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What Factors Matter in Assessing the Economic Costs of Trade Conflicts?

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Abstract

This paper critically analyses the economic costs of trade conflicts through the lens of the 2018–19 US-China trade war. Drawing on a range of academic literature, it examines the factors that matter in assessing the welfare consequences of protectionist measures, including complete tariff pass-through to consumers, the absence of terms-of-trade gains, supply chain redistribution, and the ruinous effects of retaliatory tariffs. The findings underscore that protectionist policies, while politically motivated, impose significant costs on national social welfare, international trade networks, and global cooperation.

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1. Introduction

Trade conflicts have become the block in which the world economy has been built upon in recent years, with widespread consequences for global social and economic welfare. Of these disputes, the 2018–19 US-China trade war outlines as having the broadest implications due to its unprecedented effects on global trade dynamics. The imposition of protectionist measures and corresponding retaliation between these leading powers led to price increases, supply chain disruptions, as well as alterations in consumer welfare; analysing these trends aids one to answer the research question, 'What factors matter in assessing the economic costs of trade conflicts?' Understanding the dynamics of trade conflicts and their economic costs is crucial in assisting policy makers to achieve socially efficient outcomes and mitigate the adverse effects of protectionist policies. It is also a groundbreaking event in terms of understanding the link between real policy decisions and economic trade theory.

The case of the United States and China is especially interesting because its outcomes contradict traditional theory regarding the terms of trade effects when a globally dominant economy imposes a tariff. The tariffs, enacted by the US from July 2018 and into 2019, affected $362 billion worth of Chinese imports at rates between 10% to 25%, leading to a rise in the US duty on imports from 1.6% to 5.4%; additionally the absence of a decline in global export prices contradicts the theory's expectations (Amiti et al. 2020). Traditionally, domestic prices are expected to rise and world prices to fall with the introduction of a tariff by a large global economic player. Nonetheless in 2018, world prices did not fall and US consumer prices experienced a passthrough of the tariffs of 100% (Amiti et al. 2019). This paper critically analyses studies regarding the US-China trade war, determining their contributions to comprehending the factors to be considered when deriving the economic costs of trade conflicts. The ultimate purpose of this detailed examination is to provide insights on the broader implications of trade wars and how such effects are determined.

The context in which this trade war erupted was one of a growing sense of economic nationalism, resulting in increased tensions between the US and China. The US measures on Chinese imports were met with retaliatory tariffs on $112 billion of US exports, targeting key American sectors such as agriculture and industrial goods (Benguria and Saffie 2019). The trade war impacted supply chains all over the world, as the innumerous firms reliant on imports from China witnessed their costs increase, and US consumers experienced extortionate price increases on consumer goods. Trade diversion occurred as businesses sought out new origins of supply with countries like Vietnam replacing the foregone US-China trade; the influence on global trade dynamics emphasises the widespread political and economic implications of the conflict (Amiti et al. 2020).

This paper seeks to explore the insights provided by a range of academic literature on the economic costs of trade conflicts to consumers, with particular attention on supply chain redistribution and the retaliatory measures that are so ruinous.

2. What Factors Matter in Assessing the Economic Costs of Trade Conflicts?

Firstly, to determine the effects of trade conflicts on consumers, as well as the consequences of them, one can analyse the U.S.-China trade war. Research by Amiti, Weinstein and Redding displays that the tariffs imposed by the US in 2018 and 2019, between 10% and 25% on various goods, were thrust entirely onto U.S. consumers, as businesses increased markups to compensate for higher costs. This is striking, especially considering that in principal, the increase in domestic prices as a result of a tariff could be combatted by foreign exporters reducing the price they

charge for the targeted goods. There is little evidence of this improvement post implementation for the US in their terms of trade, suggesting that the tariff is solely incident on the US consumer. Supporting this is the fact that large increases were witnessed for the goods that were targeted by tariffs, with the prices of those goods increasing by 10% to 30% (Amiti et al. 2019). Similarly, Amiti et al. (2020) found through a differences-in-differences analysis that 100% of import taxes of certain goods are transferred onto importers and consumers in the US, and they have not had the desired effect of altering foreign export prices while at the same time greatly negatively impacting US import volumes.

Additionally Fajgelbaum et al. (2020) found prices of targeted imports did not fall in the US, once again demonstrating the complete pass-through of these tariffs to consumers. There is an exception in the steel industry in fact, where foreign exports incurred most of the cost of the tariff, resulting in the value of steel imports falling relatively less than in other industries (Amiti et al. 2020). The explanation for this could be due to the fact the production of steel is capital intensive and the US have a higher relative factor intensity in this regard, supporting the Heckscher-Ohlin theory of international trade. Traditional theory pertaining to terms of trade effects states that when a large economy such as the US introduces tariffs, with reference to Figure 1 as discussed by Amiti et al. (2019), foreign firms would lower prices to P^* in order to meet the new US consumption demand with the imposition of a tariff being included. The absence of price reductions by Chinese exporters in the case of the US imply that it may have, in the short run at least, a perfectly elastic export supply curve, meaning that the price of those goods remain unchanged despite the reduced import quantities (refer to Figure 2).

