Is US Trade Policy Reshaping Global Supply Chains?

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May, 2023

PRELIMINARY AND INCOMPLETE

Abstract

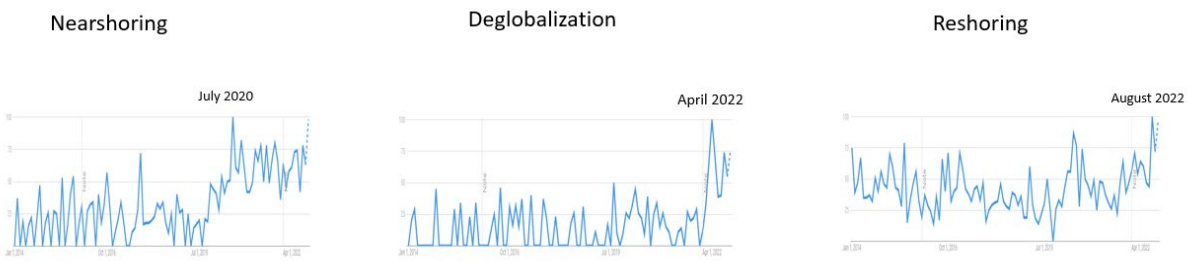
This paper examines the reshaping of supply chains using detailed US 10-digit import data (tariff-line level) between 2017 and 2022. The results show that decoupling is real, but that supply chains remain intertwined with China. Over the period, China's share of US imports fell from 22 percent to 16 percent. The decline is directly linked to US tariffs: China's export growth was significantly slower than that of other countries in the set of products subject to US tariffs. China is primarily being replaced by individual exporters that are large, developing countries with revealed comparative advantage in a product, and that are intricately linked to China's supply chain. Linkages with China turn out to be especially important for replacing China in strategic industries. Put differently, to displace China on the export side, countries must have embraced industry-wide supply chains with China. There is some evidence of nearshoring, but it is exclusive to border nations, and no consistent evidence of major changes that would be associated with reshoring or diversification. Despite significant reshaping, China remains the top trade partner of the US.

The authors are at UC San Diego, School of Global Policy and Strategy; World Bank; World Bank; and IMF, respectively. We are grateful to participants at the Workshop on International Trade and Multilateralism, Villars, Switzerland for comments on an earlier version of the paper. Standard disclaimers apply.

1. Introduction

In the wake of US-China tensions, reshoring, nearshoring and deglobalization are dominating the news. Google search trends show all three terms have experienced maximum search activity since 2020 (Figure 1).

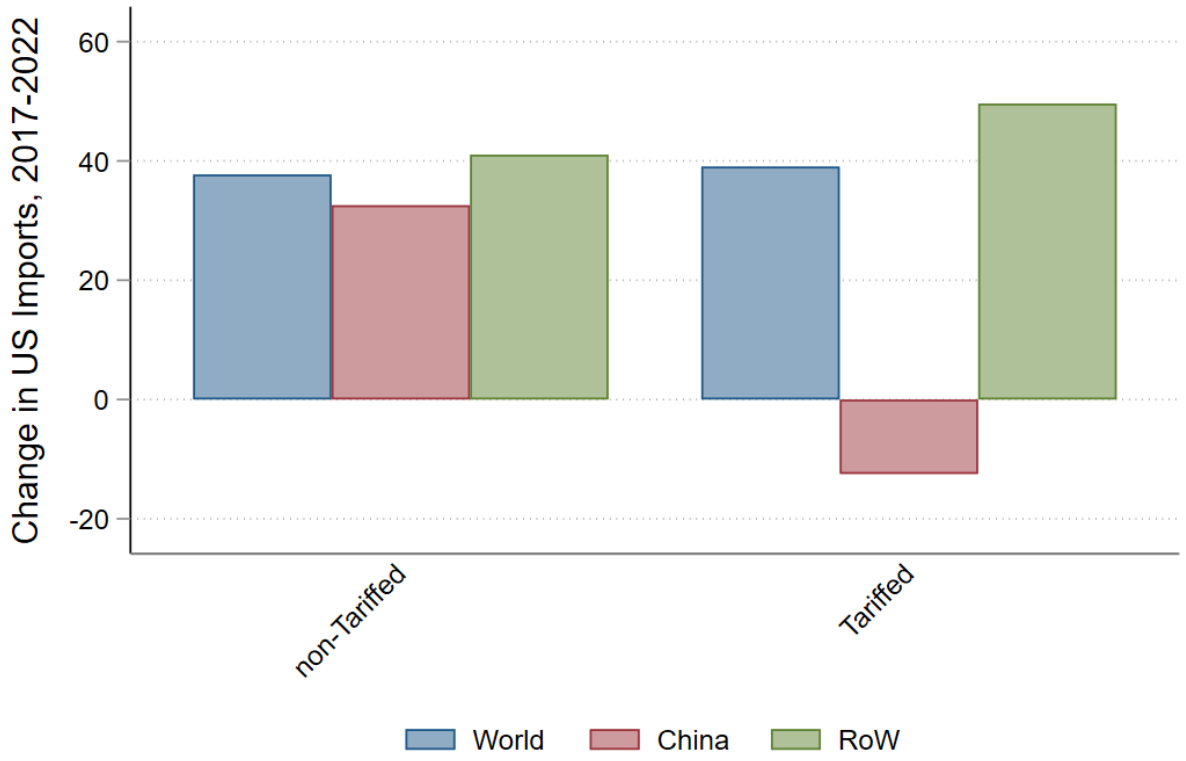
Figure 1: Searches for nearshoring, deglobalization, and reshoring



Despite the rhetoric, goods trade was at an all-time high in 2022, after years of slow growth. US imports in 2022 were close to 40 percent above pre-COVID levels, suggesting that deglobalization and reshoring were not yet significant.

