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Impact of the US-China Trade War on Bystander Countries

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Abstract: This paper evaluates the impact of US-China trade war on bystander countries (untargeted by additional tariffs) by analysis of changes in import value of 9 taxed products from China and other 11 bystanders in the US from 2018 to 2019. The paper reveal incomplete substitution of Chinese imports on average after adoption of tariffs targeting China. The difference in value between decline of imports from China and aggregated growth of imports from other 11 countries are termed the gaps. The gaps are explained in four aspects: a) supply elasticity; b) heterogeneity across countries; c) global value chain; d) increased use of domestic products. In beneficiary-level, bystanders are divided into large beneficiaries, small beneficiaries and losers. This paper provides suggestions in firm-level, product-level and country-level to help bystanders take advantage of the trade war, which involve efficient reallocation of resources and transformations. Improved positions of countries except for the US and China contribute to both global economic growth and development and multi-polarization in the world.

Keywords: Bystanders, Export growth, Substitution, Heterogeneity.

1. Introduction

In the early 2018, the US levied import tariffs on steel and aluminium, followed by retaliatory tariffs from China and other exporters. The tension was escalated when the US raised additional 25% tariffs on $34 billion worth of imports from China in July and $16 billion in August 2018, which lead to the trade war between the US and China. In response to this move, China imposed 25% tariffs on imports valued at $50 billion from the US. The trade war ultimately created tariffs involving 450$ billion in trade flows from 2018 and 2019, and many of them remain. New tariffs were levied by the US targeting Chinese imports ranging from syringes and needles to semiconductors in 2024, suggesting that the trade war continues to be the theme in the world economy [1].

The increasing current account deficit with China is supposed to be the trigger of the trade war. The US acknowledges a few problems in the trade with China, the trade balance deficit being the most significant one. Such issue has been occurring for decades and still has an increasing trend. By 2017, the trade deficit with China has become a major source of net imports of the US, accounting for approximately 46% of the total deficit. Besides economic issues, to achieve political aims (of midterm elections) also gave Donald Trump incentives to adopt aggressive. The US-China trade war was inevitable because of fundamental nature. China ‘s production volume ranks second worldwide and GDP surpassed the US in purchasing power parity terms. The importance of RMB has been

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increasing. Suisheng and Guo suggests China is utilizing its power of vast markets to break the global equilibrium and push the US to the margin of Asia-Pacific region [2].

While the US and China suffer decreased export to each other, bystander countries of which exports are not mainly taxed by the US and China seek opportunities of expanding markets across the two biggest economies and the rest of the world. Valid actions for bystander exporters would be to increase supply of targeted products and take over the US and Chinese markets. On average, exports to the US increase for bystanders. As the largest exporter to the US, Mexico had an exported growth in value of 3% between 2018 and 2019, whilst China as the second fell by 16%. Vietnam and Chinese Taipei increased exports to the US in value by 35% and 18% [3], respectively (www.trademap.org). Pablo Feigenbaum et al suggest that the average country raised its global exports in targeted products compared with non-targeted products, so net trade opportunities were created instead of simple shifts of destinations. Trade diversion from the US and China generates gains in real GDP of other countries. However, GVCs of trade in intermediate reduce their gains, because of more flexibility of industries in the US and China. In addition, tariffs may reduce exports of countries of which products complement targeted imports especially when operating a downward-sloping supply curve. In the firm-level, Albornoz, F., Brambilla, I., & Ornelas suggest that decline of exports to the US market can trigger exit in other markets for small firms heavily rely on the US market because economies of scale connect the US to other markets [4].

This paper uses data from ITC and applies simple regression analysis to research the linkage between bystanders' responses in export value and changes in trade value of the US and China at HS4-digit level. An affirmative answer would be that targeted imports from the US or China are substituted by non-targeted imports from other rival countries. For example, from 2018 to 2019, American primary importers of HS8443 (printing machinery) increased imports in value of this good into the US when China, the biggest importer of printing machinery, had a drop by 20% in value due to the American tariff. Nevertheless, regression analysis does not show strong correlation between the increase from bystanders and the decrease from China, especially considering the larger decline of approximately $1.18 million in Chinese imports. This could be attributed to GVCs and supply elasticities, which are further explained later in this paper.

