

## Game theory Analysis of the Trade War between United States and China

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### Abstract

*The paper begins with account of US-China trade and gradually digs out the historical beginning of trade war between two countries. Then the paper examines some chronological context from past which triggered US to impose tariff in modern time. In second section the paper attempt to adapt and analyse trade war from game theory perspective with particular focus on the Nash equilibrium's decision analysis model of prisoner's dilemma. Thirdly the research progress to argue trade was as lose-lose game where both country will experience economic as well as political setbacks. Also this research gives some acute evidences to show US as more vulnerable amid this trade war and it's prone to get more hit than china if trade war continues. Ultimately our study finds that the best solution of trade was is to stop the war itself and both country need to come under table talk to discuss each other's dissatisfaction and solve it in institutional way.*

**Key Words:** Trade War, Tariff, Game theory, negotiation, lose-lose

### 1. Brief History of US-China trade

The president of United States Richard Nixon in 1971 approached the People's Republic of China as an initial step toward regulating bilateral relations. The gradual Sino-US trade witness dramatic pace when President Nixon removed the trade embargo against China. Aftermath the trade figure grows at a rate of 20% per year between 1971 and 1981 (dong, 2010). US exports to China during 70s mostly include raw materials, textiles, steel, cotton and food items, as the US had upheld restrictions against exporting technology and equipment to China. By the beginning of 1980s, the Sino-US relations were normalized with China standing as largest trading partner of US. Many US corporations were fascinated to China because of its incredible potential as a market of almost billion consumers. Due to this numerous US companies at an increasing rate began to enter China through joint venture (JV) partnerships with local companies. (Helton and Wang Xi)

### 1.1 Beginning of Conflict

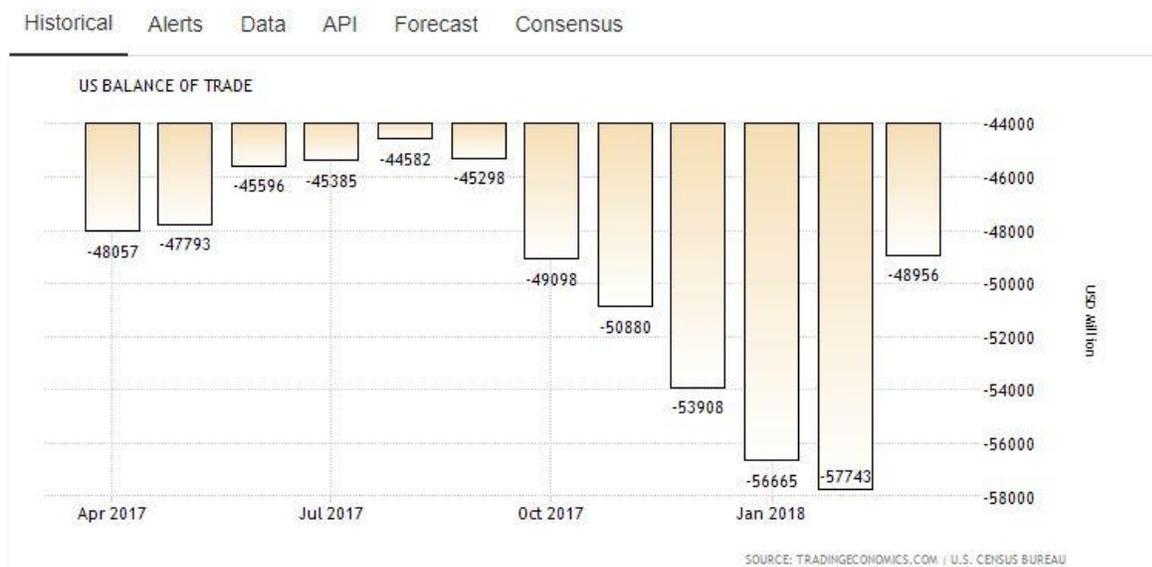
Since three decade the trade of United States has relied on unilateral agreements to magnify its own exports. Section 301 of the Trade Act of 1974, as amended, gives the U.S. Trade Representative broad authority to respond to a foreign country's unfair trade practices. If USTR (United States Trade Representative) makes an affirmative determination of actionable conduct, it has the authority to take all appropriate and feasible action to obtain the elimination of the act, policy, or practice, subject to the direction of the President, if any. The statute includes authorization to take any actions that are within the President's power with respect to trade in goods or services, or any other area of pertinent relations with the foreign country (USTR). To cite an example, US pressure imposed on South Korea results South Korea dropped all health requirements it has been imposing on meat imported from America. (Kherallah and Beghin,

1998) United States then continue to follow the same approach with China with aim to reduce the pressure of China's export on the domestic production.