While trade is thriving, cracks in US-China trade are emerging. In 2018 and 2019, the US imposed tariffs on over 60 percent of imports from China, mostly at the 25 percent level. In 2022, US imports from China in tariffed goods were 12.5 percent lower than in 2017 while imports from the rest of the world surged in those same products (Figure 2). As a result, China's share in US imports fell from 21.6 to 16.3 percent between 2017 and 2022, and is now back at the level it was in 2007, before the global financial crisis. The sizable reduction in China's share and increase in overall in US imports implies that importers are turning to new sources of supply. This paper explores whether the reshuffling of supply chains is the result of US trade policy interventions and the extent to which this switch is taking the form of reshoring, nearshoring, friendshoring and/or diversification.

Figure 2: Changes in US imports, tariffed and non-tariffed goods, 2017-2022



Source: US Customs

Using highly disaggregated trade data, we examine how US tariffs on China are impacting trade patterns. The analysis relies on a simple identification strategy. First, we focus on differences between trade in tariffed and un-tariffed goods, controlling for product and market characteristics. The results from this analysis confirm that tariffs depressed China's export growth and stimulated export growth in other countries. Second, we examine what country characteristics are associated with replacing China, especially in strategic sectors. Apart from the change in imports from China, we also investigate whether the tariffs led to a diversification of imports, reshoring, nearshoring or friendshoring.

We find that the tariffs led to a decline in imports from China. But US import diversification of tariffed goods, or goods with declining import shares from China, did not increase markedly. Given that overall imports in these products grew at rates similar to those of other goods, there is also little evidence that the US re-shored production. When we focus on strategic industries, defined as the eleven 2-digit sectors

where the US government's list of Advanced Technology Products reside, we find the impact of US tariffs on imports from China is higher. There is weak evidence of an increase in import diversification and no robust evidence of re-shoring for these products.

An important question relates to which countries picked up the slack as US imports moved away from China. We perform a difference-in-differences analysis, comparing shifts in trade patterns of products where the import share of China fell markedly with the shifts in other products, while controlling for exporter and product specific time-varying shocks. We find that import relocation was driven by both fundamentals and policy. Large, developing countries were the primary beneficiaries. Countries with revealed comparative advantage in a product also improved their market share. There is evidence that importers sought suppliers in bordering countries, but they did not look to other relatively proximate suppliers and, if anything, sought more distant suppliers.

We also find evidence that the reshaping of US imports away from China may not have reduced dependence on China as much as import numbers suggest because countries that were more deeply engaged in Chinese supply chains experienced the most rapid export growth to the US. In particular, we find evidence that countries that saw faster export growth to the US in certain sectors also had more intense intra-industry trade with China in those same sectors. Specifically, our estimated coefficients imply that an increase in the bilateral intra-industry trade index with China from the 25th to the 75th percentile is associated with higher export growth to the US market of around 3 percentage points for all tariffed products and 4.5 percentage points for strategic goods.

This paper relates to the recent literature on the economic effects of the US-China trade war.[1] Several studies (Amiti, Redding, and Weinstein, 2019; Fajgelbaum, Goldberg, Kennedy, and Khandelwal, 2020; Cavallo, Gopinath, Neiman, and Tang, 2021; Flaaen, Hortaçsu, and Tintelnot, 2020) analyze the impact of the tariffs on US import prices, finding that US consumers and importers have borne the brunt of the tariffs through higher prices. This literature also finds that the tariffs reduced US export growth (Handley, Kamal, and Monarch, 2020), lowered employment (Flaaen and Pierce 2019) and had a negative effect on aggregate real income in both the US and in China (Amiti et al. 2019; Fajgelbaum et al. 2020). Closer to our work is the paper by Fajgelbaum, Goldberg, Kennedy, Khandelwal, and Taglioni (2023) that studies the impact of the US-China trade war on exports by third countries, finding that they largely increased exports to the US and to the rest of the world in response to the tariffs. Differently from these studies,

[1] See Fajgelbaum and Khandelwal (2022) for a review of the literature.

our paper contributes to this literature by focusing explicitly on the impact of US tariffs on global supply chains.

The rest of the paper is organized as follows. Section 2 describes the data. Section 3 studies the impact of the trade war on the reconfiguration of supply chains. Section 4 takes a closer look at where production moved after the shock. Section 5 concludes.

