

IDE Discussion Papers are preliminary materials circulated to stimulate discussions and critical comments

IDE DISCUSSION PAPER No. 971

Trade Diversion in the US Market during the US–China Trade War: Firm-level Evidence from Thailand

Kazunobu Hayakawa * and Souknilanh Keola
June 2025

Abstract: The US–China trade war, which began in the latter half of the 2010s, has led to increased exports from third countries to the US. This paper presents a firm-level analysis of such an increase in Thailand, one of the countries that has benefited from this trade diversion. Specifically, we empirically examine changes in the export rankings of Thai firms exporting to the US. Our dataset includes the top 1,500 Thai exporters to the US for the years 2015, 2016, 2021, 2022, and 2023. By linking US tariffs on Chinese goods to exporters at the four-digit industry level, we assess the impact of these tariffs on firms' export rankings. We also incorporate data on firm-level imports from China and firm nationality. We find that, on average, US tariffs are not significantly associated with the export rankings of Thai firms. However, major importers from China in Thailand benefit from trade diversion in the US market. Furthermore, firms in Thailand with investment from China, Singapore, the US, and Europe have increased their exports to the US following the onset of the trade war, indicating that these firms have capitalized on the shift in trade dynamics.

Keywords: US-China trade war; Nationality; Thailand

JEL classification: F15, F53

* Bangkok Research Center, Institute of Developing Economies
(kazunobu_hayakawa@ide.go.jp)

The Institute of Developing Economies (IDE) is a semigovernmental, nonpartisan, nonprofit research institute, founded in 1958. The Institute merged with the Japan External Trade Organization (JETRO) on July 1, 1998. The Institute conducts basic and comprehensive studies on economic and related affairs in all developing countries and regions, including Asia, the Middle East, Africa, Latin America, Oceania, and Eastern Europe.

The views expressed in this publication are those of the author(s). Publication does not imply endorsement by the Institute of Developing Economies of any of the views expressed within.

INSTITUTE OF DEVELOPING ECONOMIES (IDE), JETRO
3-2-2, WAKABA, MIHAMA-KU, CHIBA-SHI
CHIBA 261-8545, JAPAN

©2025 by author(s)

No part of this publication may be reproduced without the prior permission of the author(s).

Trade Diversion in the US Market during the US–China Trade War: Firm-level Evidence from Thailand

Kazunobu HAYAKAWA^{§#}

Bangkok Research Center, Institute of Developing Economies, Thailand

Souknilanh KEOLA

Economic Research Institute for ASEAN and East Asia, Indonesia

Abstract: The US–China trade war, which began in the latter half of the 2010s, has led to increased exports from third countries to the US. This paper presents a firm-level analysis of such an increase in Thailand, one of the countries that has benefited from this trade diversion. Specifically, we empirically examine changes in the export rankings of Thai firms exporting to the US. Our dataset includes the top 1,500 Thai exporters to the US for the years 2015, 2016, 2021, 2022, and 2023. By linking US tariffs on Chinese goods to exporters at the four-digit industry level, we assess the impact of these tariffs on firms’ export rankings. We also incorporate data on firm-level imports from China and firm nationality. We find that, on average, US tariffs are not significantly associated with the export rankings of Thai firms. However, major importers from China in Thailand benefit from trade diversion in the US market. Furthermore, firms in Thailand with investment from China, Singapore, the US, and Europe have increased their exports to the US following the onset of the trade war, indicating that these firms have capitalized on the shift in trade dynamics.

Keywords: US-China trade war; Nationality; Thailand

JEL Classification: F15, F53

1. Introduction

The US–China trade war, which began in the latter half of the 2010s, has increased exports from third countries to the US. Under Section 301 of the Trade Act of 1974, the US began raising tariffs on imports from China in 2018. Numerous studies have shown that these additional tariffs reduced US imports from China (Amiti et al., 2019; Amiti et al., 2020; Fajgelbaum et al., 2020; Cavallo et al., 2021; Handley et al., 2025; Egger & Zhu, 2020; Blanchard et al., 2024). As a result, by substituting for Chinese exports, several third countries succeeded in increasing their exports to the US—an effect known as trade diversion. From a public perspective, the countries commonly seen as beneficiaries of this

[§] We would like to thank Fukunari Kimura, Kiyoyasu Tanaka, So Umezaki, and Isamu Wakamatsu for their helpful comments. This work was also supported by JSPS KAKENHI Grant Numbers 22H00063 and 24H00014. All remaining errors are ours.

[#] Corresponding author: Kazunobu Hayakawa; Address: JETRO Bangkok, 127 Gaysorn Tower, 29th Floor, Ratchadamri Road, Lumpini, Pathumwan, Bangkok 10330, Thailand; Tel: 66-2-253-6441; Fax: 66-2-254-1447; E-mail: kazunobu_hayakawa@ide-gsm.org.

diversion include ASEAN member states and Mexico, which are geographically proximate to China and the US, respectively.

