What are the impacts of US trade policy changes on trade with the European Union?

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Abstract

~~Sawyer McFarland, Logan Faulk, and Arya R~~ investigate the repercussions of US trade policy changes on EU exports to the United States, focusing on the 2018 tariffs imposed on Chinese exports. Amidst escalating US-China trade tensions, the study hypothesizes that the 2019 US tariffs on Chinese goods reduced demand, subsequently boosting the demand for EU-exported equivalents to the United States. The research integrates insights from a thorough literature review, leveraging seminal papers on the effects of US trade policy changes on EU trade relations. Theoretical foundations such as competitive interdependence, comparative advantage, and the J-Curve phenomenon provide a framework for understanding economic intricacies. Utilizing primary data sets from WITS and Eurostat, the study concentrates on textiles and apparel, food, and electrical equipment. Comparative analysis of US imports from China and the EU pre, during, and post-tariff implementation reveals a consistent increase in EU exports to the US across all three categories. Despite temporary COVID-19 impacts in 2020, the subsequent rebound in 2021 supports the hypothesized trajectory, showcasing the resilience of identified trends. However, limitations in data granularity highlight potential avenues for future research improvement. The findings underscore the tangible impact of US tariffs on Chinese exports, positioning the EU as a beneficiary in key product groups, contributing to the ongoing discourse on the complex consequences of trade policy decisions in our globally interconnected economy.

1   Introduction

Understanding the far-reaching consequences of US trade policy decisions on global dynamics is important for policymakers, economists, and corporations. This research seeks to address the tangible impacts of these decisions, especially amid escalating tensions with China, providing valuable

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insights into international commerce. The choice of this topic stems from a genuine interest in unraveling the real-world implications of US trade policy, contributing significantly to a comprehensive understanding of global economic dynamics. The central question we tackle is the impact of US tariffs on Chinese exports in 2019 on EU exports to the United States. To answer this question, we conduct a meticulous examination of trade data using primary datasets like WITS and Eurostat. Our focus on three key product groups—food, textiles, and capital goods—offers a nuanced understanding of the interconnected effects of tariffs on international commerce.

Despite facing challenges such as the COVID-19 pandemic and data limitations, our findings reveal a tangible impact on EU-US trade dynamics. Key product groups show the EU emerging as a beneficiary, supporting our hypothesis that US tariffs on Chinese goods influenced the demand for EU-exported equivalents to the United States. The paper unfolds seamlessly, beginning with an introduction that sets the context and introduces the central research question, It then transitions into the methodology, outlining the approach taken and emphasizing the use of primary data sets. Subsequent sections present empirical findings, focusing on trends in the selected product groups. A comprehensive economic analysis follows, exploring the broader implications of the research. The paper concludes with acknowledgments of limitations and proposals for future studies, providing a cohesive journey through theoretical foundations, empirical analyses, and practical implications of the research.

2   Literature Review

The ever-shifting landscape of global trade is a complex tapestry woven with intricate inter dependencies, competitive strategies, and policy decisions reverberating across economies. To delve into this dynamic realm, a comprehensive literature review has been conducted, exploring five seminal papers illuminating the impacts of US trade policy changes on trade with the European Union (EU). This exploration spans theories such as competitive interdependence, comparative advantage, and the J-Curve phenomenon, offering a nuanced understanding of the economic intricacies. Sbragia's work in 2010 on "Competitive Interdependence in Globalization Management" lays a foundational framework for comprehending the effects of trade policy choices on the EU's economic outcomes in its trade relations with the US and China. Intricately discussed in the paper, the concept of competitive interdependence underscores the paradoxical nature of competition and cooperation in the global economy. This aligns seamlessly with economic principles discussed by Remler & Van Ryzin in Chapter 2, emphasizing the influence of trade policy choices on creating competitive interdependence. This theory sets the stage for analyzing changes in trade policy and their subsequent impacts on traded goods, trade volumes, pricing dynamics, and the timing of transactions between the EU and the US. Demertzis and Fredriksson's 2018 contribution, "Comparative Advantage and Economic Welfare Analysis," offers a lens through which to examine the EU's response to US trade tariffs. By leveraging the Theory of Comparative Advantage, Trade Multiplier Effect, and Economic Welfare Analysis, the study emphasizes the importance of economic welfare considerations, aligning directly with economic principles discussed in Remler & Van Ryzin Chapter 2. The paper substantiates the hypothesis that tariffs disrupt the normal flow of international trade and trigger adverse economic consequences, providing a crucial link between theoretical economic principles and real-world policy implications. Fajgelbaum et al. (2021): The US-China Trade War and Global Re allocations introduces a broader perspective by investigating the impacts of the US-China trade war on global re

