therefore been subject to antidumping measure. These measures have been put in place in order to protect the Domestic producers, who are seen to be faced by unfair competition from the dumped goods. We will take a look at these tariff imposed from 2003 to 2013, to see what effect the anti-dumping measure had on imports from China to India during this period.

The purpose of this study is to examine the impact of anti-dumping measure has on the Indian imports of Chinese raw silk. Mulberry raw silk (not thrown) is classified under Customs sub-heading no. 50.02 of Chapter 50 of the Customs Tariff Act, 1975 and ITC (HS) Code 50020010. An anti-dumping measure was put into place on Indian raw silk imports of 2A grade and below from the People’s Republic of China in July 2003 until 2008. Then a sunset review was done and the duties were extended up to January 2014. This AD measure is supposed to decrease the imports of this mulberry raw silk during this period.



**Fig. 1. Sectors involved in anti-dumping initiations at world level (1995-2014)**

**Table 2. Anti-dumping initiations by reporting country, 1995 to 2014**

Reporting member	Australia	Canada	European Union	United States	India	Developed country	Developing countries	Total
1995	5	11	33	14	6	87	137	157
1996	17	5	25	22	21	98	187	226
1997	44	14	41	15	13	141	206	246
1998	13	8	22	36	28	97	199	264
1999	24	18	65	47	64	171	319	359
2000	15	21	32	47	41	128	259	296
2001	24	25	28	77	79	169	337	372
2002	16	5	20	35	81	90	263	311
2003	8	15	7	37	46	91	205	234
2004	9	11	30	26	21	86	180	220
2005	7	1	24	12	28	56	161	200
2006	11	7	35	8	31	69	179	203
2007	2	1	9	28	47	65	146	165
2008	6	3	19	16	55	51	180	218
2009	9	6	15	20	31	62	195	217
2010	7	2	15	3	41	43	164	173
2011	18	2	17	15	19	56	130	165
2012	12	11	13	11	21	54	175	208
2013	20	17	4	39	29	91	264	287
2014	11	3	3	13	13	35	100	106
Total	278	186	457	521	715	1740	3986	4627

Source: [www.wto.org](http://www.wto.org)**Table 3. Anti-dumping cases initiated on exporting country, 1995 to 2014**

Exporting country	China	India	Indonesia	Japan	Taipei, Chinese	USA	Developed	Developing	Total
1995	20	3	7	5	4	12	58	99	157
1996	43	11	7	6	9	21	70	156	226
1997	33	8	9	14	16	15	99	147	246
1998	27	13	5	14	10	16	86	178	264
1999	43	13	20	22	22	14	94	265	359
2000	43	10	13	12	14	13	80	216	296
2001	55	12	18	14	19	15	112	260	372
2002	50	16	12	13	16	11	80	231	311
2003	53	14	8	16	13	21	75	159	234
2004	49	8	8	9	21	14	47	173	220
2005	53	14	14	7	13	12	34	166	200
2006	73	6	9	9	13	11	38	165	203
2007	61	4	5	4	6	7	31	134	165
2008	78	6	11	3	11	8	34	184	218
2009	78	7	10	5	12	14	42	175	217
2010	44	4	4	5	5	19	50	123	173
2011	51	7	5	5	9	10	33	132	165
2012	60	10	6	6	22	9	33	175	208
2013	75	11	7	11	17	13	66	221	287
2014	33	4	3	5	6	2	24	82	106
Total	1022	181	181	185	258	257	1186	3441	4627

Source: [www.wto.org](http://www.wto.org)