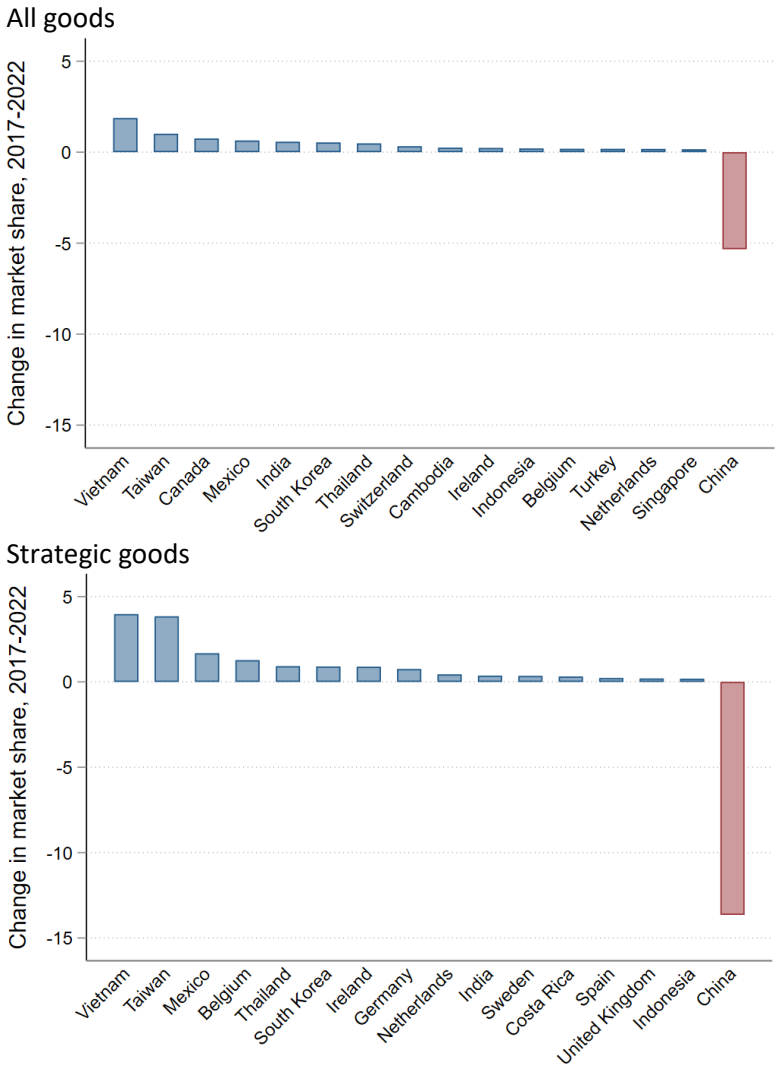
2. Data

We use 10-digit import data at the country level from US Customs for 2017 and 2022. There are more than 17,891 products and 230 countries. Tariff data are from Bown (2023). Strategic industries are defined as those two-digit classifications where Advanced Technology Products, as identified by the US government, are housed, see Appendix Table 1 for a list of the industry codes.

Information regarding country and country-pair characteristics has been obtained from various sources. The Centre d'Etudes Prospectives et d'Informations Internationales (CEPII) GeoDist database (Mayer and Zignago 2011) provides information on bilateral distance in kilometers and an indicator variable that captures if two countries share a border. Data on population and GDP per capita are from the World Bank's World Development Indicators (WDI). UN voting alignment with the US are from Voeten (2004). Measures of revealed comparative advantage (RCA), export similarity with China, and intra-industry trade with China have been computed using trade data from UNComtrade. Data on Free Trade Agreements (FTAs) are from Mario Larch's Regional Trade Agreements Database based on Egger and Larch (2008). A summary of the main variables is presented in Appendix Table 2.

Prima facie evidence on the reshuffling of the top trade partners from 2017 to 2022 is presented in Figure 3. China's share fell 5.3 percentage points (ppts). For strategic goods, this decline is even more massive, from 36.8 percent in 2017 to 23.1 percent in 2022. Focusing on the overall shares, the countries with the biggest gains in market share were Vietnam (1.9 ppt), Taiwan (1ppt), Canada (0.75 ppt), Mexico (0.64 ppt), India (0.57 ppt), Korea (0.53 ppt). These six countries more than account for China's 5.3 percentage point decline. Their combined gain does not, however, mean that these countries are the main or only beneficiaries, as they might be increasing their market share in products that China does not export or for reasons unrelated to China. It also overlooks small countries that may have gained significantly in niche products, but whose overall market share is small. The next section examines the decline in China's exports to the US and reshaping in more detail.

Figure 3: 2017 and 2022 US import share by top ten countries



3. US tariffs and changes in US imports

We use a difference-in-differences approach to examine whether: (i) US imports from China have grown less rapidly than those of other countries and whether tariffs are to blame; (ii) US imports have become more diversified across countries in products that shifted from China; and (iii) overall import growth in the US was slower in tariffed products.

We first investigate whether US imports from China behaved differently from exports of other countries and how tariffs affected that change. Specifically, we rely on the following specifications:

$$\Delta lnM_{ik}^{US} = \beta_0 I(CHN) + \beta_1 I(tariff_k) + \beta_2 I(tariff_k) \times I(CHN) + \varepsilon_{ik} \quad (1)$$

$$\Delta lnM_{ik}^{US} = \alpha_i + \sigma_k + \beta\, I(tariff_k) \times I(CHN) + \varepsilon_{ik}. \quad (2)$$

In specification (1) ΔlnM_{ik}^{US} is the growth of US imports from country i of HS 10-digit product k to the US from 2017 to 2022. Tariff is an indicator variable taking value 1 if the 10-digit product was on the tariff list targeting China between 2017 and 2022. CHN is a dummy variable for China. The coefficient on CHN, β_0, reflects how imports from China grew relative to other countries, and we expect it to be negative. The coefficient on the China tariff, β_1, shows whether tariffs have a positive or negative affect on imports more broadly. The coefficient on the interaction term, β_2, captures how tariffed products imported from China are affected relative to other products. We expect β_2 to be negative.

Specification 2 includes $\alpha_i \; and \; \sigma_k$, which are respectively exporter- and product-fixed effects in place of the China dummy and the tariff dummy. This specification controls for country or product characteristics that might affect import growth in the US market. We expect the coefficient of interest, β, to be negative if the tariff led China's exports to grow less rapidly than the exports of other countries.

Table 1 reports the results. Column 1 shows evidence that import growth was slower from Chinese exporters. Column 2 shows that the effect was driven by tariffs, as Chinese exports did not experience relatively slower growth in non-tariffed products. In addition, other countries experienced more rapid growth in these products, as indicated by the positive coefficient on tariff list in column 2. In column 3, we control for product fixed effects to ensure the result is not being driven by China exporting primarily products with slower general growth. Column 4 includes country fixed effects and results remain robust. Columns 5 and 6 show the results for the strategic sectors, those 11 sectors where Advanced Technology Products are found, and for other sectors separately. The larger coefficient in column (5) indicates that tariffs had a stronger effect on imports in strategic sectors compared non-strategic ones.

We next investigate whether US imports became more diversified across partners as they shifted away from China and whether overall imports grew more slowly in tariffed products, to look for evidence of potential reshoring, using the following specifications:

$$\Delta Y_k^{US} = K + \beta\, I(tariff_k) + \varepsilon_k \quad (3)$$

$$\Delta Y^{US}_{k \mid k \in tariff\ list} = K + \beta\, I(\Delta\ China\ share_{k\,2017-2022} > median) + \varepsilon_k \quad (4)$$

In equations (3) and (4), the dependent variable ΔY is either the total import growth in a product or the change in a measure of diversification, the Herfindahl-Hirschman Index. In equation (4), we also focus on the group of tariffed products and examine whether import growth was slower or diversification greater in products China retreated from most swiftly. In this case the independent variable is a dummy for the change in US market share of China between 2017 and 2022 being greater than the median.

