

# The Impact of U.S.-China Trade Dispute on U.S. Agricultural Industry in Economic Perspective

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**Abstract:** The trade dispute between China and the United State could be the most heat topic in 2018to 2020. The United States has always been a major agricultural exporter, and they export their produce all over the world.The U.S. agricultural industry has been suffered from the impact of the trade dispute. The paper firstly analyzes the reason for the trade negotiation. Secondly, the paper describes the status quo of the China-US trade on agriculture. Thirdly, the paper analyzes how the trade dispute would affect the agricultural industry in economic perspective. Finally, the paper provides a recommendation for the trade dispute based on the Game Theory.

**Keywords:** Agricultural Industry; Economic Perspective; China-Us Trade; Domestic Demand; The Trade Deficit; Export Tariffs

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## The U.S.-China Trade Negotiation

On March 22, 2018, The U.S. government increased the tariffs on 34 billion goods imported from China, and the Chinese Ministry of Commerce also took the countermeasures and planed to improve the same value of tariffs on the goods from the U.S (BBC, September, 2019). After that, the trade dispute between the world's two biggest economy countries, China and the U.S., has begun. The reason for the trade dispute, according to the U.S. government, is the unfair behaviors of stealing intellectual property from the U.S. to China. In addition, the trade dispute might help reduce the trade deficit with China. Since 2001 after China joined the World Trade Organization (WTO), the U.S. trade deficit with China has increased dramatically. In 2018, the trade deficit has reached to \$419 billion, according to the U.S. Census. (BBC, May, 2019).

Since 2018, both countries have continuously imposed tariffs on each goods worth billions of dollars (BBC, September, 2019). Several U.S. industries have been suffered from the impact of the trade dispute. Among them, the agriculture industry is the most affected industry, because the United States has a very large share of agricultural exports, which is the largest agricultural export country in the world. Their agricultural products are exported all over the world. Common products are soybeans, wheat, corn, soybeans, cotton and so on.

## U.S.-China Agricultural Trade

In 2016, China was the largest importer of agricultural products for the United State. China imported from the U.S. have been grown from \$376 million in 1993 to \$20 billion in 2017 while U.S. imported from China increased fr om \$476 million to \$4.3 billion in terms of agricultural products (Bakst, Gabriella, & Walters, 2019). The United States relies on the Chinese market for many agricultural products, especially soybeans, with 57 percent of the soybeans produced by American farmers exported to China in 2017, valued at \$12.95 billion.

In addition, China has a strong demand for soybean. According to the Chinese Ministry of Commerce, Soybean imports increased from 59.38 million tons in 2012 to 95.54 million tons in 2017, an average annual increase of 9.98%, while soybean exports fell from 320,000 tons in 2012 to 110,000 tons, an average annual decline of 19.23% (Ministry of Commerce PRC, February, 2018). So far,

China is still the biggest soybean importer around the world. In 2016, China imported more than \$30 billion soybeans from the global, much far beyond the second country, Netherlands, with less than \$5 billion (BBC, August, 2018).

In light of the above, the Chinese market is significant for the U.S. agricultural industry with great potential and demand. The American farmers and ranchers rely on the export trade as their capacity might higher than the domestic demand due to the relatively few population of the country (U.S. Department of Agriculture, February, 2019). Thus, China's demand for agricultural products could be huge. Since the tariffs were replenished, the partnership on agricultural products appears to have collapsed.

## The Impact on the Agricultural Industry

On April 4, 2018, China increased 25% to 50% tariffs on many U.S. agricultural goods as the countermeasure toward the U.S. government's announcement on April 3 (Bakst, Gabriella &Walters, 2019).

The target products include some of the major U.S. exports to China such as Cotton, Cheese, Sorghum, and Soybeans, which could undoubtedly be harm by the new tariffs. The U.S. Department of Agriculture (USDA) predicted China will become the fifth-largest agricultural export market from the second largest for the U.S. (Bakst, Gabriella &Walters, 2019). There is plenty of evidence that this is hurting the industry. U.S. cheese exports to China fell 51 percent in 2018 compared with last year. U.S. sorghum exports also fell from \$759 million to \$500 million. U.S. soybean exports plunged from 25 million tons to 8.7 million tons (U.S. Department of Agriculture, 2019). The decreasing soybean exports would deeply harm the U.S. agricultural industry as 57% soybean were exported to China in 2017. In addition, China has been seeking other soybean suppliers, mainly from its Allies, and has given them preferential tariffs on some agricultural products to meet domestic demand. The world's largest soybean supplier, Brazil, one of the biggest competitors for U.S. soybean producers, could benefit in this dispute (BBC, 2019). Argentina and Australia also ramp up the cotton exports to China to help cover the void created by the retreat of the U.S. (Robson, October, 2019).

