

Macroeconomic Effect of The U.S. Tariff on Steel and Aluminum

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Abstract: In the context of deglobalization, the United States proposed a trade policy of imposing tariffs on steel and aluminum in March 2018. This paper first discusses the possible motivations behind the tariff levitation by the United States. It also analyzes the impact of US tariffs on its trading partners and itself under the unilateral tariff model and the bilateral tariff model. The conclusion of the analysis is that the impact of this US trade policy on the economy of steel and aluminum importing countries, especially in the long run, is not as pessimistic as imagined. And considering the impact of the tariffs, as well as the EU and China's trade countermeasures on the U.S. economy, the U.S. should perhaps reassess what this policy has brought to the U.S.

Keywords: Macroeconomic, Steel and Aluminum industry, deglobalization, trade protection

1. Introduction

In March 2018, the U.S. President Donald Trump had formally ordered a new import tariff on steel of 25% aluminum of 10% under Section 232 Trade Expansion Act of 1962[1]. The tariff, initiated by March 23rd, has several countries and regions exempted including “Canada, Mexico, the EU, as well as other countries such as Argentina, Australia, Brazil and South Korea”, which, as believed by some scholars, can possibly be explained by the U.S. consideration on “potential countermeasures” from EU and other region [1]. Nonetheless, on June 1st, the exemptions were recalled “except the ones for South Korea, Argentina, Brazil and Australia”, which indeed triggered retaliatory measures from EU and China. Following this thread, a cost-and-benefit discussion on the U.S.’s tariff on its major trading partners, as well as the U.S. economy itself, becomes essential and valuable. Before formal discussions, it is also important to discuss the motivations behind the U.S. tariffs, to understand why the U.S. would insisting on this protectionism practice at the risk of retaliations, or even a trade war.

As is synthesized from different research, the purpose of imposing the tariff is threefold [2]. The first and foremost is to promote national security [1]. The declaration made by the Trump administration insist that a strong steel industry is essential to America’s national and economic security. As steel and iron play an essential role in almost every industry in the secondary sector, relying on a global supply chain can be risky in event of military conflict or natural disaster [3]. The second and third incentives behind this trade policy is to promote competitiveness of the domestic steel industry, and, most importantly, save jobs [2,4]. Be that as is may, this argument does not seem to hold up as the combined employment of the steel and the aluminum industry is slightly above 300,000, accounting for only 0.19 percent of the U.S. employment.

Taking the above motivations into consideration, the following part of this essay will develop an analysis on the macroeconomic effect of the U.S. tariff on its major trading partners and on the U.S. itself. As trade retaliation is a major concern in context of aggressive unilateralism, the following discussion will be divided into two parts, discussing the impact of tariffs imposed by the United States on the relevant economy under the unilateral tariff models, and the bilateral tariff models, respectively.

2. Macroeconomic Effect Analysis

2.1 Macroeconomic Effect of the Tariff Based on Unilateral Tariff Model

Interestingly, many researchers begin the analysis on the assumption that the U.S. tariff on steel and aluminum is a one-way protectionism practice without retaliation incurred. Based on this unilateral tariff model, the analysis can be concluded from two sides, the effect on the economies of major trading partners, and the effect on the U.S. economy.

2.1.1 Effect on Major Trading Partners

Among the several different source countries and regions that contributed to the U.S. import of steel and aluminum and are not exempted from the tariff, EU contribute to more than 20% of the U.S. steel import, and China is the one that ranks high in both steel and aluminum export, followed by Russia, whose is responsible for over 10% of The U.S. aluminum import [1,2].

The most direct impact of the tariff on these economies would be a reduction of the export value. It is estimated that the U.S. will reduce \$1,534million worth of import of overall industries from EU and \$2,707million worth of import from China [3]. Following the declination of export value is the disappearing of working opportunities. It is estimated that there would be a total of 185,000 job losses worldwide from cutback in global trade and production, directly and indirectly [1].

Surprisingly, the shrinking of the export value as well as job opportunities faced by EU and China are not directly translated into a worsen macroeconomic performance. Based on analysis, China gained a 0.02 percent growth of real GDP and EU 0.01 percent, due to the fact that the excess supply capacity spread to the rest of the world, greatly lowered the cost of production and product competitiveness [3].

2.1.2 Effect on The U.S. Economy

Agreement has been reached by several research that the U.S. steel producers are the main group that would benefit from the tariff [4,5]. According to Salotti et al. [4], the most benefited sector in the U.S. would be the manufacture of basic metals, with value adding, employment, and output rose by 1.45%, 1.61% and 1.52%, respectively. However, as the U.S. economy is not heavily reliant on secondary in the U.S industry, and the steel industry only contribute to 0.19% of the U.S. total employment [2]. The positive influence of the U.S. tariff is considered insignificant.

The positive side of the tariff was reinforced from the perspective of tax revenue. It is argued that such tariff revenue can be used to cover the U.S.'s long-standing budget deficit [4]. Nevertheless, the benefits of tariffs analyzed above cannot compete with the negative impact of the tariff on the U.S. economy, as most literature described the negative impact of tariffs on the U.S. itself in greater details. Particularly, a consensus is reached by all research papers that the negative impact of such a practice could ripple through the whole economy.