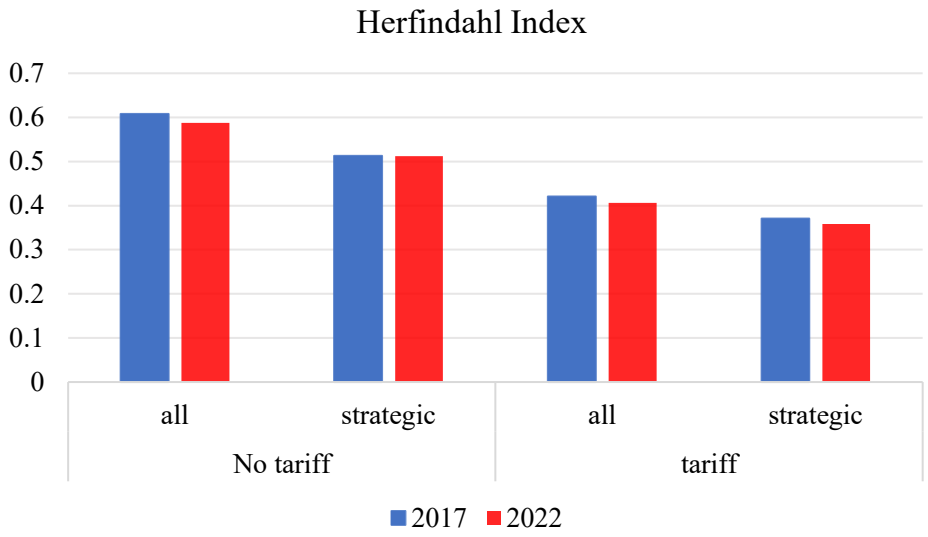
Table 2 shows the results for overall import growth. The upper panel shows the difference-in-differences results for being on the tariff list. There is some evidence that aggregate import growth was slower in the tariffed products, especially strategic goods. But the economic effect is small. Total US import growth was 33 percent between 2017 and 2022 for the set of products in the regression (that had codes that existed in both periods). Overall import growth of the subset of tariffed goods was 32 percent as compared with 36 percent for non-tariffed goods, a 4 percentage point difference. The -0.074 coefficient on all trade, controlling for product fixed effects, suggests a 2.7 percentage point difference in growth rates at the product level due to the tariff. The somewhat slower growth in aggregate imports of goods facing a tariff in China is consistent with higher prices, as tariffs are passed through to consumers, and quantity demanded is lower. If the tariffs had led to large scale reshoring, we would expect substantially lower growth in tariffed products.

The lower panel in Table 2 examines the set of tariff products to see if import growth was slower in those products that China exited more rapidly—where the decline in China's share of US imports was above the median (3.5 percentage points). These results do not reveal a significant effect on total import growth in the products where China's share declined most rapidly. If anything, overall US imports increased in products where China reduced its share. This evidence is consistent with the findings in Fajgelbaum et al. (2023) who find that the US-China trade war allowed third countries to gain scale and efficiency and expand exports.

Table 3 focuses on the effect on diversification of suppliers, using the change in the Herfindahl index as the dependent variable. There is little evidence of an increase in diversification, related to tariffs, as shown in the upper panel. Overall, the average Herfindahl index for non-tariffed and tariffed goods both fell by about 2 percentage points (Figure 4). Of relevance, tariffed goods tend to have greater

average diversification (average HHI around 0.4) than non-tariffed products (average HHI 0.6), suggesting that less substitutable goods may have been exempted from tariffs. There is some evidence that diversification increased because of tariffs imposed on strategic goods, but again the magnitude of effect is small.

Figure 4: Tariffed goods have a more diversified supplier base, but it has changed little over time



We next focus on diversification within the set of tariffed products, focusing on those where the China share fell more than the median decline. This specification does show an effect on overall diversification. Those products where the China share fell most substantially experienced greater international diversification.

One concern with this specification is that diversification would happen by design. Consider a world where China is the largest supplier to the US market for a given product. Diversification in this case would mechanically increase if the China share was reallocated across other suppliers according to their previous shares or even if in each product it was reallocated to one other supplier.

To account for this effect, we also examine whether the retreat of China as a supplier led to a change in diversification among *other* existing suppliers. Results, where the change in diversification is measured excluding China from the sample, are shown in the bottom panel (Table 3, Panel B). These results show no effects of tariffs and if anything a positive effect on other suppliers, indicating increased concentration among them.

The increase in overall diversification (Table 3, Panel A, columns (7) to (12)) and the reduction in diversification among other suppliers (Table 3, Panel B, columns (7) to (12)) means that, in those products where China's share fell markedly, the overall distribution of suppliers to the US market became less concentrated, while among alternative (non-China) suppliers, the distribution became more concentrated. Thus, China's share was not reallocated across suppliers according to their initial shares.

4. US tariffs and the reconfiguration of supply chains

In this section, we investigate the main countries the US is relying on to replace China in the tariffed goods. For this exercise, we again use the following two-pronged strategy:

$$\Delta lnM_{ik}^{US} = \alpha_i + \sigma_k + \beta[I(tariff_k) \times (characteristic_i)] + \varepsilon_{ik} \quad (5)$$

$$\Delta lnM_{ik}^{US} = \alpha_i + \sigma_k + \beta[I(\Delta China\ share > median) \times (characteristic_i)] + \varepsilon_{ik} \quad (6)$$

The dependent variable is US import growth from country *i* in product *k*, characteristic is an exporter country characteristic, such as population, income, or distance from the US. The purpose is to explore, in the tariffed-products or in the products where China's share declined markedly, what characteristics define the countries that displaced China. Country and product fixed effects control for average exporter growth and average product growth in order to isolate which countries benefit specifically from tariffs (or drops in China's shares) relative to other products and to other exporters.

