IMPLICATIONS OF UNITED STATES STEEL TARIFFS ON INDIAN STEEL IMPORT PATTERNS: A CASE OF INDIA'S PREFERENTIAL TRADE AGREEMENTS AND INTERNATIONAL TRADE LAW

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ABSTRACT

The study has attempted to analyse the factors responsible for the surge in imports of steel products in India immediately after the implementation of tariffs on steel products by the United States under Section 232 of the Trade Expansion Act of 1962. To identify the factors, the study has mainly utilized Bilateral Revealed Comparative Advantage, Export Intensity Index, and SMART partial equilibrium modelling tool as methodology. The key finding of the study shows that India witnessed a sudden surge in imports post the implementation of these tariffs, specifically from its preferential trade partners. India's preferential trade partners enjoy a significant comparative advantage in steel products and have a very high export intensity in India. These countries were also found to be having very high exports to production ratios. It was also revealed that due to the reduction of import tariffs by India, there will be a significant increase in the imports of steel products, not only due to trade creation but also due to significant trade diversion. The study also looked at the compatibility of these tariffs with the General Agreement on Tariffs and Trade (GATT)/World Trade Organization (WTO) law and WTO rulings on these measures to suggest key trade policy measures that can be adopted by India to counter such situation in future. The study suggested two key policy measures that could be adopted by India in the future to tackle any such measures: one is the Auto-Trigger Safeguard Mechanism (ATSM) & the other is the imposition of Suo Motu safeguard measures on steel products.

Keywords: *Steel Trade, Steel Imports, Protectionist Measures, Partial Equilibrium Analysis*

JEL Codes: *F14, F17, F51, F52*

1. INTRODUCTION

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The global merchandise trade has witnessed a significant rise in protectionist and harmful trade measures that could disproportionately affect the most vulnerable countries (United Nations, 2018; Gunnella & Quaglietti, 2019). As per the World Trade Organization (WTO), the use of tariff measures and non-tariff barriers such as anti-dumping duties, safeguard measures, packaging requirements, sanitary and phytosanitary (SPS) measures, etc. has increased significantly. One such protectionist measure was the imposition of 25 percent tariffs on all steel imports by the United States (US) under Section 232 of the Trade Expansion Act of 1962 in March 2018. This imposition of tariffs by the US led to retaliation by other WTO member countries like the European Union (EU), China, Canada, etc., which also reacted by putting additional tariffs or safeguards on the imports of steel products. These tariffs imposed by the United States specifically on national security considerations have raised many questions on the legality of these measures and the role and sustainability of the WTO & Multilateral Trading System (Malawer, 2019; Arora, 2019).

In the second half of 2018, the tension between US and China rose following an investigation by the US authorities into Chinese intellectual property practices, which led to the initiation of trade action against China under section 301. Although, it is argued that the tariffs imposed by the US are not meant to protect the US domestic market or hurt China, they were imposed to protect the ability of U.S. businesses to make profits abroad or create export opportunities and jobs in high-paying industries (Hanada, 2020). The imposition of tariffs on steel significantly impacted the trade patterns of steel products in different countries, specifically India. According to a report by the United Nations Conference on Trade and Development [UNCTAD] (2019), it was estimated that due to trade tensions between the US and China, the trade of steel products stands to be affected the most.

Before the beginning of these tariff escalations, India, which is currently the second largest steel producer and consumer of crude steel in the world, experienced a continuous surplus balance of trade for around two years for finished steel products before the implementation of tariffs by the US. For the year 2017-18, the country had 2 million tons (Mt) of the surplus balance of trade in steel products. However, immediately after the imposition of US tariffs in April 2018, the balance of trade turned negative as no retaliatory tariffs (safeguard duties) on steel products were imposed by the Indian authorities to check the sudden diversion of trade.

India became a net importer of finished steel for the period April – March 2018-19.