2. Response of Bystander Countries to Tariffs

In July 2018, the US increased 25% tariffs on printing machinery (HS Code 8443), computers (8471) and electrical control boards (8537) from China. In August, electronic integrated circuits (8542), plastic packaging (3923) and halogenated derivatives of hydrocarbons (2903) were targeted by 25% tariffs. In September, the US impose 10% tariffs on furniture (9403), toys (9503) and electric transformers (8504), and the tariff rate was increased to 25% in May 2019. This paper collects the US import data of the 9 targeted products in 2018 and 2019 from ITC to observe the changes in import value of bystander importers and China after tariffs being levied on Chinese imports [5-7].

Table 1: The changes in import value of bystander importers [5]

Country \ HS	8443	8471	8537	3923	2903	9403	9503	8504	8542
China	**-1179613**	**-6817697**	**-58655**	**-720848**	**-148284**	**-4035103**	**368299**	**-1390646**	**-1617162**
Bystander 1	95833	872753	433366	-5613	-15501	1105213	210435	381027	525026
Bystander 2	9789	3187538	87641	45906	20075	161408	-107773	-633	-499886
Bystander 3	11533	-118770	-448	50036	4168	136068	59921	21982	-13689

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Table 1: (continued).

Bystander 4	30245	443133	-56023	15740	8244	222972	-26749	-2079	543771
Bystander 5	14106	373461	86750	29044	-862	-3107	31692	84149	-116883
Bystander 6	-18069	-220282	15333	63262	6175	193679	14802	1252	-348384
Bystander 7	31124	-335814	140717	39599	-236	39756	12614	46320	-147812
Bystander 8	38523	112117	35964	-12000	2277	39029	6774	102740	110369
Bystander 9	7158	83753	-23222	31851	-610	27902	-2585	-23711	-58290
Bystander 10	23504	97861	7773	14006	555	-41471	2903	145025	-211570
Bystander 11	-5179	204006	9648	-4987	91	34372	1326	103924	-106349
Total 11 bystanders	**238567**	**4699756**	**737499**	**266844**	**24376**	**1915821**	**203360**	**859996**	**-323697**

The 12 biggest importers of these 9 products in 2019, including China, are selected for observation. Table 1 illustrates their import value changes from 2018 to 2019. This table shows great heterogeneity across products and countries: the amount of growth in total bystander import does not match the decline of Chinese import but is quite larger or smaller than it; some countries increased largely in response to Chinese drop, whilst others increased by a small degree or even decreased. In country-level, bystanders were divided into large beneficiaries, small beneficiaries and losers.

Table 1 plots 9 points representing import changes of China and total 11 bystanders for each targeted product and draw a -45° line as reference (which means Chinese decrease equals bystanders' aggregated increase). The scatterplot reveals the characteristic that the increase in aggregated import value of 11 bystanders is less than the decrease of China, which leads to gaps (which refer to incomplete substitution) between them. Nevertheless, 3 products are excluded. The first occurs in the NW quadrant, which indicates both parties experienced a decline. The second is located in the SE quadrant, which means both increased. The third above the -45° line reveals a larger increase for bystanders compared with the decrease of China.