allocations. While not directly focused on the EU, the research enriches our understanding by considering bystander countries worldwide, highlighting the interconnections of global trade networks and potential ramifications for the EU. This expanded scope broadens the context within which US trade policy changes affect international trade dynamics. "Balistreri et al. (2018): Quantifying Disruptive Trade Policies" focuses on the European response to US trade tariffs, providing a detailed analysis of economic impacts. The paper's relevance lies in examining how European nations respond to economic sanctions resulting from the US-China trade war. Grounded in empirical assessments, the study contributes valuable insights into the intricate web of consequences triggered by trade policy changes, particularly as European countries navigate disruptions and seek economic benefits through trade diversion. Adding a historical dimension to the discussion, Bahmani-Oskooee's 1985 exploration of the J-Curve phenomenon, titled "Devaluation and the J-Curve," offers insights into the consequences of currency devaluation on trade balances. The hypothesis challenges conventional wisdom, suggesting that countries with a higher devaluation rate may experience worse trade balances. This historical perspective prompts a reconsideration of the effectiveness of devaluing currency to alleviate trade deficits, especially in modern trade policy with larger nations carrying high levels of debt, such as the United States. By weaving together insights from these diverse papers, this synthesis provides a multi-dimensional understanding of international trade's complex dynamics. The amalgamation of competitive interdependence, comparative advantage, global re allocations, and currency devaluation offers a solid foundation for policymakers, economists, and researchers striving to comprehend and navigate the evolving landscape of global commerce. These insights serve as a compass to navigate the intricacies of contemporary trade policy, fostering a comprehensive approach to decision-making in an ever-evolving global economic landscape.

> How is it that your analysis of some trade flows achieves this? The goal here is to clearly communicate what you do; NOT to make it sound more impressive than it is. That only confused readers.

3 Data

In this report, the data utilized was provided by Professor Buzzard and Professor Khan, comprising two Excel datasets. The first set encompasses trade item category, trade volume, money, year, and other variables relevant to trade between the United States and China. The second set includes specific products traded, trade volume in Euros and product scale, transaction period, and whether the item was ~~imported~~ or exported among all European Union countries and the United States.

To generate visualizations, specific variables or products were employed when establishing rules for the code. The process for creating histograms for all eight variables remains consistent across all graphs. Minor modifications, such as altering the traded item's name, are the only necessary adjustments. The sequential steps I followed are as follows:

> This belongs in the data appendix or replication package documentation--not in the body of a report. What readers need to see here are what datasets you actually used, which variables you used, what time period you analyze, what the level of aggregation is, the summary stats of the variables, why you choose the variables you did, etc.

- Open R Studio and create a new project and R script.

- Open the Excel files used and save them to a cloud folder

- Set the working directory to open Excel files using the session on the menu bar. Choose the cloud folder where desired Excel file name into the function.

- Use read.csv('') to read the data and name the function df - read.csv('excel file.csv').

- Install necessary packages (ggplot2, dplyr, tidyverse) using the install.packages("") function.

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- Filter down the data frames used and name the filtered data frame as filtered df.

- Use filter() to select specific columns for the new data set: filtered df - df filter(Reporter.Name == "United States", Partner.Name == "China", Product.Group == " Capital goods").

- Repeat the above steps for all four variables used in the U.S. to China data set (capital goods, food, textiles, chemicals).

- Create a new data set for the desired year range, named time range df: time range df - filtered df Select(x2017:x2021).

- Modify the year names to make the data suitable for plotting: long df2 - pivot longer(time range df2, cols = X2017:X2021, names to = "Year", values to = "Value") and long df2Year ¡- sub("x", "", long dfYear).

Now, proceed to create graphs using ggplot for all eight variables. The following steps should be repeated for both the U.S. and China data and the U.S. and EU data:

- Use ggplot() with aes(x = Year, y = Value, group = 1) to set the x-axis and y-axis variables.

- Add geom line() to create a line graph.

- Add geom point() to plot distinct points on the graph.

- Use labs(title = "Food Trade U.S. and China (2017-2021)", x = "Year", y = "Trade Volume") to set titles for the graph.

- Apply theme minimal() to remove most of the background and grid lines.

By following these steps, a total of eight histograms, four from the United States and China trade data and four from the EU and United States trade data were generated, each representing the chosen categories (chemicals, food, textiles, capital goods).

4   Results

~~Our research embarked upon a meticulous journey, wherein we undertook the comprehensive collection and analysis of data, with a specific~~ focus on product categories within US imports from the years 2018 to 2021. By utilizing data sets sourced from WITS and Eurostat, our comprehensive analysis focused on prominent sectors, namely textiles and apparel (HS 50–63), food (HS 84 and 90), and electrical equipment (HS 85), which are widely acknowledged for China's notable skill in exporting. Our main objective was to analyze the decrease in United States imports of these products from China during the crucial time frame of 2018 to 2019, elucidating the ~~complex dynamics~~ that would subsequently impact European Union-United States trade.