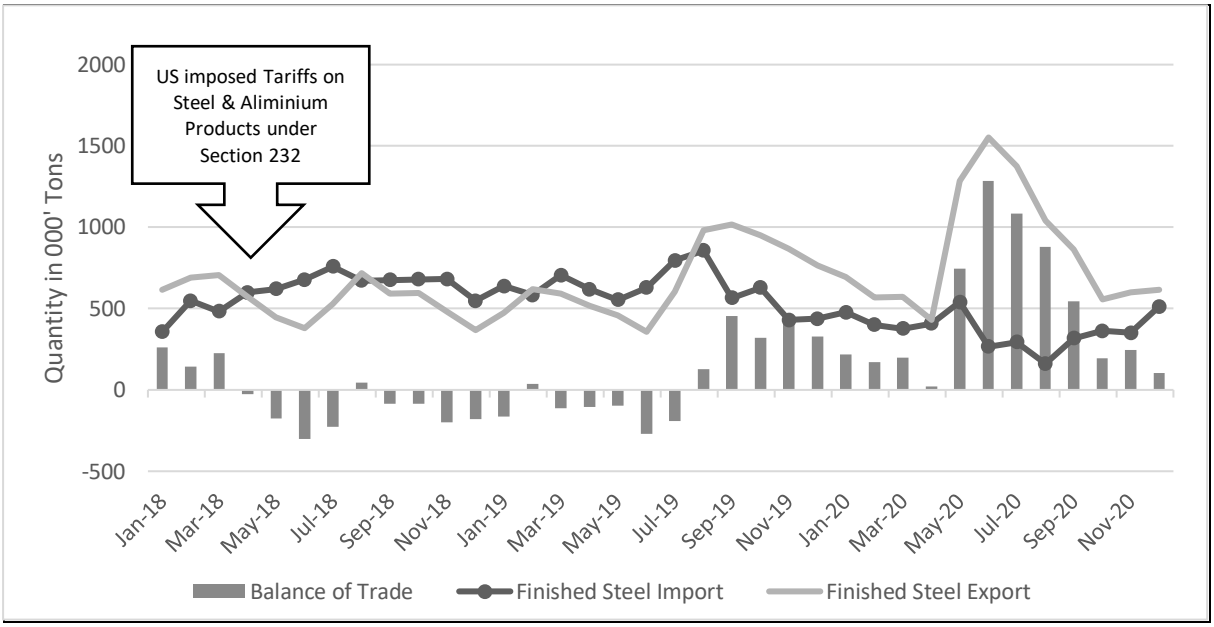

Figure 1: India's Finished Steel Trade with World

Source: Authors calculation based on the data of CMIE Industry Outlook

Due to this combat of tariff escalation traditional steel surplus exporting countries like China, Japan & Korea (CJK) had lost a significant volume of their exports. Consequently, the volumes available with them for exporting to India increased significantly which eventually led to the apparent trade diversion. This trade diversion is also supported by the analysis of data on trends in steel trade. (See table below)

Table 1: Trade Diversion or the Impact of US tariffs (under section 232) on Indian Steel Imports

Major Steel Exporting Countries to India	India's Import (Value in USD Million)					United States Imports (Value in USD Million)				
	Pre US tariffs	Post US tariffs			Quarterly Growth Rates	Pre US tariffs	Post US tariffs			Quarterly Growth Rates
	2018-Q1	2018-Q2	2018-Q3	2018-Q4		2018-Q1	2018-Q2	2018-Q3	2018-Q4	
World	1867	2198	2483	2314	7%	7835	8496	7930	7081	-3%
Korea, Republic of	541	638	684	593	3%	818	716	531	430	-19%

China	398	460	582	528	10%	302	238	221	270	-4%
Japan	276	378	348	311	4%	520	477	410	401	-8%
Viet Nam	50	69	108	125	36%	149	258	224	276	23%
Indonesia	47	54	68	78	18%	51	53	50	47	-3%
Germany	69	53	58	66	-2%	384	484	410	440	5%
Taipei, Chinese	75	48	54	63	-5%	319	327	327	268	-6%
Belgium	31	42	52	49	17%	62	66	87	64	1%
Hong Kong, China	0	14	36	39	382%	0.23	0.18	0.19	0.03	-49%
Sweden	27	25	29	38	13%	148	159	128	107	-10%

Source: Authors Calculation based on the data available at ITC, Trade Maps (UN comtrade data)

Based on the trend analysis, it was found that post-implementation of duties by the United States in March 2018, the imports by India increased from countries that experienced a decline in exports to the United States. A study by Bekkers & Schroeter (2020) highlighted that the trade war between the US and China in 2019 led to a considerable reduction in trade and is accompanied by substantial trade diversion to imports from other regions.

With this background, the idea of the paper is to look at the factors responsible for the sudden rise in steel imports through preferential trade routes into India, specifically before and after the imposition of steel tariffs by the US. The specific objectives of the study are as follows

I. to analyse the export intensity of steel products from selected FTA partners to India, while taking into consideration their surplus export capacity.
II. to analyse the comparative advantage of selected preferential trade partners in India for steel products.
III. to simulate the potential increase in steel imports due to the reduction of import duty by India with a breakup into Trade Creation & Trade Diversion through the FTA route.
IV. to look at the compatibility of the tariffs imposed by the United States under Section 232 with GATT/WTO Law and its recent development in the WTO.

V. to look at the other factors responsible for the surge in imports and to suggest key trade policy measures that are compatible with GATT/WTO law.

2. METHODOLOGY

To analyse the structure and trends of steel production, consumption, exports, and imports in terms of quantity, the data has been sourced from the Joint Plant Committee (JPC) Ministry of Steel / Government of India, the CMIE Industry Outlook, and the World Steel Association. For analysing and calculating selected trade indices, the Partial Equilibrium Model (SMART), and non-tariff barriers, the trade statistics have been extracted from UN COMTRADE statistics, the World Integrated Trade Solutions (WITS) database, and the World Trade Organization database. For the purpose of calculating trade indices and the SMART partial equilibrium modelling tool, the Harmonized System (HS) codes from HS 7206 to HS 7306 were used. The reference period of the study is from 2010 to 2019.

The study has broadly utilized four different methodologies 1) Bilateral revealed comparative advantage index (BRCA) to analyse the relative advantage or disadvantage as evidenced by trade flows. 2) Export Intensity Index (EII) to analyse how intensive the export relationship India has with its key import partner in Steel products 3) To simulate the impact of the reduction in import duty on total trade (trade creation plus trade diversion) through SMART partial equilibrium modelling tool and 4) Analysis of the trade policy measures that could have been used to check sudden surge in imports..