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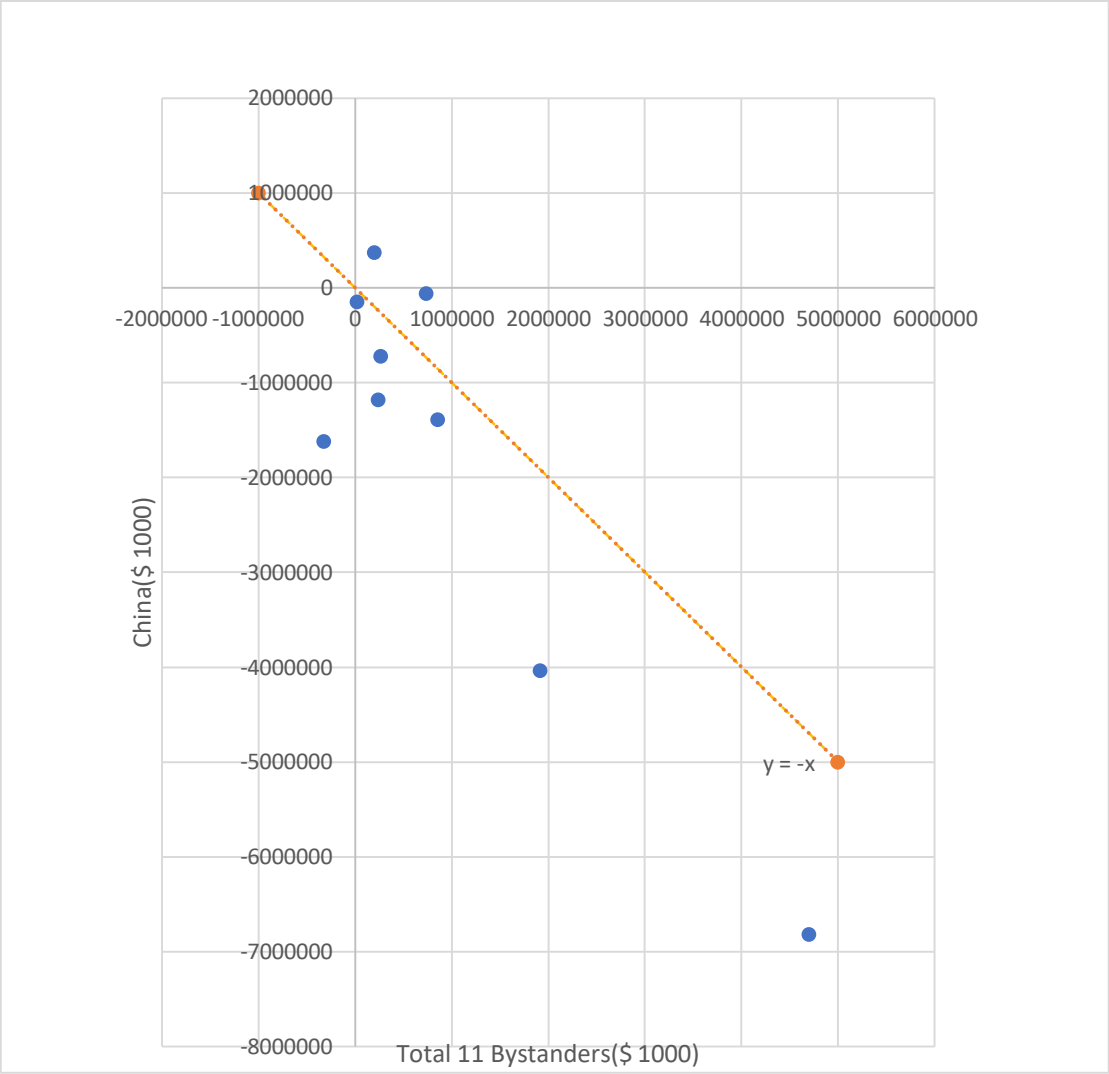

Figure 1: Import changes of China and total 11 bystanders for each targeted product [6]

3. Analysis of Large Beneficiaries

Interestingly, according to the data, most beneficiaries came from Southeast Asia. Shifts of industries (of low-end manufacturing) from China to SE Asia have been in progress. Ishikawa suggests ASEAN has been successful in flexible trade liberalization, attracting FDI companies and promotion of trade with countries outside the region. After a few years of economic growth, China no longer has strong advantages in labour force for foreign companies, while countries of ASEAN possess considerably lower wages per capita. Skilled workers in ASEAN are adequate to substitute those in China and get paid less in the figure 1.

Secondly, transportation infrastructures are well constructed to improve economic integration and lower the cost of allocation and distribution. For elimination of trade barriers, liberalization and abolishment of tariffs across ASEAN proceed gradually. In 2010, ASEAN6 (Brunei, Indonesia, Malaysia, Philippines, Singapore, and Vietnam) eliminated tariffs, and in 2015, Cambodia, Laos, Myanmar, and Vietnam (CLMV) eliminated tariffs excluding certain items. In 2018, tariffs on the remaining CLMV items were abolished, and all items were liberalized. This makes ASEAN one of the biggest trading blocks and an attractive market of great prospects. Besides trade liberalization among ASEAN, free trade agreements are concluded in order to participate in global value chains.

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These natures lead to growing FDIs and new firms and industrial sectors play a more and more prominent role of export platforms. As a result, they had a high rate of growth in imports in the US when China experienced a decrease. Products exported by countries in ASEAN could highly substitute Chinese products, of which origins have been exactly shifting from China to ASEAN with transfers of firms and capitals. Thus, countries in ASEAN were the majority of the largest beneficiaries.