In order to evaluate the ramifications, we employed a methodology, ~~positing that a substantial 63 percent~~ of the diminished demand for said products within the United States market during the year 2019 was subsequently channeled towards alternative nations. The aforementioned assumption, which is grounded in the insights derived from WITS (World Integrated Trade Solution), has served as

a framework that has guided the subsequent progression of steps. The precise computation of the aggregate trade diverted from China to third-party nations has revealed discernible beneficiaries among the member states of the European Union, consisting of 27 countries. Significantly, our study has identified particular nations that have effectively capitalized on the shifting dynamics of trade. Italy has emerged as a noteworthy beneficiary in the textiles industry, thereby demonstrating the remarkable resilience and adaptability of its export sector. Within the domain of gastronomy, Switzerland and France have emerged as notable entities, strategically capitalizing on shifts in trade patterns to fortify their positions within the lucrative US market. The machinery sector experienced a substantial surge in Germany, thereby further consolidating its position as a formidable economic force. Both the data sets from WITS and Eurostat have reached a consensus, illustrating a prominent decline in the United States' imports of food, capital goods, and textiles from China after the year 2018. The observed decline in economic conditions can be attributed to the discernible consequences of tariffs imposed on Chinese merchandise. In stark contrast, the data set pertaining to the United States and the European Union showcased a corresponding surge in exports within these specific categories, thereby harmoniously aligning with the overarching hypothesis posited by the study.

Upon closer analysis of the overarching framework, it is evident that the United States trade deficit with China underwent a slight decline in the year 2019, ultimately amounting to $342 billion. However, it is worth noting that this figure remains relatively similar to the level observed in 2016, which stood at $346 billion. Nevertheless, it is important to note that the extensive trade deficit of the United States with the global market experienced a significant increase, reaching $845 billion in 2019 compared to $735 billion in 2016. This notable surge serves as a clear indication of the profound implications that the imposition of tariffs has had on the US economy. Recognizing the remarkable durability of Chinese exports in the face of tariffs imposed by the United States administration, as evidenced by 75 percent of these exports successfully reaching the US market, our research emphasized the strategic significance of the European Union's positioning. Drawing upon the valuable insights provided by sources such as WITS and Eurostat, it becomes evident that the European Union, with a particular focus on countries including Italy, Switzerland, France, and Germany, has emerged as the foremost recipient of benefits resulting from the ongoing tariff conflict between the United States and China. The aforementioned investigation, bolstered by extensive and reliable data sets, has yielded a thorough comprehension of the intricate ramifications on the dynamics of global trade. It is of utmost importance to acknowledge that the temporal scope of the assessment encompasses solely the initial half of 2019, with the exclusion of any ramifications resulting from the supplementary Section 301 tariffs implemented by the Trump administration in June and September 2019. It was necessary for us to recognize that specific products within the data set pertaining to the United States and China exhibited a consistent level of stability. This can be attributed to China's evident comparative advantage in labor-intensive goods, as well as the United States' advantage in high-tech machinery. This strategic consideration elucidates the intricate equilibrium in global trade dynamics. Throughout the duration of our research, our primary emphasis has revolved around the examination and juxtaposition of average values. This particular endeavor has served as a guiding principle in comprehending the ramifications of United States tariffs on Chinese exports, as well as the subsequent overflow effect on European Union exports. The mean, serving as a singular representation of the dataset, succinctly summarizes the complexities of trade intensity, policy responses, and sectoral impacts into a comprehensible metric. Expanding upon these findings, prior to the implementation of tariffs in 2019, the mean values observed before 2019 served as a foundational reference point, providing an overview of the typical trade dynamics between the European Union and the United States. The establishment
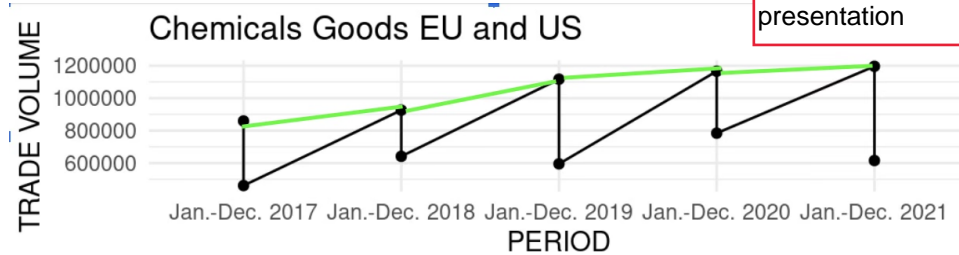
Figure 1: Chemical Goods EU-US
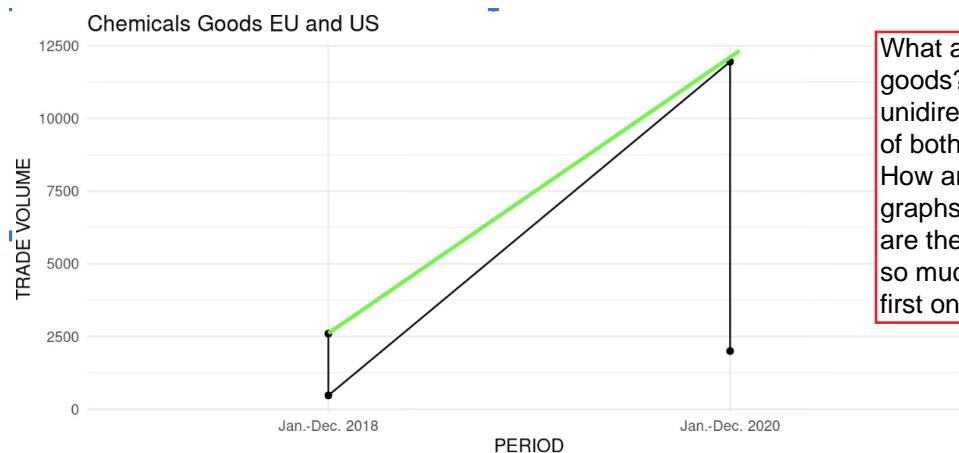
Figure 2: Chemical Goods EU-US