The first major US- China trade conflicts loomed during 1983-84 when China claimed trade deficit with the US and Washington too recorded trade shortfall with China. Both nations accused other for deliberately misrepresenting the trade figures, as a result US demands sound balance on bilateral trade. This inconsistency in accounting of trade was in part conditioned by the fact that Hong Kong functioned as an intermediary for global trade with China, and the two countries share different notion regarding the calculation of trade passing through Hong Kong. Amidst some hindrances, bilateral trade sustained to develop, and in 1990 the US was already running at \$10-billion-dollar trade deficit with China. By 2016, that deficit had grown to \$347.0 billion.

### United States Balance of Trade 1950-2018 | Data | Chart | Calendar

The US trade deficit narrowed to USD 49 billion in March of 2018 from a slightly upwardly revised USD 57.7 billion in the previous month which was the highest since October 2008. Figures came better than market expectations of a USD 50 billion gap as exports reached a record high boosted by sales of commercial aircraft and soybeans. Also, imports fell as payments for the rights to broadcast the 2018 Winter Olympic Games faded. Balance of Trade in the United States averaged -14230.78 USD Million from 1950 until 2018, reaching an all time high of 1946 USD Million in June of 1975 and a record low of -67823 USD Million in August of 2006.



Source: (<https://tradingeconomics.com/united-states/balance-of-trade> )

The mounting trade deficit along with China's insistence on the transfer of technology became matter of concern for many US lawmakers. Going with American perspective, technology was developed at the research and innovative expense of a private enterprise and was thus claimed to be the intellectual property of that firm. Beside trade deficit and technology transfer, a number of other disputes have nurtured the larger picture of US-China trade conflict (Helton and Wang Xi). The Government of US has always probed China to float its exchange rate in order to minimize the rate of unfair trade conditioned by lower value of Yuan. According to the CRS (Congressional research Service) the Chinese currency needs to be appreciated by 40% in order to reflect its true value (Sanford, 2005). Amid huge damage caused by currency manipulation, in 2005 the United States threats China to increase its currency by 10% or otherwise the US will

impose 27.5% tariff on imported products from China. On July 21, 2005 Chinese monetary policy makers stunned its trade partners by revaluing the Yuan 2.1% higher against the dollar, ending a fixed exchange-rate regime. According to CRS reports, then United States was accounted as the largest importer of Chinese goods, in figure American imports \$243.4 billion in 2005 compared to \$108.5 billion Japanese imports from China, and \$183.7 billion the European Union imports (Lum and Danto, 2007). The revaluation of currency was landmark in China's continuing evolution from a closed economy, which began in 1979 when the country's leaders first opened China to foreign investment.

## 1.2 Present Trade conflict

Similarly the Congressional Research Service report on US-China Trade Issues, 2017 has listed a number of disagreement including: ineffective enforcement of intellectual property rights (IPR), inconsistent implementation of World Trade Organization (WTO) obligations; subsidies paid to state owned firms, protected sectors of the economy, as well as a past record of manipulating currency values. Other economists, without accusing China of currency manipulation have claimed that China could level the playing field, make trade fairer, if China would further expose their currency to the market and allow it to float (Ghoneim and Yasmine Reda)

The U.S. trade deficit with China was accounted \$375 billion in 2017. The trade deficit remains because U.S. imports from China were \$506 billion while exports to China were only \$130 billion. China can produce abundance consumer products for comparatively cheaper price than other countries. Most scholars approve that China's competitive pricing is a result of two factors: firstly a lower standard of living, which allows companies in China to pay lower wages to workers and second would be the exchange rate that is partially fixed to the dollar. (Amadeo, 2018 )

Even before mounting to the presidency of the United States, Donald Trump had made it clear that he would go hard on China trade. He accused China of cheating in trade and manipulating currency as well as stealing American jobs. Firstly, on April 3, Trump unveiled a list of more than 1,300 Chinese exports — which included flat-screen televisions, aircraft parts, and medical devices — that he said he plans to hit with 25% tariffs. The tariffs were planned to punish Beijing for confining US investment in China and pilfering American intellectual resource. Combined, they would affect about \$50 billion worth of Chinese exports. The very next day, China struck back, unveiling its own list of US exports that it plans to hit with 25% tariffs. The proposed tariff could impact more than 100 American-made products, including cars, airplanes, and soybeans — the top US agricultural export to China. Combined, they would cover about \$50 billion worth of US exports, perfectly mirroring the US tariffs (Aleem, Z, 2018).