2.1. Bilateral revealed comparative advantage index (BRCA)

The concept of revealed comparative advantage (RCA) by Balassa (1965) is among the most widely used methodologies to analyse the relative advantage or disadvantage of a country or group of countries in selected goods/services as evidenced by trade flows. The concept is based on the Ricardian theory of trade, which hypothesizes that trade among countries is governed by their relative differences in productivity. The concept of revealed comparative advantage was first presented by (Liesner, 1958); this concept was further developed by (Balassa, 1977) to measure the comparative advantage of any sector or product.

The index is calculated as the ratio of a country's share in the global exports of a particular product or group of products to its share in the overall global trade. The BRCA index, on the other hand, has the same denotation as that of the RCA index; however, in this case, it is

calculated in terms of the bilateral market with respect to the world market share. The computation BRCA index has been depicted below

$$BRCA_i = \frac{\sum A_{iX} / \sum A_X}{\sum W_{iX} / \sum W_X}$$

where,

$BRCA_i$ stands for Bilateral Revealed Comparative Advantage of the product "i" export from country A

$\sum A_{iX}$ stands for exports of product "i" from country A to B

$\sum A_X$ stands for summation of all product exports from country A to B

$\sum W_{iX}$ stands for total exports of product "i" from world to country B

$\sum W_X$ stands for summation of all products exported from world to country B

A country is said to have BRCA in product "i", if the value of the index exceeds unity. Conversely, the country is said to be lacking RCA, if the value of the index is less than unity.

The values of index mentioned above have been normalized between the range of +1.0 and -1.0 to suppress the skewness problem. To do that following method is used, Normalized BRCA = (BRCA- 1)/ (BRCA+ 1).

2.2. Export Intensity Index (EII)

The index is primarily used to know how intensive the export relationship is between the two trading partners (Nag & Chakraborty, 2019). In the current study, the index is used to calculate the intensity of steel exports of countries like China, South Korea, Japan, etc., in the Indian (partner) market, as compared to other countries of the world. In the index, country X is said to have an intensive export relationship with a partner country in a product category if the value

of the above index exceeds unity. Conversely, the relationship is non-intense, if the value of the index is less than unity. To calculate the index the following formula is applied:

$$\textit{Export Intensity Index (EII) of Country X} = \frac{\frac{EC_j^x}{EC_w^x}}{\frac{WOR_j^x}{WOR_w^x}}$$

Where,

EII: stands for EII of Country X (here CJK countries separately) for the selected product (Steel) to country j (here India)

EC_j^x : Stands for exports of i-th product (Steel Products (HS: 7206 to 7306) in this case) from country X to country j

EC_w^x : Stands for summation i-th product export from Country X to all countries

WOR_j^x: Stands for exports of i-th product from rest of the world to country j/import of i-th product by country j from rest of the world

WOR_w^x: Stands for world's export of i-th product to the world/world's import of i-th product from the world

Despite the wide use of the above-mentioned methodologies, there exist several criticisms and limitations of them (See Nag & Chakraborty, 2019). For instance, the BRCA index does not take into account the tariffs amd non-tariff measures imposed on different imported goods, which might lead to inadequate results for policymakers (Gilbert & Mikic, 2009).

2.3. SMART (Software for Market Analysis and Restrictions on Trade) Model

The SMART model by World Integrated Trade Solution (WITS) has been used to assess the impact on trade due to the reduction of tariffs (Choudhry et al., 2013; Veeramani & Saini, 2011). The model analyzes the possible impact of the reduction in tariffs on the flow of imports

(exports), trade creation, trade diversion, revenue, welfare, etc. The model, however, does not take into consideration the factor market, prices, or changes in resource allocation due to variations in tariffs. In other words, the model does not report on the economic interactions between the different markets in a given economy. The model hypothetically changes the import tariff and focuses on the changes in imports into a particular market due to the change in trade policy. The market demand in the model is based on the Armington assumption, which states that, for a specific good, imports from two sourcing countries are imperfect substitutes for each other.

The WITS-SMART model itself provides the data and related elasticity values (including default values). The following data is required for the model: 1) Import values for each trading partner 2) Tariff faced by each trading partner 3) Import demand elasticity 4) Export supply elasticity and 5) substitution elasticity across product categories. The model accepts only one import demand elasticity for a product at HS 6-digit level irrespective of national variety. Export supply elasticity is assumed same for all exporters of the same product. Substitution elasticity is also assumed to be the same for any couple of varieties of products (World Integrated Trade Solutions [WITS], 2021).