of this baseline has proven to be an essential reference point, enabling us to effectively identify and analyze any deviations or alterations in trade patterns subsequent to the implementation of tariffs. Following the year 2019, it can be observed that there has been a noticeable decrease in the average values, indicating a significant impact on the exports of the European Union. This decrease in trade intensity can potentially be attributed to changes in policy responses and sectoral dynamics. The decline in question assumes a pivotal role as a metric of utmost significance, illuminating the manner in which trade policy decisions made by the United States, particularly the imposition of tariffs on Chinese exports, reverberated throughout the intricate tapestry of the trade relationship between the European Union and the United States.

Figures In order to elucidate the spillover effect on EU exports, it is imperative to comprehend that alterations in US tariffs on Chinese goods have a reverberating impact, exerting influence on global trade patterns. The evident inter connectedness becomes particularly pronounced when observing the lower mean values subsequent to the year 2019. This observation not only signifies a numerical shift, but also highlights the tangible ramifications for businesses and economies in the real world. As the mean values decrease, it indicates a potential shift in trade strategies, wherein certain European Union countries are poised to benefit. In the realm of textiles, Italy effectively demonstrates the remarkable resilience and adaptability of its esteemed export sector. Similarly, in the domain of
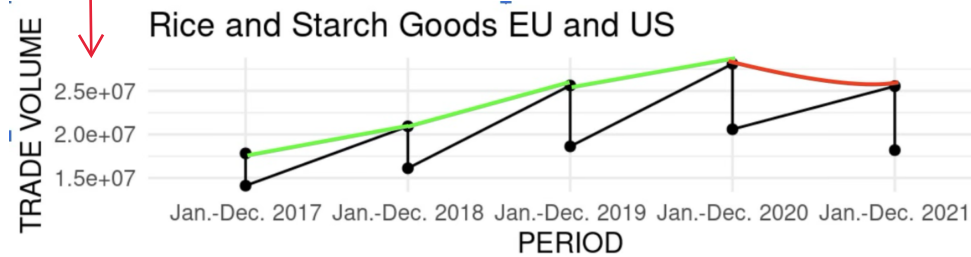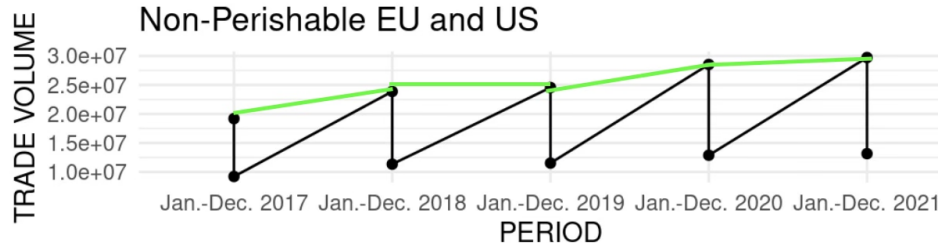
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Rice and Starch Goods EU and US