In addition to income, size, and distance, we also include independent variables to reflect economic and political linkages with China or the US. Export similarity with China would promote exports if investors are eschewing China as an export hub and replacing it with otherwise similar economies. Revealed comparative advantage in a product would be important if the most competitive alternative suppliers are gaining market share. UN voting aligned with the United States would be important if US importers are concerned about hostile US polices and want to focus on friendly trade partners. Finally, the intra-industry trade index (Grubel and Lloyd, 1975) is included to reflect whether supply chain integration with China matters. We also tried including a host of other variables including distance from China, regional trade agreement with US, regional trade agreement with China, but they were never significant.

Table 4 reports the results for tariffed goods. We begin with the standard gravity variables –GDP per capita, population, and distance from the US. The results offer weak evidence that tariffed goods experienced faster export growth from larger, more proximate trade partners, and from partners with a similar export structure to China, as compared with growth in non-tariffed goods. Most of the interactions however are not significant and none are robustly significant, suggesting export growth expanded trade in tariffed goods in a similar way to with non-tariffed goods. Panels b and c report results for the group of strategic products and for other goods, respectively, showing that the effects for tariffed goods are driven by the first group.

Table 5 focuses on products where we know China exited more extensively. For this exercise, this specification is a better way to target the effects of decoupling since other countries cannot expand their share *because of China* if China does not depart.[2]

The coefficient on population is positive and highly significant, showing larger countries gain when China relinquishes market share. GDP per capita is negative and highly significant, implying that low-income countries tend to displace China in US imports, suggesting that labor costs matter. Distance is positive and significant, implying that countries further from the US benefit relatively more—precisely the opposite of what nearshoring would imply. However, contiguity is also positive implying that it is both far countries and border countries that benefit from reducing the China dependency.

While in general countries with revealed comparative advantage tend to lose market share—indicating large exporters do not grow as fast—this effect is mitigated in products where China exited (column 2). Countries with revealed comparative advantage experienced relatively faster growth in products where China lost market share. There is some evidence of friendshoring, countries where the UN vote is aligned with the US tend to see higher export growth in products China exited (column 3). There is no significant evidence that looking like China (export similarity to China) helped countries to replace China (column 4).

We also find that countries that were initially very integrated with China, as reflected by intra-industry trade with China, experienced the fastest growth (column 5). To gauge the magnitude of the estimate of the integration with China, we compare the impacts of increasing the intra-industry trade index from the 25th percentile to the 75th percentile of the variable. The estimated coefficient of 0.09 indicates

[2] We also use initial China share—since China cannot exit if it does not have a relatively high share and results are similar.

that export growth of tariffed products is around 3 percentage points higher for countries more integrated with China.

Including all variables, we find the strongest predictors are country size, border, revealed comparative advantage, and integration into Chinese supply chains.

Repeating the exercise, separating the strategic products and other products, highlights important differences among the two groups. For both types of goods low-income countries tend to benefit and RCA is important. For strategic goods, border and distance are also important, and linkages to China's supply chains are critical. In contrast, for other goods, geographical location is not significant, the most important variables is country size, suggesting scale is important.

To put the results on supply chains in economic context, shifting from the 25th to the 75th percentile in depth of linkages to China, for strategic products, leads to higher growth of roughly 4.5 percentage points (Table 5, b). To provide an example, we focus on broadcasting equipment (HS 8525), an important sector in US-China trade relations that in 2017 accounted for over 10 percent of US imports from China. This sector includes products such as media streaming stick devices and internet set top boxes (HS 8525.50.10) that are imported by large companies like Roku and Amazon. For this sector, a shift in trade integration with China from the 50th percentile (India's level) to the 90th percentile (Vietnam's level) is associated with a 12.7 percent increase in export growth to the US.

5. Conclusion

This paper uses detailed trade data from 2017 to 2022 to study how US trade policy is impacting global supply chains. Despite the tariffs imposed by the US administration in 2018-19, the aggregate data show that trade has been dynamic and trade patterns quite resilient. This should be in part expected as a reshuffling of trade will take time. While trade policy shocks would impact the sourcing and location decisions of firms, capital in place coupled with established relationships will tend to reduce the extent of trade reshuffling and new investment will take time to be completed. Even so, we find that significant decoupling has happened, with China's share of US imports falling by more than 5 percentage points relative to its level in 2017. Furthermore, the analysis shows that this decoupling has been associated with tariffs, implying policy interventions matter, but that it has not been associated with significant slowing in overall imports or enhanced diversification. Rather specific countries have benefitted—

especially large developing countries, either on the border with US or far from US. Countries with revealed comparative advantage in a product and more deeply engaged in supply chains with China have also benefitted the most, especially in strategic sectors.

This evidence highlights the tension between efficiency and decoupling. A full reshuffling of global supply chains is not only a long-term process, it is also one that would require to be supported by pronounced and prolonged government intervention. Moreover, decoupling in direct trade may only serve to obscure the indirect linkages between US and China through the industrial supply chains of their trade partners.

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Table 1: Import growth from China slows in tariffed goods

	(1) All	(2) All	(3) All	(4) All	(5) Strategic	(6) Other
I(China)	-0.440***	0.025	0.079*			
	(0.014)	(0.041)	(0.043)			
I(tariff list)		0.039**				
		(0.015)				
I(China) x I(tariff list)		-0.519***	-0.538***	-0.536***	-0.616***	-0.451***
		(0.044)	(0.045)	(0.045)	(0.071)	(0.057)
Observations	213,334	213,334	211,809	211,799	73,348	138,432
R-squared	0.003	0.004	0.110	0.134	0.128	0.141
Product FE	NO	NO	YES	YES	YES	YES
Country	NO	NO	NO	YES	YES	YES

Note: The dependent variable is 10-digit product level import growth from 2017 to 2022, between US and its trade trade partners. China is a dummy variable for trade with China. Tariff-list is a dummy variable for being on the list of China tariffs. Robust standard errors are in parentheses.
*** p<0.01, ** p<0.05, * p<0.1.