The theoretical background behind the model has been clearly explained by Laird and Yeats (1986) & Jammes and Olarreaga (2005). Two key concepts within the WITS-SMART framework known as trade creation & trade diversion have been used in the current study. The reduction in tariffs model allows the estimation of the total trade effect that is further divided into trade creation and trade diversion effects. Trade creation effect (TC) is defined as the direct increase in imports due to a reduction in the tariff imposed on goods g from country c. To attain this, SMART uses the import demand elasticity (In the present study the import demand elasticity is taken as a system driven). To calculate the trade creation the following formula is applied:

$$TCijk = Mijk^* \eta * \Delta tijk / ((1+ tijk) * (1- (\eta/ \beta)$$

Where,

TCijk – Trade creation on commodity i imported from country k into country j

Mijk – Imports of commodity i to country j from exporting country k

η – Import elasticity of demand in the importing country

tijk – Tariff

β – Export supply elasticity

In this model reduction in tariffs for one or a selected group of countries also produces a trade diversion effect (TD). If the reduction in tariff on good g from country c (or group of countries) is a preferential tariff and it does not apply to other countries, then imports of good g from country c (or group of countries) are further going to increase due to the substitution away from imports of good g (also known as substitution effect) from other countries that become relatively more expensive. In other words, the reduction of tariffs under a preferential trade agreement would replace imports of highly efficient non-preferential partner countries with imports from less efficient preferential partner countries. The substitution effect depends on the substitution elasticity of imports of good g from country c and all other countries. In the present study, the substitution elasticity is taken as 1.5. To calculate the trade diversion the following formula is applied:

$$\mathbf{TDijk} = \frac{\mathbf{M\,jpn} * \mathbf{M\,row}\left(\left(\frac{(1+t1)}{(1+t0)}\right)-1\right)*\boldsymbol{\lambda}}{\mathbf{M\,jpn} + \mathbf{M\,row} + \mathbf{M\,row}\left(\left(\frac{(1+t1)}{(1+t0)}\right)-1\right)*\boldsymbol{\lambda}}$$

Where,

TDijk - Trade diversion on commodity i imported from country k into country j

M jpn - Imports from Japan

M row - Imports from the Rest of the world

tijk - Tariff (t1 & t0 refer to post and pre integration tariffs)

λ - Substitution elasticity

Export supply elasticity in the present study is assumed as infinite (the default value in SMART model is 99 meaning infinite export supply elasticity) which gives import quantity effect only. Altering it to a finite elasticity will affect results by transforming part of the trade creation (quantity effect) into a price effect.

3. RESULTS AND DISCUSSION

Before going into the results and discussions of the methodology mentioned above, it is imperative to briefly understand the structure of India's steel imports. India imports steel from mainly three countries South Korea, Japan, and China. Over the years, the share of these three countries in India's imports has remained above 70 percent. Around 90 percent of imports are of Flat Products & around 10 percent are of Non-Flat Products. The key Flat products are Flat products of Alloy & Stainless (Share in Total in 2021-22: 33%), HR Coils/Sheets (17%), GP/GC Sheets (16%), and Electrical Sheets (9%).

3.1. Bilateral Comparative Advantage with India

The BRCA index in the current study is employed to investigate the comparative advantage of Japan, South Korea, ASEAN, China, and the USA in the Indian market. The index has been specifically calculated for steel products (HS 7206 to 7306) for the years 2017 to 2019 to take into account the period in which the US imposed the duties under Section 232. Their index has been calculated for thirty product categories at HS's four-digit level. Among all the countries taken into consideration, South Korea and Japan have the largest number of lines that have normalized BRCA values of greater than 0, these are followed by China, ASEAN, and the USA. In 2018, out of thirty product lines South Korea has around 24 lines that have a comparative advantage in the Indian market. China & USA, which is not preferential trade partner of India, had 17 and 3 product lines, respectively, that have a comparative advantage in India. It is also interesting that in 2018 the number of lines where China has a comparative

advantage in India jumped from 14 in 2017 to 17 in 2018. The result of the index has been shown in the table below.

Table 2: Bilateral Revealed Comparative Advantage (BRCA) in Indian Market (In No.s)

	2017	**2018**	**2019**
Categories	**Number of Lines at 4 Digit where India's Normalized BRCA Value > 0 (Total Lines @ 4 Digit Level = 30)**	**Number of Lines at 4 Digit where India's Normalized BRCA Value > 0 (Total Lines @ 4 Digit Level = 30)**	**Number of Lines at 4 Digit where India's Normalized BRCA Value > 0 (Total Lines @ 4 Digit Level = 30)**
Japan-India	20	21	21
South Korea-India	26	24	22
ASEAN-India	12	13	9
China-India	14	17	13
USA-India	4	3	1

Source: Authors calculation based on ITC TradeMaps Data

The result of this BRCA analysis reveals that preferential trade partners had significant comparative advantage over non preferential trade countries around 2018. These results of the BRCA analysis are consistent with the findings of Yoon & Kim (2006), Podoba et al., (2021) and Batra & Khan (2005).

3.2. High Export Intensity & Excess Steel Making Capacity of Selected Preferential & Non-Preferential Trade Partners

The index is calculated to check the intensity of steel exports of selected countries in Indian (partner) market, as compared to other countries of the world. In other words, whether China, Japan, South Korea, Vietnam and Germany export to India, it is having a greater presence in its

export basket of Steel products in comparison with the world's export inclination to that country.