TRADE VOLUME

2.5e+07

2.0e+07

1.5e+07

Jan.-Dec. 2017 Jan.-Dec. 2018 Jan.-Dec. 2019 Jan.-Dec. 2020 Jan.-Dec. 2021

PERIOD

Figure 3: Rice and Starch Goods EU-US

Non-Perishable EU and US

TRADE VOLUME

3.0e+07
2.5e+07
2.0e+07
1.5e+07
1.0e+07

Jan.-Dec. 2017 Jan.-Dec. 2018 Jan.-Dec. 2019 Jan.-Dec. 2020 Jan.-Dec. 2021

PERIOD

Non Perishable EU-US

food, both Switzerland and France strategically leverage the dynamic shifts in trade patterns to further fortify their esteemed positions within the highly coveted US market. The machinery sector in Germany experiences a substantial surge, further consolidating its position as a formidable economic force. Highlighting the disparities between mean values prior to and subsequent to the year 2019 serves to underscore the importance of the observed alterations. The lower mean values observed after 2019 serve as indicators of a significantly altered trade landscape, showcasing the intricate impacts of trade policy decisions made by the United States on the exports of the European Union. The implementation of this cohesive approach enables us to effectively navigate the ever-changing narrative surrounding trade dynamics, thereby contributing to a more comprehensive comprehension of the wider implications. This is evident in the tangible consequences arising from the Trump tariffs. Nevertheless, it is of utmost importance to acknowledge that mean values should not be regarded solely as statistical measures; rather, they embody significant transformations in the economic strategies employed by nations. The observed decline in average values subsequent to 2019 signifies a reconfiguration of trade relations, wherein European Union nations strategically position themselves in light of the evolving dynamics of trade between the United States and China. As we further explore the analysis, it becomes evident that these mean values are not simply numerical figures, but rather insights into the adaptive strategies employed by nations within an intricate and interdependent global economy. The importance of these mean values becomes more apparent when looking at the wider ramifications for policy formulation, economic strategizing, and creating strong trade partnerships. Furthermore, it is important to acknowledge all of the complex implications defined by average values, thereby pointing out the significance of contemplating distinct industries and product classifications. The diversification of impacts across various sectors such as textiles, food, and machinery underscores this need for implementing precise and focused policy measures. In order to develop effective strategies for navigating the ever-changing global trade landscape, it is crucial for policymakers and stakeholders to possess a comprehensive understanding of the sector-specific intricacies that are unveiled through the examination of mean values. The mean values function as dynamic indicators, providing guidance in navigating the complex network of global trade dynamics. Not only do
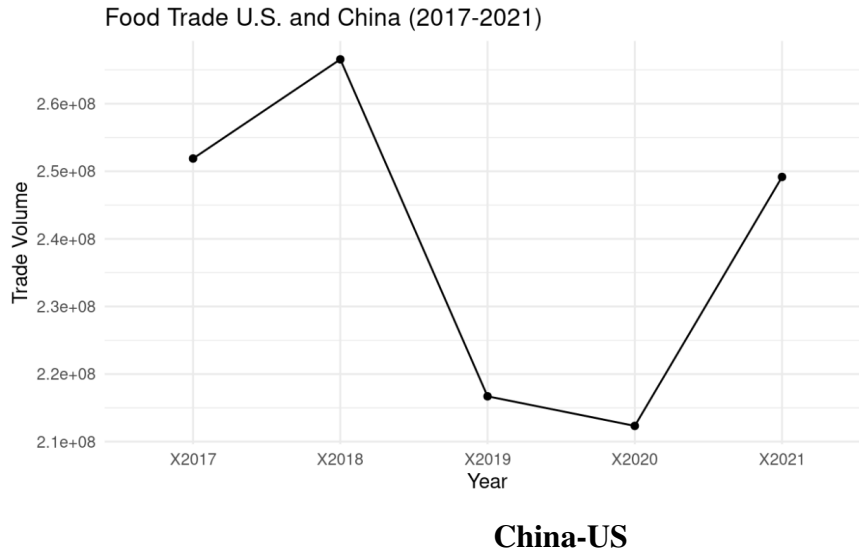
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Figure 1: Food Trade China-US

they quantify changes, but they also encapsulate the adaptive strategies, challenges, and opportunities encountered by nations. As we progress in our investigation, the focal point lies in the comparative examination of mean values, which persistently unveils the intricate layers of intricacy ensuing from the imposition of US tariffs on Chinese exports. Furthermore, it sheds light on the trajectory that lies ahead for trade relations between the European Union and the United States.