The other two of the largest beneficiaries were Mexico and Canada. Nature of geographical relationship with the US determined the large benefit obtained from weakened rivalry of China. In certain industries, smooth transportation of goods across borders enabled substantial efficiency gains in supply chains. Quality products were accessible to average consumers across the US, Mexico and Canada at lower prices.

4. Explain the Gaps

According to the paper, though beneficiaries (including large ones and small ones) were in the majority, incomplete substitution still widely existed, where aggregated growth of bystanders was far from the amount of loss of China. For example, when China suffered a loss valued approximately $1178 million in printing machinery (HS8443), others only raised by about $239 million in this import in the US. These gaps could be explained in three perspectives [8-10].

4.1. Supply Elasticity

China usually dominated markets of these targeted products in the US and might had an elastic supply, because Chinese firms achieved specialization in production of these goods. Pablo D. Fajgelbaum and Amit K. Khandelwal suggest a seamless reallocation of Chinese exports from the US to other markets when American demand falls. As a result, taxed imports into the US dropped greatly when Chinese firms reallocate exports to other countries. However, importers except China usually took much lower market shares in the US, so their capacity cannot match Chinese firms. In contrast to China, size of firms and degree of specialization were both smaller for bystanders. Lands, labour and capitals were relatively insufficient or immobile (cannot be transferred in other uses easily) for growing quantity supplied, since, in these countries, natural resources and population were considerably less rich than China. For instance, Philippine increased its import of HS8503 in the US by a small amount of $1.2 million as a country with short factors of production. Their supply of targeted products was unable to increase sufficiently to satisfy the shortage after application of American tariffs on Chinese imports. In addition, duration is an important component of supply elasticity: one year was short for these exporters to transfer factors of production into production of targeted products due to an inelastic supply. Therefore, when Chinese firms quickly reallocated exports to other countries, bystander exporters cannot raise supply of targeted products to meet shortage in the US market and increase import value. Gaps between decline of Chinese imports and growth of bystanders' imports ultimately formed.

4.2. Heterogeneity Across Countries

Table 1 detects heterogeneity across countries, where some take advantage of Chinese decline and raise targeted exports by large percent, but others increased less or even faced a drop. Pablo Fajgelbaum et al observe that several countries' exports complement Chinese and American exports and operate along downward-sloping curves. As Chinese imports exit from the US, due to complementarity, specific countries also lower imports in the US. Furthermore, the downward-sloping curve would make decrease in exports to other countries lower total exports in the world. For example, while American imports to China are taxed by retaliatory tariffs, imports of complementary

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products from these countries go down, and imports to the US of the same products falls because of economy of scale (when cost per unit rose). Facundo Albornoz et al show increasing returns at the firm-product level implies third-market interdependence, which clarifies why leaving a market because of changes in variable exporting costs may indicates exiting other markets. Although these bystanders were untargeted, complementarity caused decreased imports in the US after the fall of Chinese imports. Since particular countries that export complementary products lowered imports into American markets, aggregated growth for bystanders was reduced, expanding gaps.

For countries supplying substitutes, differences also occur in the amount of growth. A few countries were small in size or lack of labour force, leading to relatively low growth rates of exports. Furthermore, sectors supplying targeted products were probably not main parts in the economy for some countries, especially for developed countries of which tertiary sector accounted for the biggest percentage. For example, in the import of HS8471, the UK only increased by $98 million while Mexico increased by $873 million. Some had already taken large market shares in particular products but might have approached full employment and could hardly increase supply greatly, such as Germany and Japan, which contributed quite less to the growth. Gaps made by great drops of Chinese imports cannot be cancelled out, because quite a few countries cannot raise exports at a properly high rate, though some stronger ones contributed much to the growth.

4.3. Global Value Chains

During this trade war, the US and China had imposed high tariffs on imports of a great amount of value (which referred to the biggest trade flow in the world) and the US levied non-discriminatory tariffs on imports including steel and aluminum. Intermediate inputs became more expensive and prices of capital and labour increased. The negative effects were widely spread out through global value chains across the world, which worsened the situation of bystanders. Cost of production was pushed up for all sectors in bystander countries, leading to lower output of exports. Ken Itakura (2019) discovers that GVCs of trade in intermediate inputs lessens the negative impact on real GDP in the US and China. Allowing for import substitution leaves the US and China more room to adjust. Each industry in the US and China are more flexible. Other countries in turn lose in real GDP and there are more negative impacts spread through the GVCs. Therefore, the loss in world GDP expands from $374 to $450 billion. Furthermore, with GVCs considered, negative impacts on bilateral trade are even more significant. Exports to the USA increase for all countries except for China, but the results with GVCs lower the magnitude of the increases. These results imply that the negative impacts are passed through the trade in intermediate inputs. Bystanders suffered contraction in real GDP and negative influence on bilateral trade with GVCs involved, resulting in greater gaps [11, 12].