## 2. Theoretical perspective on Trade war

### Introduction to Game theory

Game theory remains crucial in understanding the strategy of competitive markets that include more than one rational actor with conflicting objectives. This makes game theory a suitable approach to analyse both casual and complex international trade relations. (Veronika.I, 2012)

This section of my paper attempts to show how game theory as an analysis tool can be used to examine the decision of United States and China under trade dispute. It can further review the choices of individual actor in systematic way and can study the impact of it in trade policy of specific country. Similarly while suggesting the best trade policies for any country; Game Theory first considers different probability depending on action of another country and reaches to optimal solution. Ultimately, it determines whether a country's trade policies should maintain the status quo, take a more protectionist stance or implement free trade.

## 2.1 Tools of analysis

Applying game theory in United States and China trade policy means evaluating the decisions choice each country has like; trade liberalization, protectionism or remaining with the status quo. Under the game theory model we can study the trade dispute between United States and China within the unique concept of Nash equilibrium's decision analysis model of prisoner's dilemma. The Nash Equilibrium is a notion within of game theory where the best outcome of a game is one where no player holds motivation to turn back from his chosen tactic after considering an opponent's choice. Overall, the player can receive no extra advantage from changing actions, assuming other players remain constant in their strategies. A game may have several Nash Equilibria or none at all.<sup>1</sup> Similarly the prisoner's dilemma is a paradox in decision analysis in which two rational players acting in their own self-interest pursue a course of action that does not result in the optimal result. The typical prisoner's dilemma is designed in such a way that both players choose to defend themselves at the expense of the other player. As a result of following a purely logical thought process, both participants find themselves in a worse state than if they had cooperated with each other in the decision-making process.<sup>2</sup>

## 2.2 In Context of US-China Trade war

The dramatic rise of Chinese export in global market has put front both opportunity and threat for many countries. The opportunity of course is flow of goods whereas the root of threat goes back to China's export of cheap goods in international market ultimately challenge domestic companies. Precisely, the United States regard itself as the major victim of China's trade policy. The United States have a trade deficit with China since 1984 and it was accounted \$375 billion in 2017 (Trading economics).

To moderate such high deficits in trade, the Donald Trump government decided to take some protectionist actions against China. On March 22, 2018, Trump signed a memorandum under the Section 301 of the 1974 Trade Act, instructing the United States Trade Representative (USTR)<sup>3</sup> to apply tariffs of \$50 billion on Chinese goods. Trump stated that the tariffs would be imposed due to Chinese theft of U.S intellectual property. Trump said that his planned tariffs on Chinese

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<sup>1</sup> The Nash Equilibrium : <https://www.investopedia.com/terms/n/nash-equilibrium.asp>

<sup>2</sup> Concept of prisoner's dilemma : <https://www.investopedia.com/terms/p/prisoners-dilemma.asp>

<sup>3</sup>United States Trade Representative : <https://ustr.gov/>

imports would make the United States "a much stronger, much richer nation." In response, the Ministry of Commerce of the People's Republic of China announced plans to implement its own tariffs on 128 U.S. products. 120 of those products, such as fruit and wine, will be taxed at a 15% duty while the remaining 8 products, including pork, will receive a 25% tariff. China implemented their tariffs on April 2, 2018. On April 3, 2018, the U.S. Trade Representative's office published an initial list of 1,300+ Chinese goods to impose levies upon, including products like flat-screen televisions, weapons, satellites, medical devices, aircraft parts and batteries. Chinese Ambassador Cui Tiankai responded by warning the US that they may fight back, saying "We have done the utmost to avoid this kind of situation, but if the other side makes the wrong choice, then we have no alternative but to fight back. On April 4, 2018, China's Customs Tariff Commission of the State Council decided to announce a plan of additional tariffs of 25% on 106 items of products including automobiles, airplanes, and soybeans. Soybeans are the top U.S. agricultural export to China. The increased tit-for-tat tariff announcement brings both nations closer to the edge of trade war. (Wikipedia)

## **2.2.1 Now a game is constructed in this paper between China and United States as an attempt to understand on what basis the two countries built their decisions:**

### **Settings of the Game:**

#### **a. Players:**

- Player one: United States
- Player two: China

#### **b. Strategies:**

- Option for US:

United States has mainly two option and we will try to see which seems better:

- Option A: To impose tariff and minimize trade deficit.
- Option B: Not to impose tariff.

