GEOECONOMIC FRAGMENTATION AND TRADE IN LATIN AMERICA: QUASI-EXPERIMENTAL EVIDENCE FROM BRAZIL

ACADEMIC ESSAY

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Abstract

Geoeconomic fragmentation is reshaping world trade in ways that could have profound implications for Latin America.

This essay analyzes how the 2025 U.S. tariffs affected Brazilian exports, using Brazil as a case study of how a major Latin American economy adjusts when a major trading partner significantly restricts access to its market. I compile a monthly panel of roughly eight million observations from four different datasets at the product (HS-6 digit) and destination level and employ a staggered Difference-in-Differences design. I utilize multiple outcome variables, alternative specifications, anticipation controls and three types of fixed effects. The results are robust across these exercises and additional checks.

The results show that tariffs significantly reduced Brazilian exports of affected products to the United States but also triggered notable trade diversion toward third countries. This reallocation was stronger toward geographically closer destinations, providing evidence of near-shoring, but not toward geopolitically aligned destinations, providing no evidence of friend-shoring except to China. Brazil's trade adjustments appear to have been primarily influenced by distance, logistics, and market access. Ultimately, the central question is no longer whether fragmentation affects trade, but rather, how a Latin American economy be resilient enough to adjust when it does?

Keywords: Tariffs, exports, trade diversion, trade reallocation, near-shoring, friend-shoring, fragmentation.

All databases, scripts and additional information will be made available to the reviewers upon request. Word count: 3,989 (excl. Index, References & Appendix).

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1. Introduction

In today's era of deep globalization, trade policy was once expected to become looser and oriented towards the gradual reduction of trade barriers. However, it has instead re-emerged as one of the main instruments through which states pursue their geopolitical and economic objectives. In this context, the term 'geoeconomic fragmentation' (GEF) has emerged, which is defined as the policy-driven reversal of global economic integration, often driven by strategic considerations such as national and economic security, and geopolitical rivalry (Aiyar et al., 2023a). GEF affects the world economy through various interconnected channels, including trade, capital flows, and migration. In Latin America, trade has been the most immediate and visible transmission channel for GEF, primarily through tariff and non-tariff barriers, the forced redirection of supply chains, and the new roles of connector countries (IDB, 2025a; Machado Parente & Moreau, 2024).

Among these mechanisms, tariffs stand out as one of the most significant drivers and clearest expressions of GEF. Tariffs can redirect trade flows, reshape supply chains, and move international exchange away from market-based integration and toward strategic economic separation by selectively raising the cost of trade across countries, sectors, or products. Furthermore, once tariffs are imposed, they often trigger retaliation, imitation, and further protective measures. This creates a self-reinforcing cycle in which fragmentation motivates and reproduces additional trade barriers (Baba et al., 2023).

This dynamic is particularly significant for Latin America, a region that is highly vulnerable to trade shocks, global uncertainty and changes in market access due to its strong trade links with major partners, particularly the United States and China (IDB, 2025b; World Bank, 2026). This vulnerability is intensified by the region's weak growth, continued reliance on commodities and its relatively low-value export industries (Loser, 2025). In this sense, Latin America occupies a fragile position in global trade and remains one of the least integrated regions in the world. In 2025, intraregional trade accounted for just 13.2% of the region's total trade, far below Asia's 55% and Europe's 68%. This reflects commodity dependence, fragmented trade relationships, and logistics bottlenecks that have limited the development of regional value chains and effective adjustment mechanisms (IDB, 2026).