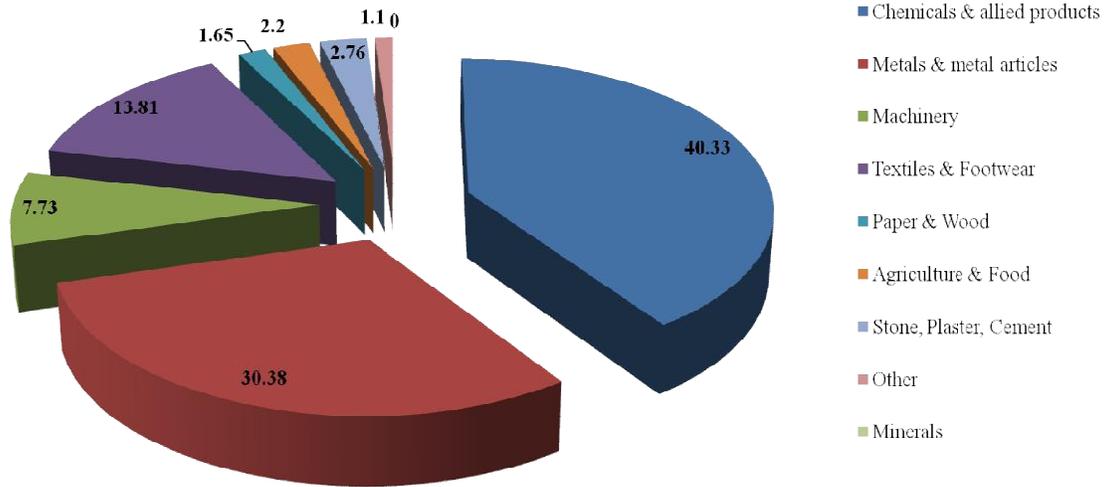


Fig. 2. Sector wise break-up of anti-dumping cases initiated against India (1995-2014)

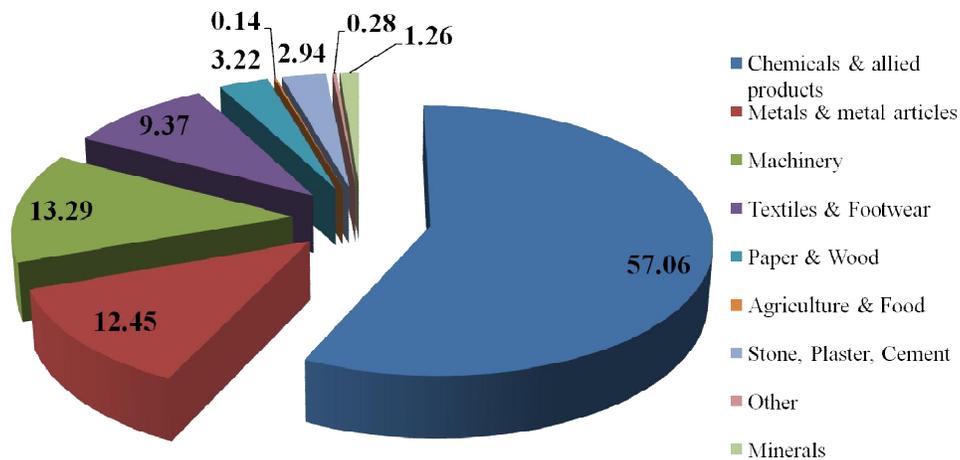


Fig. 3. Sector wise break-up of anti-dumping cases initiated by India (1995-2014)

## 2. METHODOLOGY

In this empirical study the focus is on the imports of Chinese raw silk to the India. The study is based on year wise data over a time period from 1998 to 2013. The AD measure was put into place on the Chinese raw silk imports in July of 2003 and was effective until January 2008, a period of five years which is the maximum of an AD measure. The Chinese exporters continued to dump raw silk below the domestic raw silk price. Keeping this in view and in order to continue the imposition of antidumping duty on raw silk for another term of five years, a sunset review application was filed during August, 2007.

After a detailed investigation and as a result of final findings, a Gazette Notification has been issued for the continuation of anti dumping duty on import of raw silk of 2A grade & below from China P.R with a reference price of US \$ 37.32 per kg. The anti dumping duty so imposed was in force for a period of five years (i.e. till January 2014).

The source of the data is from the Central Silk Board and Indiastat [6] website. The data on imports of Chinese raw silk is measured in tonnes.

The chosen model is a log-linear trend model [7]:

$$\ln IM_t = \beta_1 + \beta_2 t + u_t$$

Where  $IM$  is the imports of Chinese raw silk to the India,  $t$  is the trend variable for the non-tariff period,  $u$  is the error term, and  $\beta_1$  and  $\beta_2$  are constants.