In Figure 1 the government revenue collected by the tariff is represented by regions A and C, the transfer from consumers and foreign producers to the US government. The terms of trade, or difference in a country's gain is measured by the area $C - B$. The consequence of the short run export supply curve being horizontal is that the amount of government revenue gained from the tariff's implementation reduces to region A, and the overall terms of trade is negative as it only incorporates the deadweight welfare loss region B, as shown by Figure 2. Amiti et al. (2019) quantified this deadweight welfare loss to the US as $6.9 billion, holding only with the assumption that the government uses the revenue generated from the tariff to produce social welfare benefits of an equivalent amount. Not doing so increases the potential losses to the taxpayers by as much as the gain of the entirety of the tariff payments, meaning that it could possibly rise another $12.3 billion to a total of $19.2 billion (regions $A + C$ of Figure 2) according to Amiti et al. (2019). Fajgelbaum, Goldberg, Kennedy and Khandelwal found that the varieties of imports encompassed by US tariffs fell on average 31.7%, which inherently reduces social welfare, as well as the fact that there is no differential change in the pre-tariff import prices when comparing targeted countries like China with untargeted countries exporting the same product. This is a further indication that one cannot reject the existence of horizontal foreign export supply curves in the short run for the US.

Cavallo, Gopinath, Neiman and Tang also provide a detailed analysis on the events of the US-China trade war, concluding yet again that the incidence of the tariffs has largely affected the US with tariffs almost being passed through entirely to the prices US importers paid; a 20% tariff is linked to an increase in import prices of 18.5%. The consequence of protectionist measures is other countries respond in retaliation, which is what Canada, China, the EU and Mexico did in response to the American policies enacted in 2018 (Cavallo et al. 2021). What is intriguing is that Cavallo et al. (2021) found that the post-tariff prices dictated by foreign exporters to the US remained stable whereas US exporters notably reduced their prices as a result of these retaliatory tariffs. Not only does this confirm the previous notion discussed—the existence of elastic foreign export supply to the US that relegates the incidence of the tax onto the US consumer—but it also suggests that the retaliatory measures by angered trading partners are achieving their intended outcomes in reducing US welfare.

Furthermore, the retaliation from China is shown by Waugh to increase consumption and employment losses in the US, reducing the country's total exports and negatively affecting the labour market. The most vulnerable of regions to Chinese tariffs experienced a relative 0.75 percentage point decline in employment; reduction in US consumption is related to these employment implications (Waugh 2019). This paper helps to answer the research question by understanding what the relevant factors are that determine the economic costs of trade wars. The first being that there is a reduction in welfare for all consumers in the US due to the tariff on Chinese goods increasing prices and reducing variety; Waugh (2019) is consistent with Fajgelbaum et al. (2020) in providing evidence regarding this. Secondly, it is discussed that those most impacted by Chinese retaliatory tariffs—the industries in which the relatively higher comparative advantage was now lost to China—were directly affected and experienced higher welfare and consumption reductions (Waugh 2019). This notion is confirmed by Benguria and Saffie through evidence provided detailing the heterogeneous nature across industries of the negative impact of foreign tariffs on US exports. The Chinese retaliatory tariffs affected $112 billion worth of US exports, or 87% of the total US exports to China, and a ten percentage point increase in Chinese tariffs resulted in a 38% decline in imports of industrial supplies and a 16% decline in agricultural goods (Benguria and Saffie 2019). This implies that the US consumers employed in the industrial sector will experience relatively more hardship in terms of reduced welfare when compared to those in the agricultural sector. Importantly Benguria and Saffie (2019) also identified that the targeted imports affected by US tariffs led to reduced exports in the industries using those imports in their production, exposing the factors that calculate the costs of rearranging supply chains as US producers seek to obtain alternative inputs.

To illustrate the impact of trade conflicts on supply chains, one can turn to the analysis provided by Luo, Kang, Hu, Su and Dai which interestingly looks at the dual effects of the US-China trade war and the COVID-19 pandemic on US imports. The reaction of US importers in response to global lockdowns and the trade war was to relocate sections of their chain of production away from China to avoid the tariffs to parts of Southeast Asia (Luo et al. 2023). The Southeast Asian exporters are a relatively attractive substitute due to their low costs of production, but as pointed out by Benguria and Saffie (2019), their production is centred around Chinese suppliers. The widespread pandemic seems to have reversed this trend as it is shown that the US imported an increased number of goods directly from China, and indirectly via Southeast Asian suppliers importing from China (Luo et al. 2023). The potential implications of this reversal is that the US will have increased welfare losses; the costs incurred by US consumers as a result of the complete pass-through of the tariff onto consumer prices, as previously mentioned.