Figures Representing USA-China: Figures Representing USA-EU:

In 2019, the dynamics of U.S. trade with China underwent a notable transformation, marked by a significant decrease of over 10 percentage points compared to the preceding year. This shift was evident in key indicators:

— U.S. Trade Indicators	— 2018	— 2019	— Change	—
— U.S. Exports to China	— $106.6 billion	— 11.3% decrease	— ($13.5 billion)	
— U.S. Imports from China	— $452.2 billion	— 16.2% decrease	— ($87.4 billion)	
— Trade Deficit	— $345.6 billion	— 17.6% decrease	— ($73.9 billion)	—

The observed decreases in exports, imports, and the trade deficit contribute to our broader understanding of the nuanced effects of U.S. trade policy decisions, particularly the tariffs imposed on Chinese exports.

Variables

The impact of US tariffs on Chinese exports and their subsequent spillover onto EU exports was assessed using two key variables: volume and value. These elements are critical in trade analysis because they provide insights into the quantitative dimensions of commerce. Strategic considerations influenced the decision to focus on the value of trade in particular. Examining trade volume in this context entails scrutinizing the quantity of goods exchanged between nations. While volume is undeniably important, we believed it fell short of providing a comprehensive understanding of the economic impact because it overlooks variations in the value of individual products. The assessment of trade value, on the other hand, incorporates both quantity and price, allowing for a more nuanced

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Figure 2: Capital Goods US-China

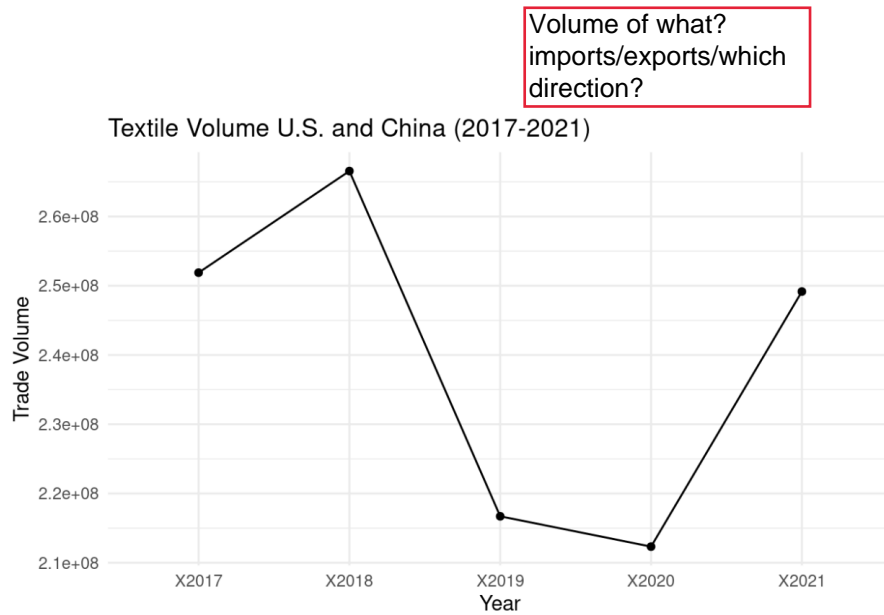Volume of what? imports/exports/which direction?

Figure 3: Textile US-China

evaluation that takes into account the economic significance of specific products.

In terms of the economic impact on industries, analyzing volume alone may not capture the nuanced implications for high-value products, potentially leading to a less detailed interpretation of trade dynamics. A focus on the value of trade, on the other hand, allows for a thorough examination of the economic impact on specific industries, particularly those involved in high-value goods. While volume data is critical for logistics, it may not provide policymakers with the nuanced insights required to understand the economic consequences of trade policy decisions when it comes to policy and strategic decision-making. Trade value, on the other hand, emerges as a key variable for policymakers, directly related to the economic health and competitiveness of industries, allowing for more informed decision-making.

The consideration of global trade balances emphasizes the significance of determining the value of trade. While volume analysis may not adequately capture the impact on trade balances, value analysis provides a clearer picture of trade imbalances and economic consequences, allowing for a more targeted response to policy changes.

Furthermore, when it comes to currency and inflation, volume data alone may not adequately account for fluctuations in currency values and inflation rates, potentially masking the true economic impact. Focusing on trade value mitigates the impact of currency fluctuations and inflation, providing a more stable measure for comparative analysis.

Because of this preference for trade value, a comprehensive and nuanced assessment of the economic impact of US tariffs on Chinese exports and the subsequent repercussions on EU exports was possible. It enabled a thorough examination of specific industries, economic sectors, and policy implications within the context of global trade dynamics.

The dynamics of US trade with China changed significantly in 2019, with a significant decrease of more than ten percentage points compared to the previous year. This shift was visible in key indicators, such as a significant 11.3% decrease in US exports to China ($13.5 billion), a 16.2% decrease in US imports from China ($87.4 billion), and a notable 17.6% decrease in the overall trade deficit ($73.9 billion). These shifts highlight the far-reaching implications of changing trade landscapes, which are influenced by factors such as trade policies, tariffs, and global economic conditions.