Against this backdrop, we examine how US tariffs on China have affected exports from a third country (i.e., Thailand) to the US. To avoid the additional US tariffs, many firms with affiliates in China have relocated their production lines to ASEAN countries and Mexico. For instance, several Japanese multinational enterprises (MNEs), including Casio, Sony, Ricoh, and OKI, moved production intended for the US market from China to Thailand. These relocations give rise to two empirical hypotheses. First, exporters in third countries that ship to the US may be closely linked to China. For example, they may rely on Chinese inputs to produce their exported goods. Second, the firms that increase their exports to the US may not be local or indigenous to the third countries; instead, they may be Chinese or US firms operating abroad. This study empirically investigates these hypotheses at the firm level.

Specifically, we analyze the rankings of firm-level exports from Thailand to the US. Our dataset includes the top 1,500 Thai exporters to the US for the years 2015, 2016, 2021, 2022, and 2023. By linking US tariffs on Chinese goods with exporters at the four-digit industry level, we examine the impact of these tariffs on firm-level export rankings. We also include firm-level data on imports from China and firm nationality. We find that, on average, US tariffs are not significantly associated with the export rankings of Thai firms. However, major importers from China do benefit from trade diversion in the US market. In addition, firms operating in Thailand that originate from China, Singapore, the US, and Europe increased their exports to the US following the onset of the trade war. In contrast, Thai firms generally show no significant relationship between their export rankings and US tariffs on China.

Several studies have explored the trade effects of the US–China trade war on third-party economies. For instance, Choi and Nguyen (2023) and Ngoc and Wie (2023) documented a substantial increase in US imports of targeted goods from Vietnam. Alfaro and Chor (2023) found that Vietnam expanded its exports of upstream or less labor-intensive goods to the US, whereas Mexico boosted its exports of downstream or more labor-intensive products. Hayakawa et al. (2024) reported a significant rise in machinery exports to the US from Taiwan, but not from Japan or South Korea. In contrast, Cigna et al. (2022) found no significant short-term changes in US imports from third countries. A more comprehensive analysis by Fajgelbaum et al. (2024) showed that Vietnam, Thailand, Korea, and Mexico were among the largest export winners, capitalizing on trade opportunities in sectors where US or Chinese market presence had declined.

Within this literature, our study is among the few that assess the trade diversion effects of the US–China trade war at the firm level. Utar et al. (2023) examined Mexican firm-level exports and found that US tariffs on Chinese goods significantly increased Mexican exports to the US. Specifically, exports by foreign MNEs grew 2.5 times more than those of domestic firms. Among foreign MNEs, firms from Asian countries, such as Japan and Korea, exhibited stronger export growth than those from the US or Europe. Furthermore, they found that US tariffs targeting China led to increased imports from the US and several Asian countries (e.g., Taiwan, Thailand, Vietnam, Japan, Korea, and India), but not from China. Our study contributes new firm-level evidence on trade diversion by analyzing the case of Thailand.

As noted above, we also find that foreign MNEs benefit more than local firms. However, unlike the findings for Mexico, our results indicate a significant relationship between imports from China and exports to the US.¹

The remainder of this study is structured as follows. Section 2 describes our data sources, and Section 3 outlines our empirical framework. Section 4 presents the estimation results, and Section 5 concludes the paper.

2. Data Sources

This section outlines the construction of our dataset. Specifically, we combine three firm-level databases. The first is the Exporter–Importer database, managed by the Ministry of Commerce in Thailand.² From this source, we extract the top 1,500 exporters to the US from Thailand, ranked by export value. These firms include manufacturing and service firms, such as trading companies. The database provides information on rankings, company names, addresses, and telephone numbers. However, it does not include details on the products exported (e.g., harmonized system codes) or export values. Using this database, we obtain the export rankings for the top 1,500 firms in the years 2015, 2016, 2021, 2022, and 2023.³ These rankings are used as the dependent variable in our analysis.

The second database is SPEEDA, managed by Uzabase Inc.⁴ Like other firm-level databases such as Orbis, SPEEDA provides financial information on private companies across many countries. From this database, we extract various details about manufacturing firms in Thailand, including their tax identification numbers, entry years, stock market listings, and four-digit International Standard Industrial Classification (ISIC) codes. By matching company names, we link this database with the Exporter–Importer database and identify the primary industry of each exporter. This matching process results in a dataset focused on Thai manufacturing firms engaged in exports.

The third source is the DBD database, administered by the Department of Business Development within Thailand’s Ministry of Commerce.⁵ This database contains company names, tax identification codes, and investment data categorized by nationality. We link this database with the previous two using tax identification codes and identify, for each firm, the nationality of the largest investor. As a result, our final dataset (i.e., matched sample) includes approximately 1,000 manufacturing firms per year: firm-level data on entry year, stock exchange listing, industry classification, and nationality. For future analysis, we also incorporate information from the Exporter–Importer database on whether each firm appears among the top 1,500 importers from China in the corresponding year.

¹ In terms of investigating the link with imports from China, our paper is also related to the product-level studies by Freund et al. (2024). They found that third countries with faster export growth to the US in certain sectors also had a more intense intraindustry trade with China in those same sectors. It was also revealed that growth in imports of goods at both the HS two- and six-digit levels from China is positively correlated with growth in exports of goods at the related ten-digit levels to the US. In this paper, we investigate this trade linkage with China at a firm-level.