Table 3: Comparison of Export Intensity Index (In Steel Products) for Selected Countries in India

Period	Export Intensity Index (EII) for Selected Countries in India				
	Japan	Korea	China	Vietnam	Germany
Q3, 2017	1.37	2.92	1.82	2.44	0.24
Q4, 2017	1.52	3.46	1.79	3.47	0.32
Q1, 2018	1.96	4.28	1.68	2.57	0.42
Q2, 2018	1.87	4.05	1.65	2.68	0.29
Q3, 2018	1.65	3.30	1.38	3.20	0.33
Q4, 2018	1.21	3.31	1.54	3.83	0.34
Q1, 2019	1.51	3.40	1.36	2.09	0.24
Q2, 2019	1.55	3.68	1.39	3.12	0.36

Source: Authors Compilation based on ITC Trade maps Data

Note: As the index does not include any information on trade barriers directly while constructing the same, qualitative information on that front may be checked before coming to any conclusions

The index has been specifically calculated for a few quarters before and after the implementation of tariffs by the US on steel products. The data for computing EII on all five data series involving HS 7206 to 7203 was drawn from Trade Maps. The bilateral EII results for selected countries involving Indian export markets are summarized in table 2 above. An appealing dynamic emerges from the results. All the countries with the only exception of Germany have shown intensive export relations with India in Steel Products. Among all the countries South Korea has the highest export intensity in the Indian market. The intensity of the relationship between Japan, South Korea, and Vietnam experienced a rise in Q1 & Q2 of 2018 thereafter it slightly fell. The index is near zero for Germany, as its steel exports to India are not significant and also because there is no Free Trade Agreement between the two. The results of EII of South Korea are also consistent with a study by Sahoo et al. (2009) that found that export intensity for overall merchandise goods of South Korea has been much greater than

that of India implying exports of South Korea to India have been greater than its exports to the world on average.

Apart from the export intensity, there is also a need to look at the excess capacity of the preferential trade partners of India, as global excess steelmaking capacity has become one of the major issues in the steel markets around the world. The steelmaking capacity of China alone accounts for almost half of the global steelmaking capacity. By looking at a long period of time it was found that the global steelmaking capacity increased from 1587 Mt in 2007 to 2,233 Mt in 2018 which is an increase of around 40% in a decade. A recent report by the OECD (2019) steel committee states that "Low growth prospects for the global economy, slowing demand for steel and virtually unchanged steelmaking capacity are driving severe and persistent excess capacity in the steel sector".

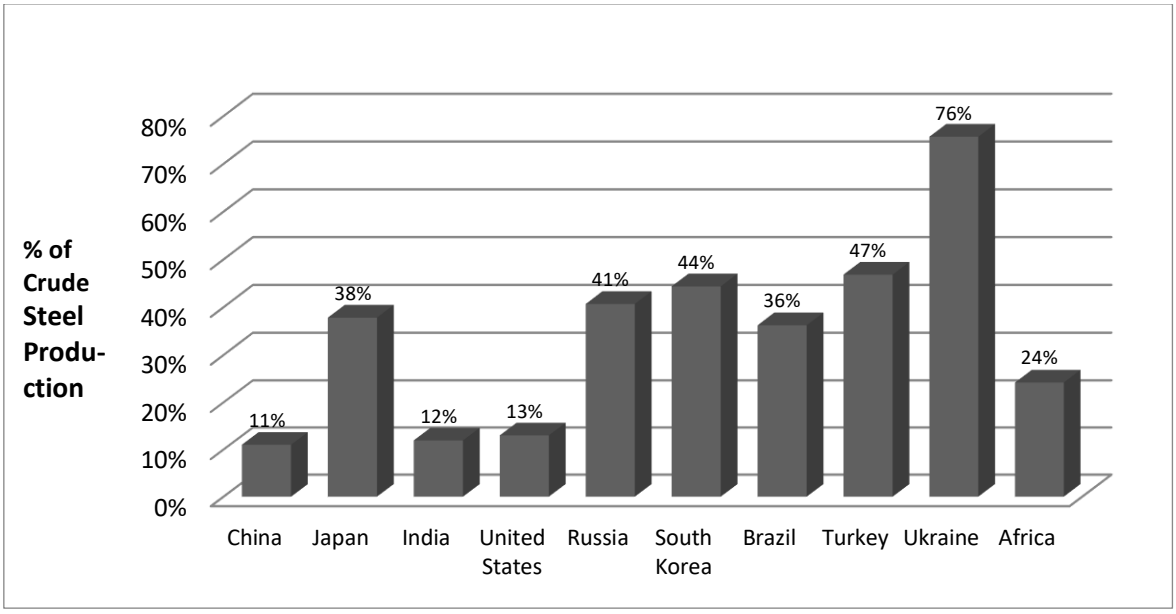

Figure 2: Exports of Semi-finished and Finished Steel Products as % of Crude Steel Production

(Value is the average share for the period 2013 – 2017)

Source: Authors calculation based on the data of World Steel Association

Figure 1 above depicts the situation of steel surplus exporting countries. The majority of steel-producing countries have a very high export-to-production ratio specifically the two key preferential trade partners for steel products of India, Japan, and South Korea. Japan and South Korea are the world's third and sixth-largest producers of steel in the world, respectively. The exports of semi-finished and finished steel products as a percentage of crude steel production

of these two were recorded to be as high as 38-44 percent. To resolve the issue of overcapacity in the steel industry Xiong (2017) argues that supply-side reform is key to achieving the objective of reducing excess capacity and *"in this process, it is indispensable for the government to play the role of macro-control policies to guide economic entity and need for the steel enterprises to follow the market rules to make reasonable production plan."*