#### **- Options for China:**

China has to take decision only if the US goes for option A but if the US prefer B the game can't move further. China First has to take decision whether:

- Trade war : If respond with tariff  
Or
- No trade war : If not to respond with tariff and bear loss

#### **c. Constructing the Game:**

-The Game can be explained by four Stages:

➤ **At Stage I:**

The United States has to choose either to:

- Impose tariff (Option A)
- -no tariff (Option B)

➤ **At Stage II:**

China has to take the decision depending on the US choice at Stage I,

IF US choose Strategy A: Then China has to choose between:

- Responding with tariff and start the game
- Or not to respond

➤ **At Stage III:**

China still has to take decisions depending on its decision in Stage II, if  
It decides to go for tariff it has chosen between:

- Option 1: Impose minimum tariff and give platform for negotiation
- Option 2: Impose equal amount of tariff and start tit-for-tat trade war

But if China chooses not to impose tariff there will be no game.

➤ **At Stage IV:**

**In case of trade war there are two possibilities:**

- Either Lose-lose war will occur between US and China  
Or
- One will {lose} more in this lose-lose game
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## 2.2.2 Framing US- China trade war in Prisoner’s Dilemma theory

Game theorists often practice the equilibrium notion of John Nash<sup>4</sup> to analyses the consequence of tactical interaction between several decision makers. In other words, it offers theoretical insight of forecasting results when multiple individuals or institutes are making choices at the same time and if the results depend on the choices made by others. The general understanding of John Nash's theory is that one cannot calculate the outcome of the choices of several decision makers if one analyses those choices in isolation. Instead, one needs to consider the decision of each actor, taking into account the action of other. This renowned thought testing approach which uses the Nash Equilibrium is ‘The Prisoner's Dilemma’. It can be explained with an example; two prisoners in separate prison are given same choice either to: betray other by testifying other as culprit or to collaborate with the other by staying silent. The offer is: If X and Y betray each other, both will serves 4 years in prison, If X betrays Y but Y remains silent, X will get freedom and Y will be send 6 years in prison (and vice versa), If X and Y both remain silent, both of them will only serve 2 year in jail. It explains how choices that are good for the individual can be dreadful to entire group.<sup>5</sup>

## 2.2.3 Constructing prisoner’s dilemma diagram in case of Unites states and Chain trade war:

United States China	United States China remain silent	United States China impose tariff
China United States remain silent	-1	0

<sup>4</sup> Know more about John Nash : [https://en.wikipedia.org/wiki/John\\_Forbes\\_Nash\\_Jr](https://en.wikipedia.org/wiki/John_Forbes_Nash_Jr).

<sup>5</sup> Prisoner’s dilemma explained with example of two prisoner’s : <https://www.youtube.com/watch?v=t9Lo2fgxWHw>

	-1	-3
United States impose tariff	0	-2

Fig 1: prisoner's dilemma chart

Going with the Prisoner's dilemma analysis if both countries adopted a strategy of imposing tariff, both parties would certainly feel the blow of massive economic hit. If one country move on with trade tariff and other remain passive, the protectionist nation would reap abundance trade benefit from the non-protectionist nation. However both countries would get maximum benefit from free trade only in the case if both countries adopt liberal trade policies. In such case the dominant strategy seems that both countries stick on protectionist stance and it's where Nash Equilibrium comes into play. But such action is not in favor of either nation or cannot be assumed as optimal outcome. Thus the optimal solution for both nations could be to find common ground for negotiates which would yield fruits for each actor.

### 3. Why lose-lose Game

Despite President Donald Trump's assertion that "trade wars are good and easy to win,"<sup>6</sup> this trade war could result heavy casualties around both United States and China as well hit the global economy. In current time US and China are accounted as the world's largest economies, representing 15% and roughly 19% of global output, respectively<sup>7</sup> (IMF database). If this tit-for-tat tariff war continues to looms, the global trade will soon experience slight downfall as 34% of economy will develop at a slower pace.