Table 2: Effect of decoupling on overall imports in tariffed products

	(1) All	(2) Strategic	(3) Other	(4) All	(5) Strategic	(6) Other
I(tariff list)	-0.055*	-0.067	-0.051	-0.074**	-0.115**	-0.048
	(0.031)	(0.048)	(0.041)	(0.035)	(0.057)	(0.044)
Observations	16,357	4,699	11,658	16,355	4,699	11,656
R-squared	0.000	0.000	0.000	0.029	0.010	0.035
HS2 FE	NO	NO	NO	YES	YES	YES
	(7) All I(tariff list)	(8) Strategic I(tariff list)	(9) Other I(tariff list)	(10) All I(tariff list)	(11) Strategic I(tariff list)	(12) Other I(tariff list)
I(Δ China share > median)	0.004	0.058*	-0.019	0.024	0.076**	0.001
	(0.018)	(0.030)	(0.022)	(0.019)	(0.029)	(0.023)
Observations	12,732	3,779	8,953	12,731	3,779	8,952
R-squared	0.000	0.001	0.000	0.034	0.011	0.041
HS2 FE	NO	NO	NO	YES	YES	YES

Note: The dependent variable is 10-digit product level import growth from 2017 to 2022. Tariff-list is a dummy variable for being on the list of China tariffs. Δ China share > median indicates a dummy for products where the loss in China's share of the US market from 2017 to 2022 was above the median (fell more than 3.5 percentage points). Robust standard errors are in parentheses.
*** p<0.01, ** p<0.05, * p<0.1.

Table 3: Decoupling and Diversification

Panel A: All countries

	(1) All	(2) Strategic	(3) Other	(4) All	(5) Strategic	(6) Other
I(tariff list)	-0.007	-0.036*	0.017	-0.019	-0.039*	-0.007
	(0.011)	(0.019)	(0.013)	(0.012)	(0.021)	(0.015)
Observations	16,357	4,699	11,658	16,355	4,699	11,656
R-squared	0.000	0.001	0.000	0.023	0.006	0.031
HS2 FE	NO	NO	NO	YES	YES	YES
	(7) All	(8) Strategic	(9) Other	(10) All	(11) Strategic	(12) Other
I(Δ China share > median)	-0.086***	-0.047***	-0.102***	-0.072***	-0.041***	-0.086***
	(0.008)	(0.014)	(0.009)	(0.008)	(0.014)	(0.010)
Observations	12,732	3,779	8,953	12,731	3,779	8,952
R-squared	0.009	0.003	0.013	0.034	0.008	0.044
HS2 FE	NO	NO	NO	YES	YES	YES

Panel B: China excluded

	(1) All	(2) Strategic	(3) Other	(4) All	(5) Strategic	(6) Other
I(tariff list)	0.004	0.006	-0.000	-0.009	-0.014	-0.006
	(0.014)	-0.021	(0.019)	(0.016)	(0.025)	(0.021)
Observations	16,089	4,627	11,462	16,087	4,627	11,460
R-squared	0.000	0.000	0.000	0.011	0.002	0.015
HS2 FE	NO	NO	NO	YES	YES	YES
	(7) All	(8) Strategic	(9) Other	(10) All	(11) Strategic	(12) Other
I(Δ China share > median)	0.095***	0.094***	0.095***	0.105***	0.100***	0.107***
	(0.008)	(0.015)	(0.010)	(0.008)	(0.015)	(0.010)
Observations	12,554	3,740	8,814	12,553	3,740	8,813
R-squared	0.011	0.011	0.011	0.025	0.014	0.029
HS2 FE	NO	NO	NO	YES	YES	YES

Note: The dependent variable is change in the Herfindahl Index, calculated among US trade partners, for the 10-digit product from 2017 to 2022. Panel B excludes China, in calculating the Herfindahl Index. Tariff-list is a dummy variable for being on the list of China tariffs. Δ China share > median indicates a dummy for products where the loss in China's share of the US market from 2017 to 2022 was above the median (fell more than 3.5 percentage points). Robust standard errors are in parentheses.
*** p<0.01, ** p<0.05, * p<0.1.

Table 4: Who gains from tariffs

a. Full sample

	dependent variable: export growth to the US on full sample subject to US-China tariffs						
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
I(tariff list) x …							
… x (log of GDPpc)	0.005	0.035	-0.011	-0.006	0.026	0.002	-0.004
	(0.027)	(0.030)	(0.032)	(0.026)	(0.028)	(0.024)	(0.048)
… x (log of Pop.)	0.028*	0.031**	0.020	0.020	0.026*	0.023*	0.018
	(0.015)	(0.015)	(0.013)	(0.014)	(0.015)	(0.013)	(0.019)
… x (log of distance)	-0.142**						-0.102
	(0.069)						(0.090)
… x I(Border)	-0.167						-0.098
	(0.112)						(0.138)
… x I(RCA>1)		0.036					-0.007
		(0.040)					(0.046)
… x (UN voting)			-0.021				-0.005
			(0.026)				(0.037)
… x (Export similarity to China)				0.174			0.469*
				(0.196)			(0.283)
… x (Intra-industry trade w/China)					-0.041		-0.013
					(0.075)		(0.094)
… x (RTA w/USA)						0.004	
						(0.041)	
I(RCA>1)		-0.083**					-0.033
		(0.039)					(0.045)
Intra-industry trade w/China					0.052		0.032
					(0.074)		(0.092)
Observations	157,347	180,813	187,002	190,637	186,273	190,637	148,783
R-squared	0.141	0.132	0.130	0.134	0.133	0.134	0.138
Country FE	YES	YES	YES	YES	YES	YES	YES
Product FE	YES	YES	YES	YES	YES	YES	YES

Robust standard errors are in parentheses.