4.4. Increased Use of Domestic Products

Reducing current account deficit is one of the main reasons of increased American tariffs on Chinese imports which implied increased use of domestic products in the US. Efforts to reduce consumption on imports could contribute to a higher proportion of using domestic substitutes. Kapustina et al. (2020) suggests supporting domestic producers by restricting foreign competition can reduce overall consumption in the US but that will also raise the production volume of mainly steel and aluminium products to which increased tariffs apply. American firms were protected from Chinese competition and increased sales of targeted products. However, according to estimates of Itakura (2019), positive impacts on sectoral output in the USA disappear as the trade war impacts on investment and productivity, making almost all sectors lose output. Thus, domestic substitutes might make a difference in specific situations, but cannot account for the gaps as a major cause. Overall decline of American consumption was more likely to result in this problem.

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5. The Gaps in Global Trade

In order to increase exports and take over more market shares for further benefits, three channels should be considered by bystanders. First, firms are supposed to attain more elastic supply of targeted products. Reallocation of resources from other untargeted products to targeted products is important to utilize the decreased market share of Chinese and American imports. Since tariffs remain or even rise up to now, investment on capitals for further specialization is worthy and conducive to increase exports at a higher rate. Duration of substitution also keeps increasing for bystanders. Thus, supply elasticity becomes greater and bystanders can reduce gaps between decline of Chinese or American imports and their growth over time, which ultimately benefit not only these countries, but also the international trade and product diversity across the world. Second, in product-level, complementarity should be reduced and substitutability should be improved. Dependence on the US and China restrict specific countries to expand the global market. The US-China trade war, in fact, weakens the two biggest economies in trade and in real GDP. Incorporating GVCs, real GDP of the US and China reduces 1.3% and 1.1%, according to estimate of Ken Itakura. Bystanders which export complementary product should be aware of actual loss and potential loss due to decreasing American and Chinese exports and adjust the structure in sectors and firms. Subsidy is effective to support transformation and set up of exporters of substitutability. Third, countries should enhance prominence and position in the global value chains. The greatest and most widely influential negative impact comes from GVCs for bystanders. Lessening this problem helps firms respond to changes in international trade with more flexibility, so the loss in trade and real GDP is diminished. Entry into international organizations and reciprocal agreements, which reduce trade barriers and increase trade volume, raise prominence of these countries in GVCs. In particular, Bown et al reports that China lowered its average tariffs on imports from all other WTO members later in 2018. It means that trade with China is an opportunity for other countries to extent export market. These actions essentially promote influence in international resource allocation and sharing the global markets and give stronger bargaining power to bystanders.

6. Conclusion

This paper evaluates responses made by bystander countries during the US-China trade war, particularly when Chinese targeted imports decreased in the US. The import data based on each targeted product reveals the gap between decreased Chinese import and increased aggregated bystanders' import, which had led to the overall decline of imports in the US. The incomplete substitution of Chinese imports could be attributed by the inelastic supply. Firms failed to supply enough quantity of exports into the US to take over Chinese market shares, because they were lack of factors of production and less specialized at these products than Chinese ones. The growth was also limited by the short duration from 2018 to 2019. Complementarity explains lower supply of particular products, and economy of scala worsened the contraction. Heterogeneity (such as in natures of exports) across countries caused difference in changes of their import values in the US. Thus, aggregated value was not consistent with the expectation that Chinese imports should have been completely or largely substituted. GVCs was a hidden factor which actually spread negative effects of trade war tariffs. The US and China benefited from GVCs of trade in intermediate inputs and obtained more flexibility. Bystanders, however, suffered from it. Their export values could have been higher but ultimately increased at lower levels due to GVCs.

Three channels are introduced to tackle the incomplete substitution in three precise levels: improvement in supply elasticity, reduction in complementary along with better substitutivity, and promotion of position in GVCs. This paper provides detailed suggestions as clear directions for bystanders to contribute to both their own benefits and the development of globalization.