No nation is likely to win trade war. When a nation tries to avenge another trading partner with tariffs on its export, the target country suffers so do consumers. But if the targeted country retaliates, as China did, both countries will share the pie of damage. Basically, trade wars are political approach to please interest groups on power. And tariffs are just a mere taxes imposed on foreign goods. Many nations use them to overthrow foreign products form domestic market and save home industries. But tariffs always lead to high costs for consumers – so even when any nation wins trade war it actually lose.

Trade tariffs almost always provoke hard response from another side. The international trade system too stands on interconnected base, so tariffs don't happen in a vacuum. It functions on

<sup>6</sup> Donald Trump Twitter : <https://twitter.com/i/moments/969519906097106944?lang=en>

<sup>7</sup> IMF data : <http://www.imf.org/external/datamapper/PPPSH@WEO/OEMDC/ADVEC/WEOWORLD>

organized process with predictable outcome process; i) Country X imposes tariffs on country Y. ii) country Y too respond with tariff. iii) Results, a trade war. When capital is created through production and consumption, and prosperity is achieved through sharing and distribution, no nation can reap any slice of benefit by dismantling such self-sustained and self-fulfilling economic chain.

Furthermore the paradigm of contemporary world order highly relies on interconnectedness, especially in case of trade and financial inflow/outflow. The out-dated models of value chains and comparative advantage can no more define the dominant financial structure. Today, different level of production are done in different corner of the globe, and it's very puzzling to recognize the country of origin of product, service, and the capital or labour involved in it. Almost every single tradeable product has both local and foreign manufacturing elements embedded on it. When any government charges heavy tariffs on certain goods, it will greatly impact all stakeholder nations operating within global value system. Therefore, multilateral treaties and protocols of trade related organizations like WTO actually serves to protect this value system and every nation could enjoy collective benefit if remain under this system.

China's claim to raise tariffs on U.S. exports can be viewed as disaster for American soybean farmers but will be windfall advantage to their Argentine and Brazilian competitors, European aerospace corporations and Japanese liquor business. While traders that buy large quantity of soybeans could be best opportunities for rival suppliers. Heavy price of aircraft and aviation technology could also offer market share for German and French competitors. Except US and China, other potential winners can be emerging economics that might replace china as supplier to US market. For example Mexico manufactures many goods beset for U.S. tariffs on Chinese imports such as televisions, electrical circuits and other merchandise. Similarly, China's consumers will also have to pay more for many Washington's products as Beijing import tariff on fruits, nuts, wine and pork. That means meat lovers and wine drinkers in China will soon need more bucks to buy their holiday wines.

Economic interdependence makes international system more complex for sure, but it also doubtfully makes the international relation more established and less susceptible to potential threats of war. Given the fact that since the end of cold war no two great powers have ever gone for any kind of war. There are numerous concepts to explain the situation behind this "Peaceful existence". Political thinkers Joseph Nye and Robert Koehane on 'Complex interdependence theory' <sup>8</sup> argue that states and their fortunes are inextricably tied together. When countries are intertwined economically, culturally, or politically they are less likely to go to war. But sudden trade war breaks these economic ties – making it easier to shift from a trade war, to a real war. Thus economic agreements are powerful gears in to sustain relation between states. History has some examples on how tariffs have served in economic growth of countries, but when tariffs ripe as trade war, no country gets benefit. Current trade war will hurt the both Chinese and American economy as well threatens partnerships and global stability. So staying out of a field is rational way to win, or at least not to lose trade war.

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<sup>8</sup> Complex interdependence theory :

[http://ijbssnet.com/journals/Vol\\_6\\_No\\_2\\_February\\_2015/33.pdf](http://ijbssnet.com/journals/Vol_6_No_2_February_2015/33.pdf)

#### 4. Who will lose more?

Exports covers the larger portion of Chinese economic growth as US buys maximum products from China, which further puts Washington in better position to strike Chinese manufacturers. Calculating on trade in goods, as statistic do, U.S. total imports from China last year figures \$506 billion, far more than its export which accounts \$131 billion. However Beijing's remains upper hand both economically and politically, than what surface level calculus suggests.