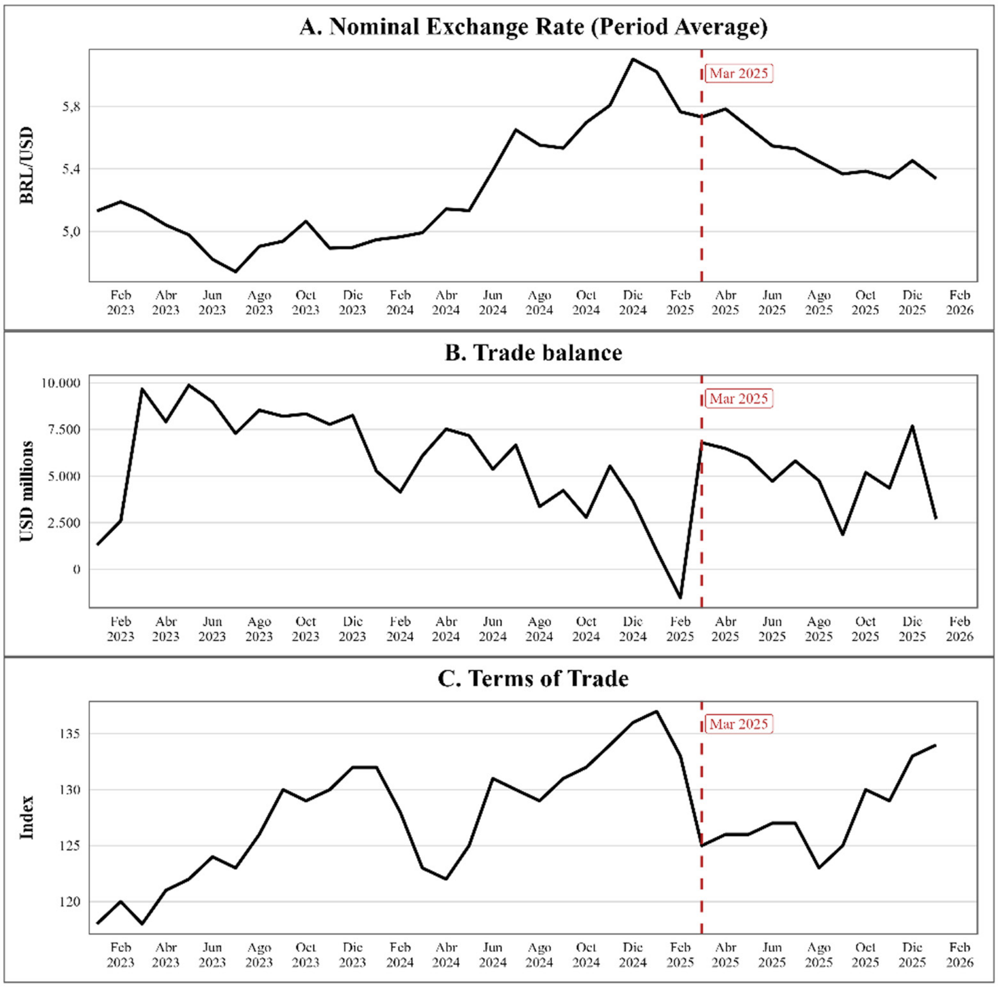
Latin America's vulnerability has become particularly evident during the second Trump administration, which reintroduced and extended large-scale tariffs and other import restrictions on numerous Latin American partners in 2025 (USTR, 2026). The number of broad tariff-related restrictions imposed by the United States on Latin America increased by five times in 2025, reaching 39, compared to the 8 recorded in 2024 (GTA, 2026). For instance, approximately 40% of Latin American exports, which are intermediate inputs used in goods, have experienced a surge in tariffs over the past year (IDB, 2025b).

In this context, the present essay uses Brazil as a relevant empirical case to study how the 2025 U.S. tariffs, as a concrete manifestation of GEF, reshaped trade patterns in Latin America. The U.S. is Brazil's second-largest trading partner, accounting for 13.6% of Brazil's total exports, which amount to 40.3 billion dollars[1]. Nevertheless, despite having to face substantial U.S. tariffs along different sectors that even reached 40% at one point, Brazil ended the year with record exports. This raises the question of where this trade was redirected, by how much, and more importantly, what lessons the region could learn from this.

Brazil serves as a pertinent case study because it is Latin America's largest economy and second-largest exporter. Its export profile, which combines commodity dependence and manufacturing capacity, is similar to those of other important regional economies, such as Argentina and Chile (OECD, 2025). Brazil's relatively non-aligned geopolitical position, extensive size, and strategic location also make it a good subject to study possible friend-shoring and near-shoring dynamics (Cao & Zhou, 2023). Even so, this analysis should be understood as a case study rather than a full representation of Latin America. Figure 1 illustrates Brazil's international macroeconomic context during the study period, using data extracted from FLAR (2026).

[1] Data for the year 2024.

Figure 1. Selected Macroeconomic Indicators for Brazil Surrounding the First Tariff Shock (Mar 2025)



Notes: The red dotted line denotes the first tariff wave.
Source: Own elaboration.
Data: Sistema de Información Económica (FLAR) and Trading Economics.

2. Methods

2.1. Empirical Strategy

The analysis will focus on testing whether the 2025 U.S. tariff waves reduced Brazilian exports to the United States, whether those exports were reallocated to other countries, and whether such reallocation reflected near-shoring or friend-shoring dynamics. To do so, I will adopt a staggered Difference-in-Differences (DiD) design with fixed effects following Goodman-Bacon (2021), in which treatment varies across Harmonized System 6-digit code (HS-6) product lines according to the month in which each specific tariff wave came into effect. Specifically, the design most closely resembles the approach adopted by Cigna et al. (2022), who employed the same method to investigate the impact of the first Trump administration's 2018 tariffs on China over U.S. imports, in search of possible trade diversion effects. Instead, I adapt the method to study the export flows of the affected country. The final sample includes 560 affected product lines, staggered into treatment between March and October 2025, compared against the remaining 5,052 product lines that were never treated. The design is strengthened by the fact that Brazilian products subject to U.S. tariffs have remarkably high export shares to the United States. Table 1 provides extended information on the tariff cohorts.