As mentioned above, steels and aluminum, as industrial input, covered wide range of semifinished and finished products ranging from carbon and alloy sheets, pipes, strips and plates, seamless or welded tubes, and stainless steel, to rods, wire, foil, tubes, pipes, fittings, castings, and forgings [2]. Based on quantitative analysis conducted by Amiti et al., this tariff would lead to an increase of 1.6% of the import price of aluminum and steel industries, which would cause detrimental cost to other sectors including "the manufacture of electrical equipment, the construction of large commercial and industrial structures and bridges and the production of automobiles and other transport equipment." [2,4,5]. Moreover, the impact would even ripple to industries that are not so tightly related, such as "robots that assemble computer chips, farm equipment that harvests wheat and X-ray machines used in medicine" [2].

The long-run consequence of the tariff, as is pointed out by Amiti et al. [6], is that the entire import tax burden would fall on U.S. importers as well as consumers cross all sectors due to the low substitutable nature of steel and aluminum products [6]. Moreover, the domestic steel production will expand at the cost of durable goods producers in the above-mentioned industries bearing the cost of

rising input prices. Quantitative analysis demonstrates that in long-run, this would result in a quarter-percent loss to U.S. gross domestic product (GDP) [2]

2.2 Macroeconomic Effect of the Tariff Based on Bilateral Tariff Model

Different from the previous tariffs on the washing machines and solar panels in 2018, the U.S. tariffs this time signals a stronger and more aggressive unilateralism that even “undermines the confidence of allies” [1]. Therefore, accompanying the tariff is the concern over the retaliation and the threat of a trade war, which calls for the analysis of a bilateral tariff model, with major trading partners including EU and China levying tariff on the U.S. import as well [2]. However, consensus is not reached as different researchers proposed different prophecies in terms of the effect of the tariff under the bilateral tariff or the trade war scenario.

In the scenario developed by Sposi et al. [2, 4] that the U.S. involved in trade war with both EU and China with increasing trade restrictions on both sides, both countries would be negatively influenced. It is estimated that in long run, the U.S. GDP will drop by 3.49 percent and the U.S. productivity falls by 1.65 percent. Simultaneously, EU and China would also suffer from a decline in GDP by 0.71 and 1.68 percent respectively. Hakobyan, on the other hand, proposed a different result. Based on this trade war scenario that China decides to levy a 10% retaliation tariff on steel and aluminum import as well, China will indeed suffer from a decrease of GDP by 0.8 percent and a worsen employment and wage condition after trade war. However, the trade war will greatly reduce the U.S. total import and narrow the trade deficit, and, in the meantime, had very slight impact on the U.S. domestic consumption [5].

This inconsistency between different research findings can be partly explained by the emphasis on economic indicators. In the first research, GDP is considered a prime economic indicator. In the second research, however, a greater emphasis is laid on narrowing the trade deficit that the U.S. has long been facing. This inconsistency also explains, to a certain extent, the different political voices in the United States facing the tariff policy. While there are experts warning the potential impact the retaliation measurement can have on the U.S. economy, President Trump had been showing his confidence that ‘trade wars are good and easy to win’ [1].

3. Conclusions

To sum up, based on economic theory, the simple expectation of the U.S. unilateral tariff model is that the U.S., as the imposing party of the tariffs, will benefit from the tariffs. The major steel and aluminum importers to the US, the EU and China, would suffer. However, the conclusions drawn by numerous studies are not exactly as expected, especially in the long term. Despite tariffs leading to lower exports from major trading partners and a concomitant rise in short-term unemployment in related industries, surplus capacity flows to the rest of the world and, in a competitive environment, reduces costs and increases productivity. At the same time, in the long run, the resulting GDP decline in the EU and China is not significant.

From the perspective of the United States, although the steel and aluminum industries have benefited in terms of value-added, employment and output, since the secondary industry is not the pillar industry of the United States, the positive impact on the entire economy is not observable as expected. In the long run, as the increase in raw material costs spills over to various related industries, the cost of tariffs is completely passed on to the U.S. economy itself, and even has a negative impact on U.S. GDP. Under the bilateral tariff model, the conclusions are more nuanced. Some studies point out that retaliatory trade protection measures will have a severe impact on U.S. output in the long run, while others believe that tariffs will effectively reduce the long-standing U.S. trade deficit without causing too much impact on domestic consumption.

Since the EU, China and other countries and regions have indeed adopted retaliatory tariffs and other protectionist measures in actual situations, the analytical conclusions of the bilateral tariff model are more meaningful and valuable. Under this general premise, as analyzed above, the evaluation of

the impact of tariffs will mainly depend on which economic indicators are considered as priorities. Considering the current political environment in the United States and the world, the slogans of narrowing the deficit and bringing jobs back to the United States are indeed very attractive. However, if the economic structure of the United States itself, as well as the long-term economic growth and the long-term development of the world are taken into consideration, it may be necessary to re-evaluate whether tariffs are an economic policy that really benefits the United States.

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