The properties of this model are that for a given absolute change in the explanatory variable (the  $t$  variable in this case) the slope coefficient shows the relative change in the dependent variable ( $IM$ ). If the relative change in  $IM$  is multiplied by 100, we will get the growth rate in  $IM$  for an absolute change in “ $t$ ” is obtained. The explanatory variable “ $t$ ” is known as the trend variable and if the slope coefficient is positive there is an upward trend, i.e. the growth rate is positive. When the growth rate is negative then of course the slope coefficient is negative and there is a downward trend. Also there is a disturbance term to account for unexplained information.

Some variables are added to show if the imposed tariff has an effect on the imports. The tariff was levied on the imports in 2003 until 2013. For the tariff period in consideration we need to have a dummy variable,  $D$ , this takes on the value of 1 for the tariff period (2003-2013) and 0 for the non-tariff period (1998–2003). The resultant model is represented as follows:

$$\ln IM_t = \beta_1 + \beta_2 D_t + \beta_3 t + \beta_4 D_t t + u_t$$

The model has now a dummy variable and two new coefficients. With the dummy variable, the regression analysis will show if the tariff period takes on different values for the intercept and slope coefficient. The regression will show if there is a change in the import patterns of the Chinese raw silk. Result is expected to show a decline in imports during this ten year period and this will be examined with a regression analysis.

### 3. RESULTS AND DISCUSSION

The second coefficient estimate presented in Table 4, shows that during the tariff period immediately after the imposition of duties the quantity of Chinese raw silk imports had increased hugely by 352.67<sup>1</sup> per cent all else equal. At a very high significance level this estimate is also significant since the p-value is low, 0.000. The logged import values are plotted against time and this displays a huge increase

<sup>1</sup> To interpret the coefficient estimate we used the formula  $(e^{\beta}-1)*100$ .

immediately after imposition and then a significant decrease in imports during the tariff period (Fig. 4).

**Table 4. Result of regression analysis**

Variable	Coefficient	T-statistic	Prob.
Constant	7.81	40.34	0.000
D	1.51	06.07	0.000
t	0.23	03.36	0.000
Dt	-0.28	-4.00	0.000
R square	0.79		
F-statistic	14.19		

The slope coefficient estimate for the trend variable during the non-tariff period is significant at such a low p-value. This estimate tells us that the growth rate of the Chinese raw silk imports during the non-tariff period is 25.8 per cent each year. The coefficient estimate for the time period with the tariff is not significantly different from the non-tariff period since the p-value for the coefficient estimate of  $Dt$  (0.000) is same and cannot be rejected. However, the estimated coefficient indicates that the growth rate of imports decreased during the tariff period with 24.4 per cent for each year, implying that there is still sufficient dumping of Chinese raw silk after 10 years of imposition of AD duties and imports needs to be curbed still by extending AD duties for another five years. *Thus the study supports the petition filed by CSB to extend the duties on behalf of domestic producers.*

The calculated F-statistic is 14.19 and this we compare with a critical value to see if the model has explanatory power. We have the F-statistic equal to 14.19 and this value is larger than the approximate F critical value of 3.58. We reject the null hypothesis and believe that at least one of the coefficients is not equal to zero.

The coefficient of determination ( $R^2$ ) measures how well the regression model fits the data. The coefficient of determination from this regression is about 0.79 and this tells us that the variance of the dependent variable, the log of Chinese raw silk imports, is to 79 per cent explained by the explanatory variables.

The regression analysis in Table 4 shows a clear negative impact on the amount of imported Chinese raw silk during the period the tariff was imposed. The conclusion to draw from this is that as predicted the imposed anti-dumping tariff on Chinese raw silk exports to India did decrease these exports.