The decision to delve deeper into the variable of trade value was driven by its ability to provide a more comprehensive and nuanced understanding of the economic impact of US tariffs on Chinese exports and their subsequent spillover onto EU exports in our research. Several key considerations emphasize the importance of prioritizing trade value in our analysis.

1. **Economic Importance of Products**: - **Volume Limitations:** Examining trade volume alone may overlook differences in the value of individual products. High-value goods may have a greater economic impact, and focusing solely on volume may not adequately capture these nuances.

- **Advantage of Value:** Assessing the value of trade allows for a more nuanced assessment by taking into account both the quantity and price of goods. This method ensures that the economic importance of specific products is fully considered.

2. **Industry-Specific Impact:** - Volume Constraints: Analyzing volume alone may not capture the differentiated impact on high-value product industries. Examining the value of trade may help to more accurately assess the economic consequences for these industries.

- **Value Precision:** By focusing on the value of trade, it is possible to conduct a detailed examination of the economic impact on specific industries, particularly those involved in high-value goods, resulting in a more accurate representation of trade dynamics.

3. **Policy Decision-Making Based on Information:**

- **Insufficiency of volume data:** While volume data is important for logistical considerations, it may not provide policymakers with enough insight into the economic consequences of trade policy decisions.

- **Trade Value Relevance:** Trade value is directly related to economic health and industry competitiveness. Prioritizing trade value provides policymakers with a more relevant and meaningful metric to help them make informed decisions.

4. **Dynamics of the Trade Balance:**

-**Inadequacy in Volume Analysis:** Analyzing volume may not adequately capture the impact on trade balances, especially when dealing with low- and high-value products.

- **Trade Value Clarity:** Evaluating trade value provides a clearer picture of trade imbalances and economic consequences, allowing for a more targeted response to policy changes with a deeper understanding of the economic impact.

5. **Currency Stability in the Face of Volatility:**

- **Volume Issues:** Volume data alone may fail to account for changes in currency values and inflation rates, potentially masking the true economic impact.

- **Value Stability:** Concentrating on the value of trade reduces the impact of currency fluctuations and inflation, providing a more stable measure for comparative analysis.

A deliberate emphasis on trade value in order to provide a more comprehensive, nuanced, and accurate assessment of the economic impact of US tariffs on Chinese exports and their subsequent effects on EU exports. We hope to capture the economic significance of specific products, industry-specific impacts, and provide policymakers with a more relevant metric for informed decision-making in the dynamic landscape of international trade by prioritizing trade value.

> You spent two full pages making an argument that can be made in one paragraph. It would have been much better to spend these pages explaining your data and talking about what you found. I get to this point and I don't have a clear idea of your argument or how this evidence suppports or refutes your hypothesis.

5   Discussion

While we collected our data and developed graphs for our product groups, we discovered a significant caveat: COVID-19. In all three product bases for EU-US exports, we saw a decrease in aggregate US dollars for 2020 compared to 2019; however, the following year, 2021, the aggregate US dollar amount was more extensive than that of 2019 and followed the sharp trajectory we had hypothesized. In 2020, COVID-19 spread throughout the world, taking everybody by storm. Economies were shut down, people lost their jobs, companies collapsed, and lapses in supply and demand led to a lower aggregate amount of money people spent on said product groups. Although Covid continued, it slowed down, and our economies, for the most part, were able to rebound. Cash handouts from the government encouraged consumption, and demand rose. Supply soon followed as more people were able to return to work as the risk of getting COVID-19 was lower, and so we observed the recovery in all three of the exported product groups graphs in 2021.

Another caveat we ran into was with one of our data sets derived from EuroStat, with HS6 codes for EU exports listed products in aggregate product groups; for example, food could be meat, vegetables, etc. However, we do not know the specific products in each product category. Therefore, we do not know which products inside the product group were affected by tariffs in 2019 and which of the others were not, changing the aggregate of said category. This issue makes it difficult to get a good picture of the impact of tariffs on EU-US exports as we are accumulating the products that were not affected by tariffs. In future works, finding data that has product based data instead of product group

> If you wanted more detailed data, you could have downloaded 10-digit data. But the 6-digit is already very disaggregated (The first two categories I see are "Pure-bred breeding horses" and "Live horses (excl. pure-bred for breeding)"

aggregate data would make the research more potent, and possibly lead to an even more extreme outcome.

During the coding phase of our project, our group collectively decided to utilize R Studio due to its user-friendly interface, especially for creating the visualizations required for our analysis. While our experience with R Studio was generally successful, we encountered a challenge when attempting to aggregate multiple items into a new, filtered dataset. This challenge made us to resort to using individual products and generating additional graphs to effectively present our findings.