*** p<0.01, ** p<0.05, * p<0.1.

b. Strategic products

	dependent variable: export growth to the US on strategic products subject to US-China tariffs						
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
I(tariff list) x …							
… x (log of GDPpc)	-0.009	0.083	-0.009	-0.035	0.074	-0.019	0.058
	(0.044)	(0.057)	(0.049)	(0.041)	(0.056)	(0.039)	(0.082)
… x (log of Pop.)	0.030	0.077***	0.033*	0.030	0.060**	0.040**	0.043
	(0.023)	(0.026)	(0.020)	(0.021)	(0.026)	(0.020)	(0.033)
… x (log of distance)	-0.007						0.163
	(0.103)						(0.157)
… x I(Border)	-0.054						0.202
	(0.164)						(0.238)
… x I(RCA>1)		0.081					0.039
		(0.062)					(0.068)
… x (UN voting)			-0.002				-0.023
			(0.036)				(0.055)
… x (Export similarity to China)				0.426			0.916**
				(0.282)			(0.458)
… x (Intra-industry trade w/China)					-0.066		-0.089
					(0.111)		(0.134)
… x (RTA w/USA)						-0.077	
						(0.060)	
I(RCA>1)		-0.145**					-0.094
		(0.060)					(0.066)
Intra-industry trade w/China					0.025		0.045
					(0.108)		(0.130)
Observations	54,318	61,142	64,469	65,634	63,000	65,634	50,611
R-squared	0.133	0.123	0.126	0.129	0.124	0.129	0.127
Country FE	YES	YES	YES	YES	YES	YES	YES
Product FE	YES	YES	YES	YES	YES	YES	YES

Robust standard errors are in parentheses.
*** p<0.01, ** p<0.05, * p<0.1.

c. Other goods

	dependent variable: export growth to the US on other goods subject to US-China tariffs						
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
I(tariff list) x …							
… x (log of GDPpc)	0.017	0.020	-0.008	0.025	0.014	0.025	-0.019
	(0.037)	(0.036)	(0.046)	(0.035)	(0.033)	(0.032)	(0.061)
… x (log of Pop.)	0.011	-0.000	0.002	0.002	0.003	0.003	0.001
	(0.021)	(0.019)	(0.018)	(0.019)	(0.018)	(0.018)	(0.024)
… x (log of distance)	-0.163*						-0.179
	(0.099)						(0.112)
… x I(Border)	-0.133						-0.158
	(0.159)						(0.172)
… x I(RCA>1)		-0.014					-0.044
		(0.052)					(0.063)
… x (UN voting)			-0.039				-0.013
			(0.039)				(0.050)
… x (Export similarity to China)				0.009			0.169
				(0.277)			(0.361)
… x (Intra-industry trade w/China)					-0.045		0.014
					(0.104)		(0.137)
… x (RTA w/USA)						0.071	
						(0.058)	
I(RCA>1)		-0.024					0.006
		(0.051)					(0.062)
Intra-industry trade w/China					0.087		0.034
					(0.103)		(0.135)
Observations	103,026	119,667	122,529	124,999	123,267	124,999	98,170
R-squared	0.147	0.140	0.136	0.140	0.140	0.140	0.146
Country FE	YES	YES	YES	YES	YES	YES	YES
Product FE	YES	YES	YES	YES	YES	YES	YES

Robust standard errors are in parentheses.
*** p<0.01, ** p<0.05, * p<0.1.

Table 5: Who gains when China exits?

a. All goods

	dependent variable: export growth to the US on full sample subject to US-China tariffs						
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
I(ΔChina share> median) x …							
… x (log of Pop.)	0.018**	0.030***	0.026***	0.027***	0.026***	0.028***	0.023**
	(0.008)	(0.007)	(0.007)	(0.008)	(0.007)	(0.007)	(0.009)
… x (log of GDPpc)	-0.050***	-0.072***	-0.033*	-0.079***	-0.081***	-0.077***	-0.025
	(0.016)	(0.015)	(0.019)	(0.015)	(0.015)	(0.014)	(0.023)
… x I(Border)	0.105*						0.111*
	(0.063)						(0.065)
… x (log of distance)	0.074*						0.059
	(0.040)						(0.042)
… x I(RCA>1)		0.078***					0.086***
		(0.018)					(0.021)
… x (UN voting)			0.041***				0.019
			(0.015)				(0.018)
… x (Export similarity to China)				0.065			-0.274**
				(0.111)			(0.138)
… x (Intra-industry trade w/China)					0.084**		0.090**
					(0.033)		(0.040)
… x (RTA w/USA)						-0.009	
						(0.022)	
I(RCA>1)		-0.090***					-0.086***
		(0.013)					(0.015)
Intra-industry trade w/China					-0.031		-0.028
					(0.024)		(0.028)
Observations	140,276	163,657	166,575	169,759	168,117	169,759	134,797
R-squared	0.134	0.128	0.124	0.128	0.128	0.128	0.133
Country FE	YES	YES	YES	YES	YES	YES	YES
Product FE	YES	YES	YES	YES	YES	YES	YES

Robust standard errors are in parentheses.
*** p<0.01, ** p<0.05, * p<0.1.

b. Strategic products

	dependent variable: export growth to the US on strategic products subject to US-China tariffs						
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
I(ΔChina share > median) x …							
… x (log of Pop.)	0.004	0.014	0.015	0.007	0.014	0.016	-0.003
	(0.015)	(0.014)	(0.013)	(0.014)	(0.013)	(0.013)	(0.016)
… x (log of GDPpc)	0.020	-0.070**	-0.015	-0.065**	-0.073**	-0.053*	-0.043
	(0.034)	(0.031)	(0.036)	(0.030)	(0.031)	(0.029)	(0.041)
… x I(Border)	0.434***						0.480***
	(0.115)						(0.121)
… x (log of distance)	0.294***						0.305***
	(0.075)						(0.080)
… x I(RCA>1)		0.112***					0.098***
		(0.031)					(0.036)
… x (UN voting)			0.026				-0.021
			(0.025)				(0.029)
… x (Export similarity to China)				0.394**			0.042
				(0.189)			(0.230)
… x (Intra-industry trade w/China)					0.128**		0.145**
					(0.055)		(0.066)
… x (RTA w/USA)						-0.055	
						(0.038)	
I(RCA>1)		-0.117***					-0.104***
		(0.021)					(0.024)
Intra-industry trade w/China					-0.091**		-0.109**
					(0.040)		(0.045)
Observations	47,513	55,790	56,339	57,333	57,212	57,333	46,208
R-squared	0.124	0.121	0.118	0.122	0.122	0.122	0.124
Country FE	YES	YES	YES	YES	YES	YES	YES
Product FE	YES	YES	YES	YES	YES	YES	YES