### 4.1 From economic perspective

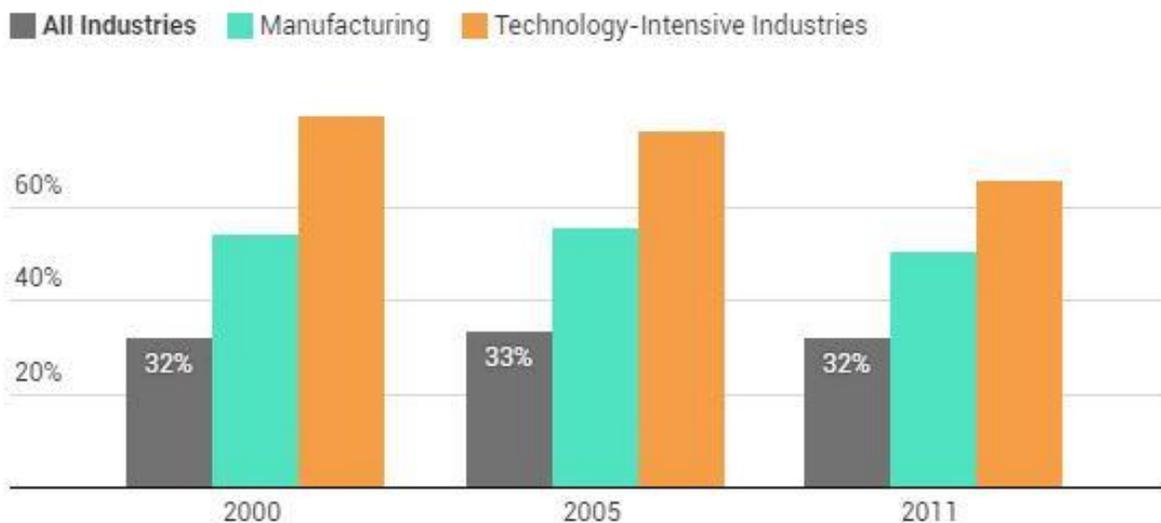
The United States traded \$38 billion more in services to China than it bought in return, its biggest bilateral surplus (census.gov).<sup>9</sup> Also many U.S. goods imported by China are mainly agronomic produce and finished products comprising pure American content and sold by U.S. companies whereas China's exports to the US are usually Chinese-assembled goods that include maximum foreign parts and components. Moreover 37 percent of U.S. imports from China consist of parts and machineries on which U.S.-based manufacturers depends. Similarly considering the \$50 billion in imports that US has imposed tariff, of which \$26 billion are electronic merchandises. Speciously intended to bottleneck the Chinese government's 'Made in China 2025' plan, it largely impede lower-tech electronic components that China exports to Washington. The list of imports (USTR data) excludes many Chinese-made consumer products available for sale at Walmart, including toys, clothing and shoes. But tighten up costs for many US based companies that rely on imported parts from china.

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<sup>9</sup> [https://www.census.gov/foreign-trade/Press-Release/current\\_press\\_release/exh20b.pdf](https://www.census.gov/foreign-trade/Press-Release/current_press_release/exh20b.pdf)

## Foreign 'inputs' dominate Chinese tech

The parts and components that make up China's exports come from a lot of different places. In manufacturing, about half of the inputs for its exports come from other countries. For tech-related goods, that figure surges to about two-thirds.



Source: <https://theconversation.com/4-charts-show-why-trumps-tariffs-will-hurt-everyone-not-just-china-93899>

The evaluation study<sup>10</sup> done by the Organization for Economic Cooperation and Development (OECD) shows that nearly half of the Chinese exports of electronic, computer and optical equipment to US is foreign. Even after the tariff on these products the blow in Chinese economy would not be that hard, roughly around 0.05% of its GDP, accounting \$6.5 billion in figure. That would be trifle hit for an economy mounting at 6.8 % a year.

In opposition the United States as well as Trump himself remains vulnerable on different aspects. Chinese tariff has attacked US businesses like auto manufacturing, which was core of Trump's economic policy. Though the tariff on US steel and aluminium business was opposed by US economists, labour advocates and even the industries themselves but the White House didn't back off from imposing tariff . A report from global research firm Trade Partnership Worldwide finds that while some 33,000 jobs will be added within steel and aluminum due to the tariffs, the broader U.S. economy, including manufacturing and energy, will see losses of nearly 180,000 jobs, for a net loss of nearly 146,000 jobs. For every one job created as a result of the tariffs, five will be lost, the report<sup>11</sup> finds. The study does not take into account any retaliation against the tariffs, only the tariffs themselves.

And in context of upcoming midterm election the condition of those industries certainly hold important political value. China's threat to hit soybeans export by 20% tariff is something that alarms current government because these products are the stronghold of Republican Party. China surpasses other nations in the demand for Soybean product with nearly one third of US's soybean imports.