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In the short run, following these advice helps bystander countries make more positive responses to the US-China trade war by raising their exports into primarily the US and China and secondly the rest of the world. More countries gain opportunities to increase net export, such as Vietnam, Malaysia, Thailand, Mexico and India, because of the contraction of American and Chinese market shares together with weakened positions in global value chains. In the long run, in terms of the US market, substitution of Chinese products not only means take-over of market shares but also advance in globalization and multi-polarization. Although the losses in real GDP and trade value of the US and China leads to the total loss in the world, other countries become more significant in contribution to the world economic growth and development. Dominant positions of the two biggest ones would transform into multiple polars in the world economy.

The US-China trade war has a profound impact on the world in terms of economy, politics and international relationships. Focusing on bystander countries could understand the tendency of position changes for all economies. Rearrangement of global value chains should receive close attention. This paper exclusively analyses the data changes in imports in the US to explain responses of bystanders. Analysis on Chinese imports side needs to be extended. In terms of data, this paper uses value changes instead of quantity changes. Exchange rate and prices of imports are not involved, which might lead to different results. Data is also limited in the short-run period of 2018 and 2019, so a report of current data is required to reflect long-run changes.

Further research on heterogenous countries is required to better understand the impact of the trade war. Development of trade blocs makes trade relation involve more factors rather than only bilateral trades. Trade policies are different in every country, because preferential and discriminatory policies are extensively used. Politics is also significant for policy decisions, which is outside the scope of this paper and many others. To deal with these questions is essential for future study.

References

[1] *Kapustina, L., Lipková, U., Silin, Y., & Drevalev, A. (2020b). US-China Trade War: Causes and Outcomes. In Web of Conferences (Vol. 73, p. 010). https://doi.org/10.1051/shsconf/202073010*

[2] *Chong, T. T. L., & Li, X. (2019). Understanding China-US Trade War: Causes, Economic Impact, and the Worst-Case Scenario. In Working Paper.*

[3] *Suisheng, Z., & Guo, D. (2019). A New Cold War? Causes and Future of the Emerging US-China Rivalry. Vestnik Rossijskogo Universiteta Družby Narodov. Seriâ Meždunarodnye Otnošeniâ, 19(1), 9–21.*

[4] *Fajgelbaum, P., Goldberg, P. K., Kennedy, P. J., Khandelwal, A., & Taglioni, D. (2021). THE US-CHINA TRADE WAR AND GLOBAL REALLOCATIONS. In NBER WORKING PAPER SERIES.*

[5] *Itakura, K. (2019). Evaluating the Impact of the US–China Trade War. In Asian Economic Policy Review (Vols. 15–93, pp. 77–93). John Wiley & Sons Australia, Ltd.*

[6] *Albornoz, F., Brambilla, I., & Ornelas, E. (2021). Firm export responses to tariff hikes. In Discussion Paper.*

[7] *(ITC), I.T.C. Trade Statistics for International Business Development, Trade Map - Trade statistics for international business development. Available at: https://www.trademap.org/Index.aspx (Accessed: 08 July 2024).*

[8] *Ishikawa, K. (2021). The ASEAN Economic Community and ASEAN economic integration. In Journal of Contemporary East Asia Studies (Vols. 10–1, pp. 24–41).*

[9] *Flores-Macías, G. A., & Sánchez-Talanquer, M. (2019). The Political Economy of NAFTA/USMCA. In OXFORD RESEARCH ENCYCLOPEDIA.*

[10] *Fajgelbaum, P. D., & Khandelwal, A. K. (2022). The Economic Impacts of the US–China Trade War. Annual Review of Economics, 205–228.*

[11] *Kapustina, L., Lipková, U., Silin, Y., & Drevalev, A. (2020). US-China Trade War: Causes and Outcomes. In Web of Conferences (Vol. 73, p. 010).*

[12] *Bown, C.P., Jung, E. and Zhang, E. (2019) Trump has gotten China to lower its tariffs. just toward everyone else. | piie, Trump Has Gotten China to Lower Its Tariffs. Just Toward Everyone Else. Available at: https://www.piie.com/blogs/trade-and-investment-policy-watch/trump-has-gotten-china-lower-its-tariffs-just-toward (Accessed: 08 July 2024).*