² <https://ietrade.moc.go.th/Default.aspx>

³ We cannot obtain this list between 2017 and 2020.

⁴ <https://jp.ub-speeda.com>

⁵ <https://datawarehouse.dbd.go.th/index>

3. Empirical Framework

This section presents the empirical framework used to examine the effects of additional US tariffs on Chinese goods on exports from Thailand to the US. Specifically, we estimate the following equation for firm i in ISIC industry j and year t .

$$\ln Rank_{ijt} = \beta \ln(1 + Tariffs_{jt}) + \mathbf{X}'\boldsymbol{\gamma} + FE_j + FE_t + \epsilon_{ijt}. \quad (1)$$

$Rank_{ijt}$ represents the export ranking of firm i in year t , where a lower rank indicates a higher export value to the US. $Tariffs_{jt}$ denotes the annual average of monthly US tariffs on Chinese goods at the industry level. X is a vector of firm-level characteristics, including firm age (calculated based on the firm's entry year) and a dummy variable indicating whether the firm is listed on the Thai stock market (*Listed* dummy). The model also includes industry fixed effects (FE_j) and year fixed effects (FE_t). We estimate this equation using ordinary least squares.⁶

Equation (1) captures both intensive margin effects (i.e., changes in rankings among existing exporters) and extensive margin effects (i.e., entry into the top 1,500 exporters during periods of increased tariffs). However, the impact of the extensive margin on the tariff coefficient is ambiguous. For example, if more firms from industries with rising tariffs appear in the dataset, the tariff coefficient could either increase or decrease. To isolate the intensive margin, we introduced firm fixed effects, where a negative coefficient on tariffs suggests that firms in higher-tariff industries tend to improve their export rankings. Therefore, the interpretation of results depends on the fixed effects applied.⁷ Importantly, US tariffs on China are considered exogenous in this context, as Thailand is not directly involved in the trade conflict.

We also estimate two extended models. The first includes an interaction term between $\ln(1 + Tariffs_{jt})$ and $ImChina\ dummy_{it}$, which equals one if firm i is among the top 1,500 importers from China in year t . A negative coefficient on this interaction term suggests that major importers from China tend to benefit from trade diversion to the US market. This relationship may arise through two mechanisms, such as export circumvention, where goods are rerouted from China to the US via Thailand, or input dependence, where firms use Chinese imports to produce goods for export to the US. Although we cannot distinguish between these channels, both would contribute to a negative coefficient on the interaction. The model also includes a non-interacted version of $ImChina\ dummy_{it}$. However, this variable may be endogenous, as unobserved firm characteristics could influence both US exports and Chinese imports. Thus, we included firm fixed effects in this model, although endogeneity was not fully addressed.⁸

⁶ There are some studies that regress a log of ranking on regressors. Typical studies are those on Zipf's law (e.g., Rose, 2006; Chauvin et al., 2017; Ioannides and Zhang, 2017). Also, in studies on international trade, Helpman et al. (2004) regress a log of sales ranking on a log of sales at a firm-level.

⁷ Notice that we cannot investigate the effects on the extensive margin only because we have only the data on exporters and do not have those on firms that have not exported to the US.

⁸ Since $ImChina\ dummy$ is time-variant only in 15% of the study firms, firm fixed effects control for a

The second extended model introduces interaction terms between US tariffs and dummy variables for firm nationality. Using Thai (i.e., local) firms as the baseline, we include dummies for firms from Australia, China, Hong Kong, India, Japan, Korea, Singapore, and Taiwan, as well as the US. These countries represent the top nine in our dataset in terms of firm count. We also added interaction terms for firms from Europe and the rest of the world (ROW). This specification allowed us to assess how the effect of US tariffs varies by firm nationality. Although we do not have specific theoretical predictions, it is of interest to determine whether US or Chinese firms in Thailand are more likely to increase their exports to the US through third-country operations.

Three data-related issues must be noted. First, tariff data were sourced from the World Integrated Trade Solution, the replication files of Fajgelbaum et al. (2020), and official modification notices issued by the Office of the United States Trade Representative. Second, we use two types of export rankings: "Original" from the Exporter–Importer database (ranging 1–1,500) and "Re-ranked" positions among our matched sample (ranging from 1 to approximately 1,000). Third, for firms with major investments from tax havens (e.g., British Indian Ocean Territory, British Virgin Islands, Cayman Islands, the Netherlands Antilles, and Virgin Islands), we assigned nationality based on the location of the firm’s headquarters, as identified on its official website. Firms whose headquarters location was unclear were treated as Thai firms.⁹ Table 1 presents summary statistics for the variables used in our analysis.