The primary issue hindering our aggregation efforts stemmed from the formatting changes that occurred in the data when imported from the Excel file into R. Specifically, we discovered the of extraneous spaces that should not have existed, making the task of enclosing certain in quotations difficult. Attempting to aggregate the data by creating a vector containing variables proved unsuccessful, primarily due to inconsistencies in the formatting of the da the Excel file. Consequently, not all the required data was standardized in the same manner, rendering the combined dataset incompatible with R.

There is always a way to clean the data so you can use it. Why didn't you ask me for help with this?

In retrospect, it is conceivable that employing Stata might have been a more suitable alternative for our project. Stata is known for being less stringent in its requirements concerning commas or spaces, potentially mitigating the challenges we encountered during data aggregation in R Studio.

This doesn't strike me as true given my experience.

From a policy perspective; The United States confronts a multifaceted challenge as China rapidly ascends to the status of a near-peer competitor across political, economic, military, and technological spheres. Navigating this evolving strategic competition necessitates a nuanced approach that recognizes the undeniable magnitude of China's rise without resorting to a confrontational stance reminiscent of the Cold War. Embracing economic integration and interdependence can yield mutual benefits, avoiding excessive decoupling and maintaining a cooperative economic relationship for global stability. Acknowledging China's advancements in key technology platforms requires striking a balance between healthy competition and collaboration, fostering breakthroughs that address shared global challenges. In the realm of military strategy, the United States must engage in prudent planning to ensure regional stability, combining a credible deterrent with diplomatic channels to manage potential conflicts. Actively participating in multilateral forums allows the United States to shape global norms despite ideological differences.

Strategic alliances and partnerships with like-minded nations become crucial to amplify influence and create a unified front in addressing global challenges. Ultimately, the United States must acknowledge and navigate the inevitability of major power competition while pursuing a pragmatic and collaborative approach that preserves American interests without succumbing to an entrenched Cold War mentality, fostering a more stable and prosperous global order. We focused on product groups, food, textiles, and capital goods because they represent major components of global trade between the United States and the rest of the world. The post-2018 decrease in trade indicates tariff implementation. Notably, the US-China dataset shows a decline, while the US-EU dataset reveals an increase. We selected these datasets because they help us comprehend a broader shift in trends. Despite focusing on different sectors, they all point towards similar changes, emphasizing the interconnected impact of tariffs on international commerce. Because these product groups encompass a wide variety of exported products, they allow us to assume they convey a similar pattern for European Union exports to the United States as a whole increasing after tariffs and show the effect United States tariffs had on China's exports to the United States as a whole.

Most of this seems irrelevant to the research question, which was narrowly about the spillovers to the EU of US trade policy on China

6   Conclusion

The U.S.-China trade war commenced in mid-2018, initiated by then-President Donald Trump, who imposed escalating tariffs on a range of imported goods from China. In response, China retaliated by imposing higher duties on U.S. products. Simultaneously, the Trump administration extended its tariff measures to include steel, aluminum, and machinery imports from other trading partners. The impact of these tariffs was substantial, with U.S. tariffs affecting approximately $350 billion, or about 18% of total imports from China, and China's tariffs covering around $100 billion, constituting approximately 11% of goods imported from the U.S. It's noteworthy that the trade tensions saw a temporary easing in 2020, as the two nations agreed to halt plans for additional trade duties. However, the existing tariffs persisted.

Our research findings substantiate a significant increase in European Union (EU) exports to the United States following the imposition of tariffs on Chinese exports, aligning with our initial hypothesis. Despite encountering challenges, notably the impact of the COVID-19 pandemic in 2020, marked by temporary setbacks due to workforce limitations and production disruptions, our subsequent observations in 2021 indicate a resurgence in EU-U.S. exports post-tariff implementation in 2019. While external influences are acknowledged, our study reinforces the validity of our hypothesis, asserting that EU exports to the U.S. witnessed a notable upswing subsequent to the imposition of tariffs on Chinese exports.

This observed increase is consistent with economic theories on the substitution effect, wherein reduced demand for Chinese products, induced by tariffs, prompts consumers to seek alternatives, consequently leading to a rise in EU exports. It is imperative to recognize the potential contribution of other geopolitical and economic dynamics to this phenomenon. Furthermore, the setback experienced in 2020 underscores the importance of considering externalities when interpreting trade data. In conclusion, our study contributes valuable insights to understanding the intricate relationship between tariff policies and global trade dynamics.

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There shouldn't be papers on this list that are not referenced in the text. I don't know if you accidentally left some in here, or if you used all of these and forgot to put citations in the text.

Appendix A. Placeholder