Robust standard errors are in parentheses.
*** p<0.01, ** p<0.05, * p<0.1.

c. Other goods

	dependent variable: export growth to the US on other goods subject to US-China tariffs						
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
I(ΔChina share > median) x …							
… x (log of Pop.)	0.028***	0.036***	0.033***	0.038***	0.034***	0.037***	0.035***
	(0.010)	(0.009)	(0.009)	(0.010)	(0.009)	(0.009)	(0.011)
… x (log of GDPpc)	-0.065***	-0.076***	-0.035	-0.082***	-0.085***	-0.084***	-0.012
	(0.019)	(0.017)	(0.024)	(0.018)	(0.017)	(0.016)	(0.028)
… x I(Border)	0.017						0.022
	(0.076)						(0.079)
… x (log of distance)	0.016						0.008
	(0.047)						(0.050)
… x I(RCA>1)		0.061***					0.077***
		(0.023)					(0.027)
… x (UN voting)			0.050**				0.031
			(0.020)				(0.023)
… x (Export similarity to China)				-0.052			-0.373**
				(0.137)			(0.175)
… x (Intra-industry trade w/China)					0.043		0.030
					(0.043)		(0.051)
… x (RTA w/USA)						0.010	
						(0.028)	
I(RCA>1)		-0.075***					-0.083***
		(0.017)					(0.019)
Intra-industry trade w/China					0.016		0.027
					(0.031)		(0.036)
Observations	92,760	107,863	110,231	112,421	110,900	112,421	88,586
R-squared	0.141	0.135	0.130	0.135	0.134	0.135	0.141
Country FE	YES	YES	YES	YES	YES	YES	YES
Product FE	YES	YES	YES	YES	YES	YES	YES

Robust standard errors are in parentheses.
*** p<0.01, ** p<0.05, * p<0.1.

Appendix Table 1: Strategic Industries, Broad 2-digit categories

- 28 inorganic chemicals; organic and inorganic compounds of precious metals; of rare earth metals, of radio-active elements and of isotopes
- 29 organic chemicals
- 30 pharmaceutical products
- 38 chemical products n.e.c
- 84 nuclear reactors, boilers, machinery and mechanical appliances; parts thereof
- 85 electrical machinery and equipment and parts thereof; sound recorders and reproducers; television image and sound recorders and reproducers, parts and accessories of such articles
- 87 vehicles; other than railway or tramway rolling stock, and parts and accessories thereof
- 88 aircraft, spacecraft and parts thereof
- 90 optical, photographic, cinematographic, measuring, checking, medical or surgical instruments and apparatus; parts and accessories
- 93 arms and ammunition; parts and accessories thereof
- 98 special classification provisions

Appendix Table 2: Summary statistics

	N	mean	sd	min	max	p50	p25	p75
I(All)	427,664	1	0	1	1	1	1	1
I(Strategic Industry)	427,664	0.320	0.467	0	1	0	0	1
I(Other Industry)	427,664	0.680	0.467	0	1	1	0	1
I(National Security Industry)	427,664	0.709	0.454	0	1	1	0	1
I(National Security Product)	427,664	0.232	0.422	0	1	0	0	0
Export growth	201,009	0.370	1.795	-10.80	12.71	0.335	-0.558	1.283
I(tariff list)	427,664	0.915	0.278	0	1	1	1	1
log of Pop.	416,285	17.06	1.625	9.290	21.03	17.39	15.99	18.08
log of GDPpc	413,036	10.15	0.830	6.621	11.72	10.43	9.580	10.79
UN voting USA	403,355	2.128	0.903	0.152	4.260	1.874	1.453	3.023
I(RCA>1)	359,686	0.334	0.472	0	1	0	0	1
Export similarity to China	415,806	0.283	0.0968	0.0635	0.522	0.309	0.193	0.351
I(Border)	350,426	0.0759	0.265	0	1	0	0	0
log of distance USA	425,463	9.007	0.479	7.640	9.727	9.022	8.911	9.406
Intra-industry trade w/China	399,294	0.194	0.275	0	1	0.0412	0.000452	0.304

Appendix Table 3: Who gains when China exits national security products?

	dependent variable: export growth on goods subject to US-China tariffs for which ΔChina share > median						
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
I(National security) x …							
... x (log of Pop.)	-0.056***	-0.044***	-0.046***	-0.056***	-0.046***	-0.043***	-0.069***
	(0.014)	(0.013)	(0.013)	(0.013)	(0.013)	(0.012)	(0.015)
… x (log of GDPpc)	0.013	-0.026	0.000	-0.052*	-0.040	-0.030	-0.009
	(0.030)	(0.027)	(0.033)	(0.027)	(0.027)	(0.026)	(0.039)
… x (I(Border))	0.383***						0.390***
	(0.110)						(0.115)
… x (log of distance)	0.236***						0.209***
	(0.070)						(0.075)
... x (I(RCA>1))		-0.021					-0.059
		(0.031)					(0.036)
... x (UN voting)			0.025				0.021
			(0.024)				(0.029)
... x (Export similarity to China)				0.633***			0.755***
				(0.181)			(0.224)
... x (Intra-industry trade w/China)					0.056		0.040
					(0.054)		(0.066)
... x (RTA w/USA)						-0.034	
						(0.038)	
I(RCA>1)		-0.002					0.014
		(0.016)					(0.018)
Intra-industry trade w/China					0.046		0.041
					(0.030)		(0.035)
Observations	71,212	83,160	84,515	86,382	85,441	86,382	68,302
R-squared	0.127	0.128	0.121	0.130	0.129	0.130	0.126
Country FE	YES	YES	YES	YES	YES	YES	YES
Product FE	YES	YES	YES	YES	YES	YES	YES

Robust standard errors are in parentheses.
*** p<0.01, ** p<0.05, * p<0.1.