=== Table 1 ===

Before presenting the estimation results, we provide an overview of Thai exports to the US. Figure 1 shows the absolute value of these exports and their share of Thailand’s total exports to the world. The volume of Thai exports to the US has increased over time, with the US share rising markedly from 9% in 2012 to 16% in 2023. The increase is especially pronounced in 2019 and 2020. Figure 1 also shows the value of imports from China into Thailand and their share of total imports. Like exports to the US, imports from China have steadily increased, particularly between 2020 and 2021, although the share increase was moderate during that period. Overall, the trends in both export and import shares appear to move together, including declines between 2016 and 2018 and relatively stable patterns from 2020 to 2023.

=== Figure 1 ===

4. Empirical Results

This section presents our estimation results. Columns (I) and (III) of Table 2 report the results for the "Original" and "Re-ranked" samples, respectively. Standard errors are clustered at the industry level. In both columns, the coefficients on US tariffs were

significant part of the selection mechanism in this variable.

⁹ Since we use the information of investment sources as of the first quarter of 2025, nationality does not change over time.

statistically insignificant, capturing the combined effects of intensive and extensive margins. The coefficients on *Age* and *Listed* are also found to be insignificant. In Columns (II) and (IV), we replace industry fixed effects with firm fixed effects, thereby isolating the intensive margin effects. Owing to perfect multicollinearity, *Age* and *Listed* are excluded in these specifications. Again, the tariff coefficients remain insignificant, although their magnitudes increase relative to Columns (I) and (III). One possible explanation is that new exporters in industries facing greater tariff increases may have achieved higher rankings than existing firms in industries with smaller tariff increases. Nevertheless, on average, US tariffs on China are not significantly associated with Thai firms' export rankings to the US. This stands in contrast to product-level studies, such as that of Fajgelbaum et al. (2024), which found significant export growth from Thailand in response to US tariffs. Our firm-level results suggest that not all firms within affected industries had increased their exports.

=== Table 2 ===

Next, we incorporate the *ImChina* dummy, which equals one if a firm is among the top 1,500 importers from China and zero otherwise. Columns (I) and (III) of Table 3 report these results, controlling for firm fixed effects and thus reflecting intensive margin effects only. In both columns, the coefficient for US tariffs remains insignificant, indicating that firms in high-tariff industries do not universally expand their exports. The coefficient for the non-interacted *ImChina* dummy is significantly negative, although the interaction term with tariffs is insignificant. This finding suggests that major Chinese importers in Thailand tend to occupy higher export ranks to the US, independent of tariff increases.

=== Table 3 ===

In Columns (II) and (IV), we replace year fixed effects with industry-year fixed effects to control for all time-varying industry-specific characteristics. The non-interacted tariff variable is omitted due to perfect multicollinearity with industry-year fixed effects. The *ImChina* dummy remains significantly negative in Column (II) but becomes insignificant in Column (IV). However, the interaction term between tariffs and *ImChina* is significantly negative in both columns. The shift in significance across specifications suggests the presence of confounding factors at the industry-year level that correlate with Chinese import activity. Overall, these results imply that large importers from China in Thailand benefit more from trade diversion into the US market. As discussed, this may be due either to export circumvention via Thailand or the use of Chinese inputs in goods destined for the US.

We next estimate the model using firm nationality dummy variables. Before reporting results, we summarize the distribution of firm nationalities in Table 4. Thai firms constitute the largest group, followed by Japanese firms. Notably, after the trade war began, the number of Chinese firms increased significantly, ranking third by 2021. In contrast, the number of Thai exporters declined over the same period. This trend highlights the relevance of analyzing both intensive and extensive margins. US firms ranked fourth and remain relatively stable over time, whereas Hong Kong and Singapore also contribute sizable firm

counts.

=== Table 4 ===

Using the distribution in Table 4, we carefully select which fixed effects to include. In Table 5, we do not include firm fixed effects, allowing the results to reflect both intensive and extensive margins. Thai firms serve as the base category. The non-interacted tariff variable remains insignificant, suggesting that US tariffs do not increase exports by Thai firms on average. However, we found significantly negative coefficients for the interaction terms with firms from China, Hong Kong, Singapore, the US, Europe, and the ROW. These coefficients are substantially larger in magnitude than the non-interacted tariff coefficient, suggesting that firms from these countries operating in Thailand benefit more from trade diversion. Interestingly, Thai and Japanese firms, despite being the most numerous in the sample, show no significant relationship between their export rankings and US tariffs on China.

=== Table 5 ===

In Table 6, we introduce firm fixed effects, isolating intensive margin effects by analyzing how export rankings of existing firms change over time in response to tariffs. The non-interacted tariff coefficients in Columns (I) and (III) remain statistically insignificant, confirming that Thai firms do not, on average, improve their rankings due to tariffs. However, the interaction terms with the Korean dummy are significantly negative in all specifications, whereas those with the Hong Kong dummy are significantly negative in Columns (II) and (IV). We also found significantly negative coefficients for the Indian dummy in Columns (I) and (III). These results indicate that existing exporters from Korea, Hong Kong, and India tend to improve their rankings in response to US tariffs. Notably, the nationalities that showed significant results in Table 5 generally do not in Table 6, suggesting that firms from China, Singapore, the US, Europe, and ROW began their major export activities to the US only after the trade war began—an extensive margin effect.