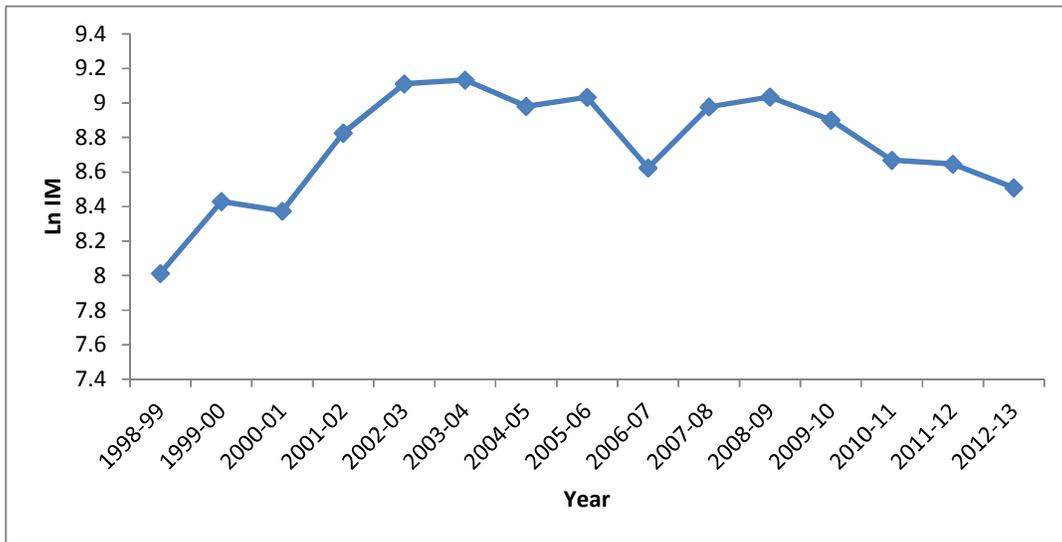


Fig. 4. Trends in Chinese raw silk imports

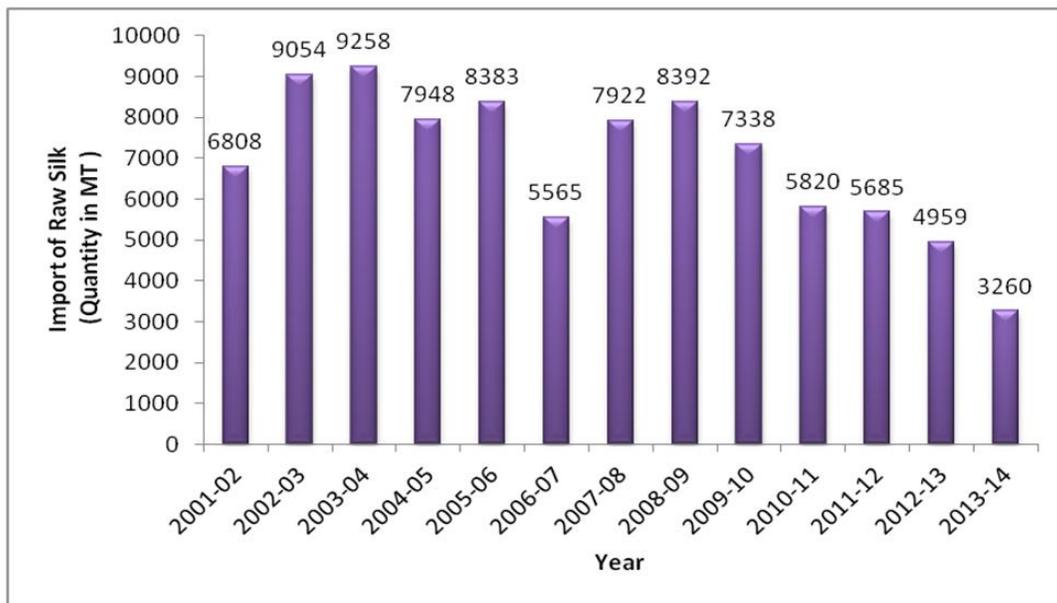


Fig. 5. Trends of raw silk import by India

#### 4. CONCLUSIONS

Imposition of anti-dumping measures had removed the unfair advantages gained by dumping practices and also prevented the decline of the domestic industry. Anti-dumping duties also affect domestic producers as it may cause rise in price of imported commodities and leads to smuggling of commodities. Technological improvements in the production of silk have to be made to improve the quality of silk

thereby reducing the imports of silk further efforts should be made to achieve self-sufficiency in production.

With overall sales of raw silk in India increasing between 2003 and 2013, the decrease in Chinese imports of raw silk from 6808 MT in 2001 to 3260 MT (Fig. 5 above) in 2013 which can be attributed to the imposition of the tariff during the same period. The tariff thus worked as it was intended to work by protecting the Indian

producers against what was seen as unfair competition from low-cost production in the People's Republic of China.

### COMPETING INTERESTS

Authors have declared that no competing interests exist.

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