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Impact Estimation of the Trade War between the U.S. and China on Global Maritime Trade Volume

Objective

The U.S. Trump administration has progressed the countermeasure for trade deficit by imposing additional tariff rates based on Trade Act. China is the target of the Section 301 of the Trade Act of 1974. Steel and aluminum products are already the targets, also cars and their parts are the next candidates of the Section 232 of the Trade Expansion Act of 1962. These additional tariffs induced the retaliation tariffs by China and other countries such as Canada, EU, India and so on; consequently, some people say it is virtually a trade war.

Figure 1 shows the rate of additional tariff trades against the world international trades; the rate is 2.4% on January 2019, there is a possibility that it will increase up to 6.6%. The additional import tariff causes the decrease of trade and production of relating goods directly. The decrease of production has ripple effects on domestic and overseas economy. Therefore, the large increase of tariff rate has a big impact on the global maritime transport. Based on this background, this study aimed to estimate the impact of the trade war on the global maritime trade volume.

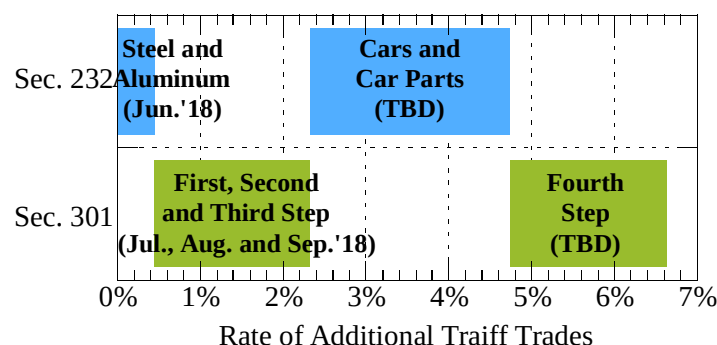


Figure 1 – Rate against the World Trades

Data/Methodology

The impact estimation was done by using SCGE (Spatial Computable General Equilibrium) model: GTAP (Global Trade Analysis Project). This model has been developed mainly by Purdue University, has a reputation for calculating economic impact of tariff change, and was

used to estimate the impact of TPP (Trans-Pacific Partnership Agreement) by the U.S. and Japanese government agencies. The data for estimation were arranged from 2011-year economy on GTAP9 database. The country/area for calculation was aggregated in eleven, including the U.S., China, EU, Canada, India, Japan and so on. The sector was aggregated in six: primary, extraction, light, metal, heavy industries and services. The additional tariff rate for each country/area and sector was calculated from the data of trade statistics such as USA Trade Online, EU Market Access Database, UN Comtrade and so on, based on the list of items and their rates in the government releases of additional tariff. The estimation results were the impacts on trade values, therefore their values were converted to maritime cargo volume by unit prices calculated using the data of USA Trade Online and PIERs (Port Import/Export Service).

Results/Findings

The estimation scenarios were as follows: (1) additional tariff till the increase of tariff rate of the Section 301's third step, that was postponed from January to March 2019; (2) all the additional tariff including cars and car parts of the Section 232 and fourth step of the Section 301. These scenarios included all retaliatory tariffs. It was estimated that the GDP, trade value and maritime trade volume of the U.S. and China would decrease greatly. As to the container volume, the result of the estimation showed that the total volume of U.S. and China will decrease in the range of 2.3 to 5.1 and 2.5 to 4.4 million TEU respectively in 2017-year volume as shown in **Figure 2**; the volume of trans-pacific route between the U.S. and Northeast Asia, China, Japan, South Korea and Taiwan, will decrease 18 to 36%. The bulk cargo volume of the U.S. and China will decrease in the range of 46 to 136 and 43 to 55 million ton, respectively.

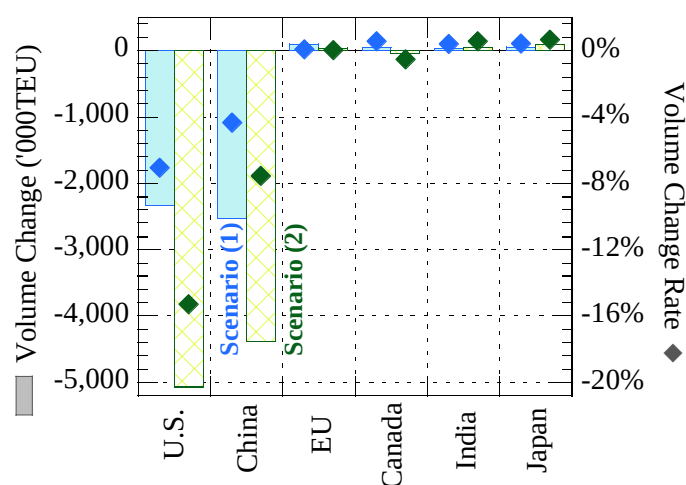


Figure 2 – Estimation Result of Container Volume

Implications for Research/Policy

If the trade war will escalate as expected, and this estimation result will become reality, the cargo carrying capacity of world ships will be likely to exceed the decreased cargo volume greatly. The capacity of ultra large container ships, whose capacities are larger than 11,000TEU, on order book has accumulated about 40% of that of in service; the sudden decrease of cargo volume will have a big impact in this situation. In addition, this result indicates the shifting out of many multinational companies from China. Once, China became “the world’s factory” based on the lower labor cost and a huge market. However, in recent years, the cost advantage has diminished, and many companies have added another production base to reduce overdependence on China; this movement is known as “China plus one”. This trade war between the U.S. and China is declining relative position of China, and the factories making products such as smartphones, personal computers, apparels and so on have been moving out. It may need long time for drastic change on a global supply chain, however, in that case, the structure of the world shipping network will also change greatly.

Keywords: *import tariff, container, bulk, global supply chain*