=== Table 6 ===

Finally, we combine the two streams of analysis. Whereas Table 3 shows that major importers from China benefit from trade diversion, here we examine whether this effect differs based on firm nationality. For instance, Chinese firms may be more likely to operate factories in China, increasing the likelihood of export circumvention. We therefore introduce interaction terms involving $\ln(1 + Tariffs)$, the *ImChina* dummy, and a Chinese nationality dummy. Table 7 reports these results, with firm fixed effects included. However, none of the newly added interaction terms are statistically significant. This suggests that the relationship between Chinese imports and US-directed exports is not significantly different across firm nationalities.¹⁰

¹⁰ In this table, we examined the association between imports from China and Chinese firms. Insignificant results are unchanged even when examining the association between imports from China

5. Concluding Remarks

This study empirically examined, at the firm level, how US tariffs on Chinese goods have influenced exports from Thailand to the US. Specifically, we analyzed the rankings of Thai firms exporting to the US. Our findings show that, on average, US tariffs are not significantly associated with changes in firm-level export rankings. However, firms that are major importers from China do appear to benefit from trade diversion into the US market. These firms may either be engaging in export circumvention—routing goods from China through Thailand—or relying on Chinese inputs to produce goods exported to the US. Although prior research found no significant relationship between Chinese imports and Mexican exports to the US (Utar, 2023), our results for Thailand may be explained by its geographic proximity to China, which reduces import costs.

We also found that firms operating in Thailand with investment from China, Singapore, the US, and Europe have benefited from trade diversion, significantly increasing their exports to the US after the onset of the trade war. Ironically, firms from the two nations directly involved in the conflict (i.e., China and the US) have used third-country production in places like Thailand to bypass tariff barriers. In contrast, Thai and Japanese firms—the two largest national groups of major exporters to the US from Thailand—do not exhibit a statistically significant relationship between their export rankings and US tariffs on China. For Thai firms, this may reflect a lack of competitiveness in the US market. For Japanese firms, the explanation likely lies in their distribution strategy: their primary sales to North America occur through local affiliates based in the US rather than through operations in ASEAN countries (Ando et al., 2025).

References

- Amiti, M., S.J. Redding, and D.E. Weinstein (2019), The Impact of the 2018 Tariffs on Prices and Welfare, *Journal of Economic Perspectives*, 33(4), pp.187–210.
- Amiti, M., S.J. Redding, and D.E. Weinstein (2020), Who's Paying for the US Tariffs? A Longer-Term Perspective, *AEA Papers and Proceedings*, 110, pp.541–546.
- Ando, M., K. Hayakawa, F. Kimura, and K. Yamanouchi (2025), The Structure of Supply Chains and the Impacts of Trump 1.0 Tariffs: Evidence from Japanese Firms' Sales to North America, Discussion Paper 25046, Research Institute of Economy, Trade and Industry (RIETI).
- Blanchard, E.J., C.P. Bown, and D. Chor (2024), Did Trump's Trade War Impact the 2018 Election?, *Journal of International Economics*, 148, 103891.
- Cavallo, A., G. Gopinath, B. Neiman, and J. Tang (2021), Tariff Pass-through at the Border and at the Store: Evidence from US Trade Policy, *American Economic Review: Insights*, 3(1), pp.19–34.
- Chauvin, J.P., E. Glaeser, Y. Ma, and K. Tobio (2017), What is Different about Urbanization in Rich and Poor Countries? Cities in Brazil, China, India and the United States, *Journal of Urban Economics*, 98, pp.17-49.
- Choi, B.-Y. and T. L. Nguyen (2023), Trade Diversion Effects of the US-China Trade War on Vietnam, *Pacific Economic Review*, 28(4), pp.570–88.
- Chor, D. and B. Li (2024), Illuminating the Effects of the US-China Tariff War on China's Economy, *Journal of International Economics*, 150, 103926.
- Cigna, S., P. Meinen, P. Schulte, and N. Steinhoff (2022), The Impact of US Tariffs against China on US Imports: Evidence for Trade Diversion?, *Economic Inquiry*, 60(1), pp.162–173.
- Egger, P.H. and J. Zhu (2020), The US-Chinese Trade War: An Event Study of Stock-market Responses, *Economic Policy*, 35(103), pp.519–559.
- Fajgelbaum, P.D., P.K. Goldberg, P.J. Kennedy, and A.K. Khandelwal (2020), The Return to Protectionism, *Quarterly Journal of Economics*, 135(1), pp.1–55.
- Fajgelbaum, P.D., P.K. Goldberg, P.J. Kennedy, A.K. Khandelwal, and D. Taglioni (2024), The US-China Trade War and Global Reallocations, *American Economic Review: Insights*, 6(2), pp.295–312.
- Freund, C., A. Mattoo, A. Mulabdic, and M. Ruta (2024), Is US Trade Policy Reshaping Global Supply Chains?, *Journal of International Economics*, 152, 104011.
- Handley, K., F. Kamal, and R. Monarch (2025), Rising Import Tariffs, Falling Export Growth: When Modern Supply Chains Meet Old-Style Protectionism, *American Economic Journal: Applied Economics*, 17(1), pp. 208–238.
- Hayakawa, K., J.-H. Pyun, N. Yamashita, and C.-H. Yang (2024), Ripple Effects in Regional Value Chains: Evidence from an Episode of the US–China Trade War, *The World Economy*, 47(3), pp. 880–897.
- Helpman, E., M.J. Melitz, and S.R. Yeaple (2004), Export Versus FDI with Heterogeneous Firms, *American Economic Review*, 94(1), pp.300–316.
- Ioannides, Y.M. and J. Zhang (2017), Walled Cities in Late Imperial China, *Journal of Urban Economics*, 97, pp.71-88.