<sup>10</sup> OPEC report : <http://www.oecd.org/sti/ind/measuring-trade-in-value-added.htm>

<sup>11</sup> <http://tradepartnership.com/wp-content/uploads/2018/03/232EmploymentPolicyBrief.pdf>



Likewise many other tariff bucket list too are politically loaded like the orange juice from political ground of Florida, tariff on corn products are likely to hit Midwest like Iowa. On other side countries like Brazil and Argentina, world's largest soybean sellers, would reap maximum benefit because China would certainly look for other mega exporter. cursory analysis of the tariff pattern shows that constant hit on agricultural products magnify hardship of farming state's population, who voted Trump in presidential election. Some think tanks also claim that China is deliberately targeting agro sector to get government attention. For Trump increasing job opportunity inside home stand as base for many trade policies including renegotiating NAFTA and such tariff will adversely impact his further plans.

United State also needs to consider some of the improbable context that may give new ground to trade conflict. Beside highlighted goods china also export some overlooked components- rare earth metal<sup>12</sup> that could shock US entire tech manufacture. The elements like neodymium, dysprosium ytterbium, gadolinium etc aren't essentially rare, but they are mandatory in high-tech manufactures. Recently U.S. is almost 100% import-dependent<sup>13</sup> on all of these serious defence materials mainly with Beijing for post-processed metallic components (USGS report).

These materials are used in defence machineries for smart bombs, missile, sonar, targeting lasers, radar and temperature resistant metals for military jet engines (DOI press release). If china really wants to nip US it could clamp down these exports. Likewise these materials are also used in smart phones, computers, electric motors, sensors and most green technologies. If China embargoes these supplies the U.S. would remain helpless to build many innovative weapon systems and also be forced to lock down hundreds of technology manufacturing houses.

<sup>12</sup> Rare earth Metal : <http://www.rareelementresources.com/rare-earth-elements>

<sup>13</sup> <http://www.americanmanufacturing.org/blog/entry/report-says-u.s.-military-dangerously-dependent-on-foreign-suppliers>

The rare earth imports count global resource value of about \$3 billion which would reach more than \$7 trillion in value-added<sup>14</sup> goods and United States control in these stuffs is Zero. According to 2016 Government Accounting Office (GAO) report China's domination on rare earths is "bedrock national security issue," and earlier in 2010 GAO has cautioned Congress that it could take up to 15 years for Washington to re-build its own rare earth supply chain. Still, the government's failure to act leaves US in vulnerable edge (USGS report).

U.S. manufacturing companies that sell products in China, such as Apple, Intel, Caterpillar, Boeing and General Motors will also get the economic knockback of tariff game. According to the study by CNN, in just its most recent quarter Apple generated \$18 billion in revenue (20% of its total sales) by selling iPhones, iPads and Macs to Chinese consumers. Boeing (BA) sales from China were nearly \$12 billion last year, almost 13% of its overall revenue. And the company had also signed the deal worth \$37 billion in November 2016 to sell 300 planes to China. Many Chinese companies demand Caterpillar's bulldozers, fork lifts, excavators and other heavy equipment to build things. Intel (INTC) and its fellow semiconductor firms Texas Instruments (TXN), Nvidia (NVDA), Micron (MU) and Qualcomm (QCOM) also have a big market in China. GM (GM) said earlier this year that it sold more than 4 million vehicles in China in 2017. (La Monica, 2018)

Additionally some of Trump's own import taxes could be suicidal to its home economy. The tariffs on steel and aluminium have already upswing the cost for U.S. manufacturers using these metal inputs. Also his next tariffs would hit U.S. pharmaceutical industry, which makes maximum use of foreign ingredients. And taxes on power-generating equipment will adversely impact the industries that manage and operate power plants, eventually increasing charges for electricity consumers.

## 4.2 From political perspective

Ongoing trade war is not just economic but also cover larger political picture and it would be tough for President Trump to withstand this situation, especially amid midterm election on pending. Chinese President Xi Jinping rules under communist government enjoying many political privileges including authority over his own presidential life span and power to control mainstream Medias inside home. His strict grip on party and media leaves no room for public criticism, unlike Trump is required to answer many US companies, millions of consumer who has voted him in election. And luckily Xi Jinping also holds \$3 trillion<sup>15</sup> surplus for backup support if needed.