In economic perspective, the trade dispute would be harmful to the U.S. agricultural industry. The junction of the demand curve and supply curve is Market equilibrium, which means at this point, there are no unconsummated wealth-creating transactions. Meanwhile, there will be fewer US agricultural suppliers to China and fewer choices for Chinese consumers, who will have to choose products from other suppliers instead of US products. In this case, both the demand curve of U.S. products and the supply curve will shift left. As a result, the equilibrium price and the equilibrium quantity will fall for U.S. agricultural products in Chinese market. Inversely, the market equilibrium of other countries' suppliers will increase in the short term. Tom Corcoran, the executive from New York Corn & Soybean Growers Association, said now he struggles to sell the products at \$8.50 per bushel whereas the price before the new tariffs was \$10.50 a bushel (Philippe, October, 2019). If this circumstance continues, the American farmers would lose the Chinese market to their competitors. As the American Soybean Association claimed: "the process of rebuilding the U.S. market in China could take years." (American Soybean Association, February, 2019).

## Recommendation Based on Game Theory

During the trade war, the U.S. government has been working to help limit the damage to agriculture. Firstly, on July 24, 2018, the government provided up to \$12 billions aid for farmers. However, the aid might wrongly encourage American farmers to produce more goods for the narrowing market. Some economists also believe the solution is creating a justification for maintaining tariffs (Bakst, Gabriella &Walters, 2019). Secondly, the U.S. government is looking for other potential markets for agricultural products. EU commission claimed that it will import more U.S. agricultural goods at a cheaper price. The published data from the commission showed that soybeans imported from the U.S. accounted for 37% of total EU imports, compared with only 9% in July 2017. Despite this, the amount of the products is a relatively small proportion of what the U.S. has been planning to export to China (BBC, 2019).

So far, these two solutions might be not the perfect methods as they seemly only can treat symptoms but not the root of the problem. What the fundamental problem is the conflict between the two countries. The U.S. and China are the two countries with the largest economies in the world. This trade dispute is like two powerful companies competing with each other in the market. According to Game Theory, the U.S. and Chinese strategy can be generated as follow:

Table 1 The U.S. and Chinese strategy

		China	
		Cooperate	Not Cooperate
The United State	Cooperate	<u>10, 10</u>	<u>-8, 20</u>
	Not Cooperate	<u>20, -8</u>	<u>-5, -5</u>

By now, the situation is likely to the combination (Not Cooperate, Not Cooperate). No cooperation between the two countries leads to the escalation of the dispute and hence both the two parties pay a heavy price. Like the “Game of Chicken”, the two countries are trying to threaten each other by increasing the tariffs. But eventually, the people of the two countries like the farmers will be harmed detrimentally, or even the global economy.

The combination (Cooperate, Not Cooperate) and (Not Cooperate, Cooperate) seem impossible for the two parties. The Unilateral compromise will maximize the profit of another party. As the competitor of each other, every party is trying to seek the maximal benefit in the competition. So that these two combinations are not the Nash Equilibrium for the trade dispute.

The last combination (Cooperate, Cooperate) could be the best solution for the trade dispute, which is also the positive Nash Equilibrium in the Game Theory. Both parties can get a higher payoff if cooperate or compromise. The two countries agree to end trade hostilities and retreat to the initial position. In addition, the two countries strike a new trade deal consented by two sides. In fact, some economists believe this situation would be the normalcy for the U.S.-China trade in the future, which is generating the new trade deal from the friction (Cyrill, June, 2019).

## Conclusion

In 2018, the trade dispute between two world’s biggest economies, China and the U.S., has begun. Under the dispute, the U.S. agricultural industry has been affected deeply as the Chinese market was the biggest market for agricultural products such as soybean and cotton. After the increasing import tariffs complemented by the Chinese government toward U.S.goods, U.S. farmers seem to lose the Chinese market to their competitors from other countries. Based on the economic analysis above, the high tariffs will lead to the lower equilibrium price and equilibrium quantity in China for the agricultural products from the U.S. According to the Game Theory, the best solution to reduce the damage for the industry is that both countries can cooperate and talk with each other to generate a new trade deal, to maximize the benefit for the two sides.

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