- Iyoha, E., E. Malesky, J. Wen, S. Wu, and B. Feng (2024), Exports in Disguise?: Trade Rerouting during the US-China Trade War, Harvard Business School, Working Paper 24-072.
- Ngoc, P.P. and D. Wie (2023), Fishing in Troubled Waters the Impact of the US-China Trade War on Vietnam. <https://ssrn.com/abstract=4484771>.
- Rose, A.K. (2006), Cities and Countries, *Journal of Money, Credit and Banking*, 38, pp. 2225–2245.
- Utar, H., A.C. Zurita, and L.B. Torres Ruiz (2023), The US-China Trade War and the Relocation of Global Value Chains to Mexico, CESifo Working Paper No. 10638, CESifo, Munich.

Table 1. Basic Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
Original	4,906	6.224	1.054	0	7.313
Re-ranked	4,906	5.894	0.985	0	6.919
ln (1+Tariffs)	4,906	0.139	0.102	0	1.546
Age	4,906	21.591	12.875	0	72
Listed dummy	4,906	0.048	0.214	0	1
ImChina dummy	4,906	0.274	0.446	0	1
* ln (1+Tariffs)	4,906	0.041	0.082	0	0.292
* Chinese dummy	4,906	0.030	0.170	0	1
* ln (1+Tariffs) * Chinese dummy	4,906	0.006	0.035	0	0.292

Source: Authors' computation.

Table 2. Basic Ordinary Least Squares (OLS) Results

	(I)	(II)	(III)	(IV)
	Original	Original	Re-ranked	Re-ranked
ln (1+Tariffs)	-0.085 [0.457]	-0.041 [0.453]	-0.133 [0.418]	-0.085 [0.414]
Age	0.000 [0.003]		0.000 [0.002]	
Listed dummy	-0.172 [0.170]		-0.158 [0.158]	
Firm FE		X		X
Industry FE	X		X	
Year FE	X	X	X	X
Number of observations	4,906	4,620	4,906	4,620
Adjusted R ²	0.191	0.867	0.193	0.868

Notes: Estimation results were obtained using the OLS method. The dependent variable is the log of ranking in terms of exports to the US. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively. Standard errors were clustered by industry (ISIC four-digit code).

Table 3. Importers from China: Intensive Margin

	(I)	(II)	(III)	(IV)
	Original	Original	Re-ranked	Re-ranked
ln (1+Tariffs)	0.143 [0.497]		0.131 [0.454]	
ImChina dummy	-0.164** [0.074]	-0.134* [0.079]	-0.138** [0.068]	-0.108 [0.073]
ln (1+Tariffs) * ImChina dummy	-0.49 [0.376]	-0.645* [0.379]	-0.564 [0.351]	-0.727** [0.351]
Firm FE	X	X	X	X
Year FE	X		X	
Industry-year FE		X		X
Number of observations	4,620	4,530	4,620	4,530
Adjusted R ²	0.87	0.876	0.871	0.877

Notes: Estimation results were obtained using the ordinary least squares method. The dependent variable is the log of ranking in terms of exports to the US. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively. Standard errors were clustered by industry (ISIC four-digit code).

Table 4. Firms by Nationality

Nationality	2015	2016	2021	2022	2023
Anguilla			1	1	1
Australia	12	12	11	12	12
Belgium	2	2	2	2	2
Canada	3	3	2	3	3
China	22	21	80	99	88
Cyprus		1	1	1	1
Denmark	2	2	2	2	2
France	7	7	7	7	7
Germany	7	8	8	8	5
Hong Kong	11	13	31	31	31
Iceland	2	2	2	2	2
India	10	10	8	10	9
Ireland	2	2	2	2	2
Israel	1	1	1	1	1
Italy	3	4	4	4	4
Japan	144	151	152	149	141
Luxembourg	2	2	2	2	2
Malaysia	4	4	4	5	4
Mauritius	1	1	1	2	2
The Netherlands	6	6	6	4	3
Norway	2	2	2	2	2
Singapore	24	27	42	44	39
South Africa		1	1	1	1
South Korea	7	7	17	16	14
Sri Lanka	1	2	2	2	1
Sweden	2	2	4	4	3
Switzerland	4	5	7	7	7
Taiwan	22	25	29	32	33
Thailand	510	518	468	462	432
Turkey			1	1	1
UK	8	8	7	7	7
US	43	44	48	52	47
West Samoa	3	5	5	5	4

Source: Authors' compilation.