These backgrounds indicate Xi's solid ability to cope with economic doom better than American leadership. Repeating same strategy like in 2008/9 financial crises the government can even support Chinese companies with some subsidize on soybean prices so that domestic consumer would not feel much financial tremor. The government can also order banks to support tariff hit business firm and collectively tolerate the pain of a trade war. According to the calculation by Brookings Institution, Chinese purposed tariff would hit more than 2.1 million jobs that are spread across 2,783 United States counties, many in geographic Midwest, of which 82% has

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<sup>14</sup> Value added : <https://www.investopedia.com/terms/v/valueadded.asp>

<sup>15</sup> <https://www.reuters.com/article/us-china-economy-forex-reserves/china-december-forex-reserves-rise-to-3-14-trillion-highest-since-september-2016-idUSKBN1EW061>

voted Trump in presidential election. (Muro, M. and Whiton, J) “Xi is probably doing a more rational analysis of the situation than the Trump administration seems to be doing,” said J. Stapleton Roy, who was U.S. ambassador to China under presidents George H.W. Bush and Bill Clinton. “The Trump administration doesn't seem to grasp the fact that they are damaging the wrong people (the farmers)” in this fight.<sup>16</sup>

Today the dragon state has most of what it needs now, and what it doesn't have can be easily acquired from global villages outside U.S. The American market was relatively sexy at time but in course of decades its charm is fading and many trading partner countries are hysterically lured to the new sexy - Beijing. Similarly the developing regions like Latin America, India and Africa has become new market for almost every Chinese electronic products. Also after infuriating some significant trading partners like EU, Canada, Mexico and others by forcing trade concessions to them, it would be hard for Trump to make alliance to exercise pressure on China.

## 5. Findings and Conclusion

This research finds that resolving trade deficits, particularly with China, stand as great challenge for US because of both country share complicated trade relation. As many US enterprises have moved their production to China, indirectly contributing some values in its own trade deficit. Global trade no longer exist in rime realm where cargo ships transport finished goods from one country to another. Today the massive webs of manufacturing components cross over borders to fulfil the demand of globally fragmented production networks. Present days industrial production thrives within complex financial structure and trade protection will not inroad US companies back home.

From American perspective U.S.–China trade dispute can be solved through some policy level changes like: abolish tariffs and discriminatory practices that discourage US industries from selling manufactured products to China, eliminate Chinese policies that ignore free market and offer unfair amount of profit to home industries. Also the US companies should not be forced to share their data and technology for starting business in China. Economic advisor Martin Feldstein has suggested that “United States should negotiate an end to the current trade dispute based upon the Obama Administration's negotiation with Beijing in 2013 over ending Chinese government-backed cyber espionage against American companies. Both sides subsequently established “rules of the road” and agreed to not use their governments' cyber capabilities to obtain commercial technologies. This is a model we can use again to end the current trade dispute.” Both countries should come under negotiation to institutionalize common rule for intellectual property transfer and market entrance for technology firms. On the United States' part, forced technology transfer to Chinese joint venture partners must no longer be entry ticket to Chinese market. Meanwhile, China's burgeoning technology companies with advance artificial intelligence capabilities for global market presence need a clarification of rules of the road for entering American market.

Issues such as China's indifference towards intellectual property rights<sup>17</sup> and exchange rate protectionism<sup>18</sup> are genuine concerns, but they should be addressed in right forums, such as

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<sup>16</sup> <https://www.stuff.co.nz/business/world/102876950/china-has-more-to-lose-in-a-trade-war-but-trump-has-a-key-weakness>

<sup>17</sup> Intellectual property policies : <https://www.uspto.gov/intellectual-property-ip-policy>

<sup>18</sup> Know more about exchange rate protectionism :

<https://carnegieendowment.org/2011/07/01/exchange-rate-regimes-and-protectionism-pub-44894>

WTO. Similarly some policy level resolutions lie within structural changes in the US itself. Trump's emphasis on pure trade deficits is considered as inadequate way to calculate the trade relationship between two nations. In fact, a trade deficit simply defines a situation in which local investment remain higher than national savings. Levying tariff is not going to yield any good for America, rather it would setback US export balance. Instead of imposing tariff, US should consider either to decrease domestic consumption or increase national saving and attract foreign investment (Kasperek, M, 2018). In addition trade war will risk pushing the global economy towards recession where main victims would be exactly those farmers Trump promise to protect. Thus the most rational approach to resolve this dispute is not to inflame this lose-lose trade war, but to seek international cooperation to address issues of mutual interest. Such cooperation can yield beneficial results without the mutually destructive effects of a trade war.

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