3.3. Implication of India's Tariff Reduction (on Selected Steel Products) through Partial Simulation using WITS SMART

In this section, the SMART partial equilibrium modelling tool is used to analyze the impact of the reduction in tariffs by India on Total Trade which includes Trade Creation & Trade Diversion effects. The two simulations were conducted on selected crude steel products (from HS 7206 to 7306 at a six-digit level) based on the methodology discussed in the previous section. In the simulation, the tariffs are reduced for three of India's FTA partners Japan, South Korea, and ASEAN. Two simulations with the following scenario were conducted

In the first simulation, India reduces duty by 50 percent (linear cut of 50 percent in WITS SMART) on the import of steel products from Japan, South Korea & ASEAN countries. The first simulation is done for the year 2010/ 2010 MFN rate. The initial year '2010' has been chosen deliberately as all the three FTAs were signed between the years 2010 & 2011.

In the second simulation, India reduces duty by 100 percent (linear cut of 100 percent in WITS SMART) on the import of crude steel products from Japan, South Korea & ASEAN countries. The second simulation is done for the year 2018/ 2018 MFN rate.

In the simulation, the duty for all other countries remained unchanged. The results of the first simulation have been summarized in Table 4. It is very important to note that with the reduction of duty by 50 percent from some of the major steel exporting countries in the world the import by India in the combined crude steel products has increased significantly. It can be seen from table 3 that the imports (Total trade effect) are significant from all the FTA countries for which the duty was reduced. The total trade effect (increase in import by India) from the world is around 115 million USD, Japan, and South Korea has shown the largest change in total trade or imports by India.

It is worth noting that the rise in imports from all the FTA partners (control group) is not only due to the trade creation effect but also due to the significant trade diversion effect, which implies that imports from other countries will go down significantly and the space will be filled by import from these FTA countries. Another aspect concerning the trade diversion is that most of the increase in the steel exports from these FTA partners to India will lead to negative trade diversion or reduction in imports specifically from China, the United States, and European countries (See table below 5).

Table 4: Post Simulation, Trade Creation & Trade Diversion on 2010 MFN (Infinite Export Elasticity)

Reporter Name	Partner Name	Product Code	Trade Total Effect in 1000 USD	Trade Creation Effect in 1000 USD	Trade Diversion Effect in 1000 USD	Old Simple Duty Rate	New Simple Duty Rate	
India	World	Crude Steel	115419.97	115419.97	0.001	5.44	4.89	
India	Vietnam	Crude Steel	1955.916	1791.632	164.284	2.64	1.32	FTA Partners (Control Group)
India	Indonesia	Crude Steel	1355.103	729.139	625.965	2.74	1.37	
India	Japan	Crude Steel	91446.798	64661.735	26785.062	6.13	3.07	
India	Korea, Rep.	Crude Steel	48594.17	41048.679	7545.49	2.78	1.39	
India	Malaysia	Crude Steel	3472.213	2408.694	1063.519	2.95	1.48	
India	Philippines	Crude Steel	35.421	30.77	4.65	3.42	1.71	
India	Singapore	Crude Steel	1713.631	1338.845	374.786	2.7	1.35	
India	Thailand	Crude Steel	4165.661	3410.474	755.187	2.95	1.47	
India	China	Crude Steel	-14471.598	0	-14471.598	6.08	6.08	Non-FTA Partners

India	Germany	Crude Steel	-2904.086	0	-2904.086	5.98	5.98	
India	Russian Federation	Crude Steel	-2403.689	0	-2403.689	5.85	5.85	
India	United States	Crude Steel	-2125.133	0	-2125.133	6.08	6.08	
India	Ukraine	Crude Steel	-1487.319	0	-1487.319	5.69	5.69	
India	Italy	Crude Steel	-1458.208	0	-1458.208	6.01	6.01	
India	France	Crude Steel	-1250.736	0	-1250.736	6.16	6.16	
India	Taiwan, China	Crude Steel	-1232.794	0	-1232.794	5.74	5.74	
India	Spain	Crude Steel	-1207.116	0	-1207.116	5.88	5.88	
India	Belgium	Crude Steel	-1187.054	0	-1187.054	5.82	5.82	
India	Nepal	Crude Steel	-1072.246	0	-1072.246	1.12	1.12	
India	Sweden	Crude Steel	-610.911	0	-610.911	6.25	6.25	
India	United Kingdom	Crude Steel	-585.462	0	-585.462	6.13	6.13	

Source: Authors compilation based on the WITS SMART Database

The second simulation is done on 2018 MFN rates the same year when the United States, European Union, and some other countries-imposed safeguard measures on steel imports. It is to inform you that in the year 2018, most of the steel products in India attracts close to zero tariffs from the selected FTA. However, some products still have to face the duties. Table 4 below depicts the result of the simulation done on 2018 data. The result shows that with the reduction of duties by India to zero on all the selected steel products for Japan, South Korea, and ASEAN countries, the total trade effect is positive from Japan and S. Korea. It should be noticed that the significant amount of increase in imports from S. Korea is coming through trade diversion. In the second simulation, it was found that some trade diversion has also started from the ASEAN countries, which was not there in the previous simulation. It should also be

noticed that with the increase in steel imports from South Korea, a significant amount of trade is being diverted from non-FTA partners like China, the United States, and Europe. The result of the analysis was found to be contradictory to the study done by Lee (2019) & Varma & Gautam (n.d.) on India-Korea CEPA & India-Japan CEPA respectively for products like automobiles, machinery, textile, etc. Their studies found that due to the reduction of tariffs by India for Japan and Korea, the imports would increase significantly due to the trade creation effect rather than the trade diversion effect.