Table 5. Ordinary Least Squares (OLS) Results by Nationality: Intensive Margin + Extensive Margin

	(I)	(II)	(III)	(IV)
	Original	Original	Re-ranked	Re-ranked
ln (1+Tariffs)	0.491 [0.450]		0.409 [0.415]	
ln (1+Tariffs) * Australian dummy	0.12 [0.735]	0.047 [0.761]	0.124 [0.683]	0.053 [0.708]
ln (1+Tariffs) * Chinese dummy	-0.948** [0.474]	-0.965** [0.484]	-0.882* [0.445]	-0.898* [0.454]
ln (1+Tariffs) * Hong Kongese dummy	-1.481* [0.801]	-1.718** [0.859]	-1.399* [0.756]	-1.620** [0.810]
ln (1+Tariffs) * Indian dummy	-2.395 [1.503]	-2.217 [1.456]	-2.252 [1.422]	-2.094 [1.378]
ln (1+Tariffs) * Japanese dummy	-0.359 [0.496]	-0.445 [0.526]	-0.343 [0.466]	-0.419 [0.495]
ln (1+Tariffs) * Korean dummy	-0.475 [1.132]	-0.415 [1.123]	-0.452 [1.070]	-0.39 [1.058]
ln (1+Tariffs) * Singaporean dummy	-2.165** [0.917]	-2.192** [0.929]	-2.051** [0.864]	-2.072** [0.875]
ln (1+Tariffs) * Taiwanese dummy	-0.109 [0.962]	-0.327 [0.998]	-0.097 [0.904]	-0.297 [0.937]
ln (1+Tariffs) * US dummy	-1.862** [0.876]	-1.924** [0.912]	-1.750** [0.832]	-1.806** [0.867]
ln (1+Tariffs) * European dummy	-1.712** [0.755]	-1.926** [0.778]	-1.590** [0.709]	-1.789** [0.731]
ln (1+Tariffs) * ROW dummy	-3.665** [1.436]	-3.679** [1.513]	-3.419** [1.362]	-3.433** [1.432]
Age	-0.002 [0.003]	-0.002 [0.003]	-0.002 [0.003]	-0.002 [0.003]
Listed dummy	-0.204 [0.169]	-0.182 [0.170]	-0.187 [0.157]	-0.167 [0.158]
Industry FE	X		X	
Year FE	X		X	
Industry-year FE		X		X
Number of observations	4,906	4,825	4,906	4,825
Adjusted R2	0.205	0.176	0.206	0.177

Notes: Estimation results were obtained using the OLS method. The dependent variable is the log of ranking in terms of exports to the US. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively. Standard errors were clustered by industry (ISIC four-digit code).

Table 6. Ordinary Least Squares (OLS) Results by Nationality: Intensive Margin

	(I)	(II)	(III)	(IV)
	Original	Original	Re-ranked	Re-ranked
ln (1+Tariffs)	0.048 [0.435]		0.015 [0.393]	
ln (1+Tariffs) * Australian dummy	-0.728 [0.814]	-0.21 [0.917]	-0.642 [0.735]	-0.177 [0.847]
ln (1+Tariffs) * Chinese dummy	-0.985 [1.355]	-0.525 [1.506]	-0.945 [1.297]	-0.508 [1.428]
ln (1+Tariffs) * Hong Kongese dummy	-0.391 [1.687]	-1.824** [0.879]	-0.398 [1.593]	-1.703* [0.881]
ln (1+Tariffs) * Indian dummy	-2.255*** [0.763]	-1.381 [1.072]	-2.164*** [0.702]	-1.366 [0.943]
ln (1+Tariffs) * Japanese dummy	0.433 [0.386]	0.753* [0.423]	0.372 [0.359]	0.682* [0.398]
ln (1+Tariffs) * Korean dummy	-3.964* [2.173]	-3.722* [1.990]	-3.860* [2.112]	-3.597* [1.923]
ln (1+Tariffs) * Singaporean dummy	-1.192 [1.089]	-0.762 [0.928]	-1.163 [1.009]	-0.77 [0.865]
ln (1+Tariffs) * Taiwanese dummy	-1.613 [1.160]	-1.722 [1.302]	-1.479 [1.074]	-1.565 [1.209]
ln (1+Tariffs) * US dummy	0.196 [0.391]	0.578 [0.364]	0.148 [0.354]	0.492 [0.341]
ln (1+Tariffs) * European dummy	-0.528 [0.824]	-0.569 [0.624]	-0.503 [0.766]	-0.542 [0.571]
ln (1+Tariffs) * ROW dummy	-1.682 [1.047]	-1.316 [0.943]	-1.595* [0.960]	-1.270 [0.878]
Firm FE	X	X	X	X
Year FE	X		X	
Industry-year FE		X		X
Number of observations	4,620	4,530	4,620	4,530
Adjusted R-squared	0.87	0.876	0.87	0.877