This research represents the immediate losses to consumers as a result of protectionist measures, and the long-term consequences of reduced consumer welfare has the possibility of stagnating economic growth as consumption drives GDP. This angst amongst the general public could lead to more indignation regarding trade liberalisation, further exacerbating the already lasting negative implications from protectionist policies that reduce international cooperation. Supply chains are disrupted from protectionist measures and consumer welfare is lost to great proportions as a result of retaliation to such measures. Trade conflicts inflict direct costs on consumers via higher prices, especially in the case of the United States, and the tax revenue generated is not sufficient enough to combat these negative implications. The redistribution of supply chains is costly and takes time, and the lost consumer welfare as a result of this redistribution also contributes to the costs of trade conflicts; the government should be exploring policy measures that take into account wider societal impacts to reduce these negative effects.

3. Conclusion

The case study of the US-China trade war in 2018–19 provides an insight into the economic and social consequences of trade conflicts, underscoring their profound impacts on consumers and supply chains. These conflicts emphasise the challenges of protectionist measures, which, while politically aimed at domestic economic protection, often impose immense costs on national social welfare, international trade networks, and global cooperation.

The short-run impact of the trade war on US consumers was detrimental with tariffs being passed entirely onto consumers as well as increasing the prices of imports by 10% to 30% (Amiti et al. 2019; Amiti et al. 2020). Cavallo et al. (2021) further highlighted the correlation between tariff rates and consumer costs by concluding that a 18.5% increase in import prices was caused by a 20% increase in tariffs. The stability of prices of foreign exporters, contrary to traditional trade theory, accentuated these effects and led to significant welfare losses. Amiti et al. (2019) quantified the potential losses to consumer welfare in certain industries up to $19.2 billion, reflecting the inefficiencies of these protectionist policies. Regions reliant on imports as inputs to provide exports experience the most hardship, as demonstrated by Waugh (2019).

Regarding supply chains, the trade war completely disrupted existing agreements, forcing US firms to source alternative producers in Southeast Asia (Luo et al. 2023). However, as emphasised by Benguria and Saffie (2019), these alterations came at a high cost. These rising production costs reduced the competitiveness of US exports, thus the tariffs counterintuitively harmed industries it set out to protect. Luo et al. (2023) further explained how fragmentations of supply chains when affected by tariffs in combination with the Covid-19 pandemic revealed vulnerabilities that introduced inefficiencies.

The US-China trade war offers valuable intel to policy makers. While seeming to address short-term objectives, protectionist measures have the potential to impose significant long-term costs on social welfare, trade networks and global stability. The areas that need to be targeted by policy makers include increased cooperation across countries, the strengthening of supply chains, and support for vulnerable industries and communities affected most by trade conflicts. Through development of this international collaboration, countries can alleviate the negative effects of trade conflicts and preserve the benefits of globalisation.

Appendix

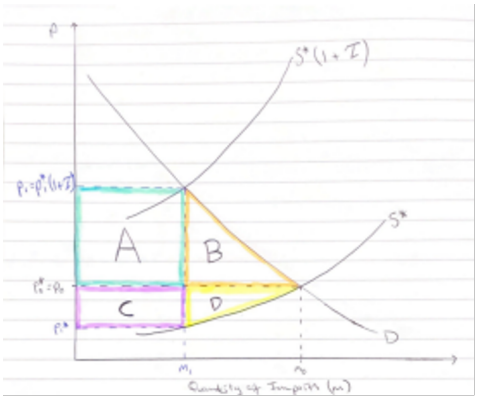

Figure 1. Impact of a Tariff on Prices. Government revenue is represented by regions A and C; the terms of trade gain is measured by $C - B$. Under standard assumptions, the tariff drives a wedge between domestic price $P_t = P^*(1 + \mathcal{T})$ and world price P^*.

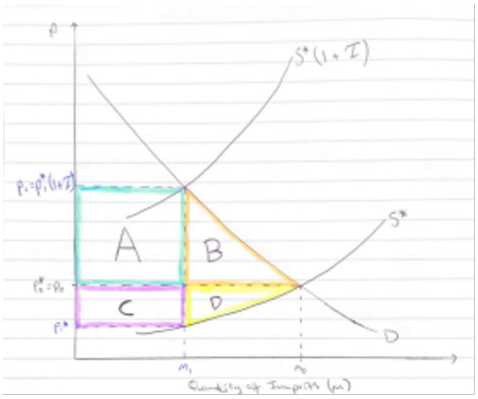

Figure 2. Impact of a Tariff on Prices with Perfectly Elastic Export Supply. With a horizontal foreign export supply curve S^*, domestic price rises to $P_t = P^*(1 + \mathcal{T})$ but world price P^* remains unchanged. Government revenue reduces to region A only, and the terms of trade effect is strictly negative, consisting solely of deadweight loss region B.

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