Table 5: Post Simulation, Trade Creation & Trade Diversion on 2018 MFN (Infinite Export Elasticity)

Reporter Name	Partner Name	Product Code	Trade Total Effect in 1000 USD	Trade Creation Effect in 1000 USD	Trade Diversion Effect in 1000 USD	Old Simple Duty Rate	New Simple Duty Rate	
India	World	Crude Steel	23382.991	23382.992	0	6.48	6.34	
India	Korea, Rep.	Crude Steel	22469.157	13791.727	8677.43	0.64	0	FTA Partners (Control Group)
India	Japan	Crude Steel	9436.667	9591.265	-154.598	0.57	0	
India	Malaysia	Crude Steel	-468.03	0	-468.03	0	0	
India	Indonesia	Crude Steel	-330.583	0	-330.583	0	0	
India	Vietnam	Crude Steel	-190.871	0	-190.871	0	0	
India	Singapore	Crude Steel	-158.686	0	-158.686	0	0	
India	Thailand	Crude Steel	-156.039	0	-156.039	0	0	
India	Philippines	Crude Steel	-0.101	0	-0.101	0	0	
India	Lao PDR	Crude Steel	0	0	0	0	0	
India	Myanmar	Crude Steel	0	0	0	0	0	
India	China	Crude Steel	-3686.669	0	-3686.669	10.25	10.25	Non-FTA Partners
India	Belgium	Crude Steel	-459.792	0	-459.792	10.15	10.15	
India	France	Crude Steel	-390.326	0	-390.326	9.88	9.88	
India	Germany	Crude Steel	-348.732	0	-348.732	10.07	10.07	
India	USA	Crude Steel	-309.937	0	-309.937	10.05	10.05	
India	Italy	Crude Steel	-273.208	0	-273.208	9.96	9.96	
India	Slovenia	Crude Steel	-189.811	0	-189.811	9.24	9.24	
India	Spain	Crude Steel	-162.068	0	-162.068	9.94	9.94	

Source: Authors compilation based on the WITS SMART Database

The majority of FTAs signed by India have led to more favorable gains for its trade partners but, in turn have worsened the country's trade balances in the post-FTA period (Saraswat et al., 2018). India's import of finished steel products from the FTA route has increased significantly over the years and currently stands at around 60 percent of the total steel imports. These imports generally are not subject to any of the state or central levies/taxes borne by the Indian steel mills like the Royalties on Raw Materials, Special cess, Electricity duties, Taxes on Petroleum Products, etc. Therefore, Indian steel imports (at zero duty) from FTA countries such as ASEAN, Japan, and South Korea have recorded an increase of 159 percent from 1.98 million tons in 2009-10 (pre-FTA) to 5.12 million tons in 2018-19. As a result, despite being the 2nd largest global steel producer, the Indian steel market remains vulnerable to any trade shock such as the imposition of steel tariffs under Section 232 by the US.

3.4. Other Factors Leading to Surge in Imports Post Imposition of Duties by United States

Apart from the role of the FTA, there have been other factors that were responsible for the surge in imports in India. One of them is the lesser duty rule (LDR) followed by India in case of anti-dumping duty (ADD) or countervailing duty (CVD) investigations. As per this rule, ADD/CVD on imported products should either be the margin of dumping or the margin of injury, whichever is lesser. At the time of duties imposed by the US, there were several ADD and CVD enforced in India on flat products of steel & stainless steel originating in China, Japan, Russia, South Korea, Brazil, and Indonesia, however, due to the LDR most of them were ineffective in protecting the interest of domestic players. Many countries impose ADD based on the dumping margin and not on the injury margin. Many jurisdictions are also responding to evolving circumstances by changing their trade regimes to ensure quick action: the EU (2018), Australia (2013), and Brazil (2012) have also diluted LDR to modernize their trade defense instruments (Descotis, 2016). An ADD investigation by the EU on imports from Russia "concluded that a duty lower than the margin of dumping would not be sufficient to remove injury to the EU industry and imposed measures at the level of the dumping margin in respect of Russia." (Nehra, 2020)

The other reason is the absence of any steel import monitoring mechanism/system in 2018 available in the US, Canada, and Mexico. The purpose of these systems is to give advanced information about the imports of steel products entering the country, which helps the

government to work out effective policy formulations in case of any sudden hike in imports. India introduced its steel import monitoring system (SIMS) in November 2019, however, the consistency of these import monitoring mechanisms with WTO law is still in question. (Aman, 2016)