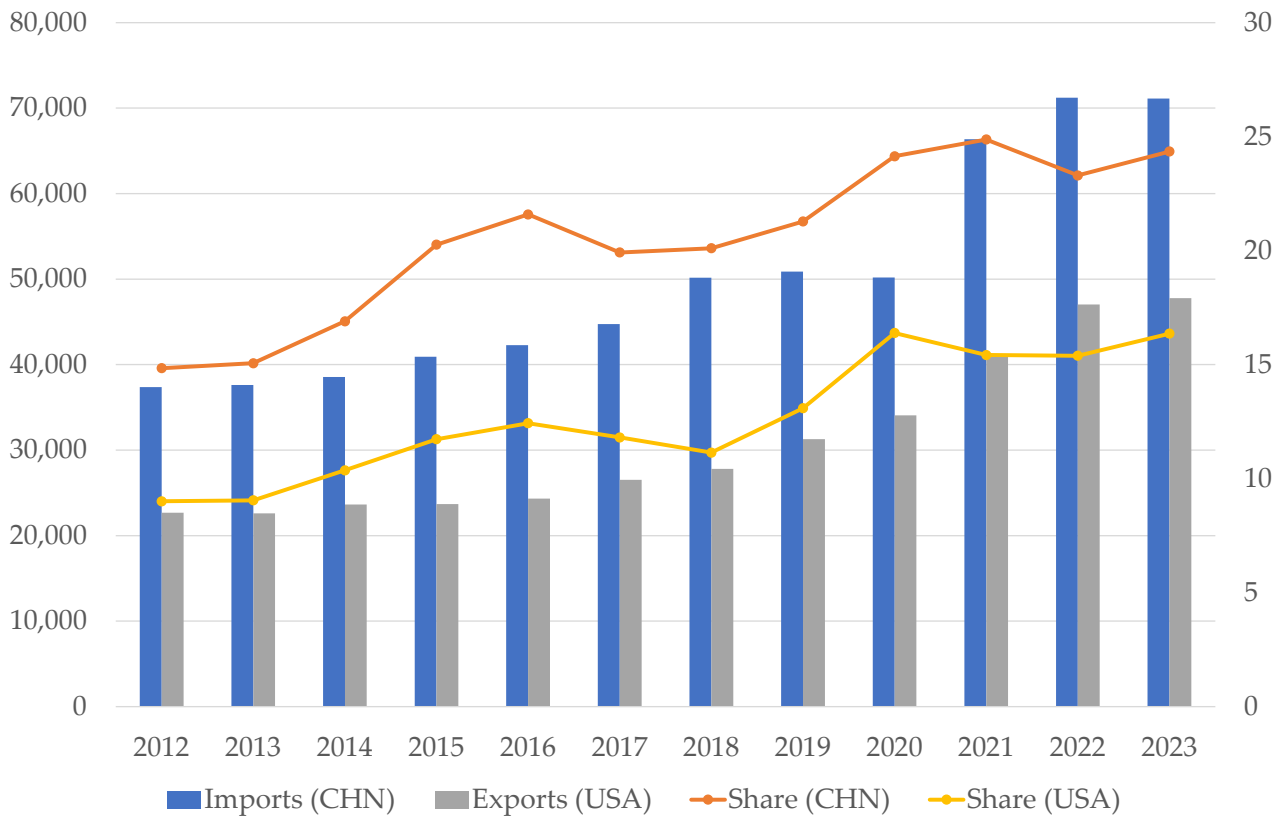
Notes: Estimation results were obtained using the OLS method. The dependent variable is the log of ranking in terms of exports to the US. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively. Standard errors were clustered by industry (ISIC four-digit code).

Table 7. Importers from China and Chinese Firms: Intensive Margin

	(I)	(II)	(III)	(IV)
	Original	Original	Re-ranked	Re-ranked
ln (1+Tariffs)	0.095 [0.488]		0.086 [0.445]	
ImChina dummy	-0.177** [0.072]	-0.147* [0.076]	-0.152** [0.067]	-0.122* [0.071]
ln (1+Tariffs) * ImChina dummy	-0.345 [0.379]	-0.513 [0.379]	-0.43 [0.355]	-0.605* [0.352]
ln (1+Tariffs) * Chinese dummy	0.570 [1.154]	0.899 [1.311]	0.535 [1.075]	0.842 [1.223]
ImChina dummy * Chinese dummy	0.547 [0.477]	0.478 [0.490]	0.523 [0.457]	0.46 [0.470]
ln (1+Tariffs) * ImChina dummy * Chinese dummy	-3.13 [2.240]	-2.769 [2.201]	-2.935 [2.146]	-2.598 [2.118]
Firm FE	X	X	X	X
Year FE	X		X	
Industry-year FE		X		X
Number of observations	4,620	4,530	4,620	4,530
Adjusted R ²	0.87	0.877	0.871	0.877

Notes: Estimation results were obtained using the ordinary least squares method. The dependent variable is the log of ranking in terms of exports to the US. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively. Standard errors were clustered by industry (ISIC four-digit code).

Figure 1. Exports to the US and Imports from China in Thailand (Left axis: USD million, Right axis: %).



Source: Authors' compilation using the Global Trade Atlas.