3.5. Compatibility with GATT/WTO Law and Recent WTO Rulings on United States Tariffs

It has been argued by many trade law experts that the tariffs imposed by the United States in March 2018, citing the impairment of its national security under section 232 of the US Trade Expansion Act (1962) violates GATT/WTO law. The experts believe that these tariffs violate Article II (1) (a) and (b) of 1994, GATT as they are above the bound tariffs committed by the United States and also violates Article I (1), GATT on Most Favoured Nation (MFN) principle, by exempting Mexico & Canada. The US defended its action by justifying its action under Article XXI (b)(iii), GATT, which permits member states to take "any action which it considers necessary for the protection of its essential security interests… taken in time of war or other emergencies in international relations". (Arora, 2019)

By fearing the possibility of large trade diversion and threat of injury to their domestic industry nine countries challenged these measures at the WTO and imposed retaliatory safeguard tariffs by exercising the provision of Article XIX, GATT, and Article I, Safeguards Agreement (SGA). These affected states rejected the national security argument behind the US tariffs and instead categorized them as a safeguard measure, but not as per WTO prescription. Imposing retaliatory tariffs as safeguard measures led the United States to file WTO cases against the affected countries for illegally retaliating. The argument used by the US is that the provision under Article XXI (b)(iii), GATT, has a self-judging character and that it is "non-justiciable," or is beyond the scope of review of the Dispute settlement body of the WTO.

However, it is essential to mention that Russia and Saudi Arabia applied the national security logic in their other cases at the WTO, but the WTO found otherwise, insisting that national security is "an objective fact, subject to objective determination." (BUSCH, 2022) A recent judgment by a WTO panel on December 9, 2022, ruled against the US in challenges brought by Norway, China, Switzerland, and Turkey. The panel report[3] concluded that it "does not find,

[3] World Trade Organization. (2022). UNITED STATES – CERTAIN MEASURES ON STEEL AND ALUMINIUM PRODUCTS REPORT OF THE PANEL (p. 93).

based on the evidence and arguments submitted in this dispute, that the measures at issue were "taken in time of war or other emergencies in international relations" within the meaning of Article XXI(b)(iii) of the GATT 1994. Therefore, the Panel finds that the inconsistencies of the measures at issue with Articles I:1, II:1, and XI:1 of the GATT 1994 are not justified under Article XXI(b)(iii) of the GATT 1994." However, the final ruling of different cases on the subject is still pending due to the non-functional WTO's Appellate Body.

3.6. Policy Suggestions

Based on the analysis of WTO law and the policy measures adopted by other economies, it was found that there exist effective trade measures that can be implemented by developing countries like India to protect their domestic industry from any sudden rise in imports in near future. One key measure among them is to include the Auto-Trigger Safeguard Mechanism (ATSM) in all its existing or under-negotiation preferential trade agreements. As per this tool, in case there is an overflow of imports of selected goods from the preferential partner, after reaching a certain threshold, the safeguard duties will automatically be initiated. These thresholds can be mutually decided by the countries. For instance, ATSM has been negotiated under the Free Trade Agreement between Viet Nam and The EURASIAN Economic Union and under the Comprehensive Economic Cooperation and Partnership Agreement (CECPA) between India-Mauritius. There also exist examples of more stringent sector-specific ATSM, South Korea, in some of its preferential trade agreements has negotiated mechanism that allows their government the authority (and not the opposite FTA partner) the option of imposing the safeguard measure on certain agriculture products. (Seshadri, 2019).

In addition to the above measures, to safeguard the industry, a country has also the right to impose Suo Motu safeguard measures as a result of unforeseen developments under GATT 1994 (Article XIX: 1(a)). However, no safeguard measure has been announced by India on steel products post-implementation of tariffs by the US. It is argued that the adoption of WTO-compliant measures to safeguard the domestic industry is the accepted standard worldwide that India could have adopted.

It is argued that in a worst-case scenario, the imports from the preferential trade partners at a concessional rate can be stopped by exiting the FTA/RTA under the exit clause. The exit clause allows a disappointed party to the agreement to terminate the trade policy obligations. The

agreement can also be terminated by utilizing customary international laws such as the Vienna Convention on the Law of Treaties (VCLT) specifically for those agreements where an exit clause has not been incorporated. Under the VCLT an agreement can be terminated with mutual consent or unilaterally or through modification. Article 54(b) with Article 56 of the VCLT highlights that trade treaties are temporary and can be terminated unilaterally.

4. CONCLUSIONS

The BRCA analysis highlighted that Japan, South Korea, China, and ASEAN member countries enjoy a significant comparative advantage in steel products. The export intensity index (EII) analysis reveals that Japan, South Korea, Vietnam, and China had a greater presence in their export basket of steel products to India as compared to other countries specifically post-implementation of tariffs by the US. The results of the two WITS-SMART simulations on crude steel products through selected preferential trade routes have revealed that due to the reduction of import tariffs by India, there will be a significant increase in the imports of steel products not only due to trade creation but also due to significant trade diversion. The study has suggested two key policy measures that can be adopted to protect its domestic markets from any such import surge or unbalanced trade in the future. One of them is the inclusion of the Auto-Trigger Safeguard Mechanism (ATSM) in the existing and future preferential trade agreements and the other is the imposition of Suo Motu safeguard measures on steel products that are compatible with the GATT/WTO law.

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