Table 1. U.S. Tariff Waves Affecting Brazilian Exports in the Study Period

Tariff Wave (Cohort)	Main Product Groups Covered (HS2)	# of Covered Lines (HS6)	Median Tariff (%)	Export Value (US$ billion)	Share of Brazil Total Exports (%)	U.S. Destination Share (%)	U.S. Rationale
March 2025	Iron (72), Steel (72) and Aluminum (76)	343	25.0	12.1	4.0	44.8	National security/counter overcapacity
April 2025	Vehicles (87) and Aluminum (76)	19	27.5	4.6	1.5	0.2	National security/supply-chain security
May 2025	Mechanical (84) and Electric (85) Machinery, Vehicles (87)	94	25.9	9.3	2.9	19.5	Industrial protection/supply-chain security
June 2025	Mechanical (84) and Electric (85) Machinery	10	25.5	0.1	0.1	6.5	Industrial protection

August 2025	Copper (74), Petroleum (27), and Mechanical Machinery (84)	87	50.0	10.8	3.6	16.5	Industrial protection/critical infrastructure
September 2025	Inorganic chemicals (28)	7	13.2	0.5	0.2	32.7	Reciprocity/partner alignment
October 2025	Wood (44)	15	10.0	0.6	0.2	38.6	National security/foreign subsidies

Note: Export values and shares are calculated over a 12-month period immediately prior to the first tariff shock.

A staggered DiD approach is appropriate because the tariff waves generated differential exposure across products rather than a single uniform shock. Such variation enables the analysis to compare changes in Brazilian exports for treated products against changes in never-treated products over the same period, thereby approximating the counterfactual path that treated products would have followed in the absence of the tariff shock. The April 2025 "Liberation Day" 10% worldwide tariffs (Exec. Order No. 14257, 2025) and the August 2025 Brazil-specific 40% tariffs (Exec. Order No. 14323, 2025) are excluded from the analysis because they affected all Brazil's export products simultaneously and therefore, will be controlled by destination-time fixed effects[2]. Additional geopolitical blocs and distance variables are incorporated to test whether post-tariff reallocation exhibited any friend-shoring or near-shoring dynamics. Table 2 provides a comparison of the average export growth rates of both affected and unaffected Brazilian products for the country's main export destinations.

Table 2. Average Year-on-Year Exports Growth (%) of Brazilian Tariff Affected and Unaffected Products Across Main Export Destinations

Group	Affected products (ever-treated)		Unaffected products (never-treated)	
Country	**Export growth (pre-shock)**	**Export growth (post-shock)**	**Export growth (pre-shock)**	**Export growth (post-shock)**
China	62.6	84.1	-17.6	15.8
United States	8.5	-1.6	12.4	-8.9
Argentina	-3.1	8.4	2.5	27.7
Netherlands	34.1	172.7	4.9	-5.0
Spain	40.2	49.2	50.6	-15.3
Mexico	-7.6	15.4	-4.3	10.6
Singapore	1352.3	551.8	66	28.1
Chile	5.3	25.1	-14.6	10.6
Canada	47.6	-0.2	18.4	16.8
Germany	-5.2	18.3	9.7	22.4
Other countries	-5.8	9.7	3.6	3.1

Note: Technical notes for tables are reported in **Appendix 2.**

[2] This matter is addressed in detail in the Baseline Econometric Specifications section

2.2. Data

To implement the design, I constructed a monthly product-destination panel for Brazilian exports by combining four main data sources. Exports data were obtained from Brazil Comex Stat for the period January 2023 to January 2026 (Brazil MDIC, 2026). Tariff data was obtained from the WTO Tariff Actions Database to identify, on a monthly basis, the U.S. tariff cohorts affecting Brazilian HS6 products and to code treatment from the first month in which the tariff increases were implemented, while accounting for the small number of later reductions or withdrawals (WTO, 2025). The United Nations General Assembly's ideal-point measures developed by Voeten (2013) and Bailey et al. (2017) were employed to categorize partner countries into East/West geopolitical blocs based on their geopolitical proximity to the U.S. Finally, the CEPII GeoDist database was used to incorporate the geographic distance between Brazil and each destination (Mayer & Zignago, 2011). Following the approach of Cigna et al. (2022), the analysis is restricted to Brazil's top 40 export destinations[3]. Together, these markets account for 91.7% of Brazil's total exports over the study period.

2.3. Baseline Econometric Specifications

I use three alternative outcome variables to capture different margins of adjustment in Brazilian exports: export value, physical export volume, and destination-specific product shares[4]. For each variable Y_{pdt}, where product is p, destination is d and each month is t, I utilize their respective

$$\Delta \ln_{12}(Y_{pdt}) = \ln(1 + Y_{pdt}) - \ln(1 + Y_{pd,t-12}),$$

While the first two outcomes capture changes in the level of exports, the third measures whether a product is reallocated to foreign markets after the tariff shocks. The use of a 12-month transformation is to mitigate seasonality as in Amiti et al. (2019), Umana (2017), Cigna et al. (2022), Choi & Nguyen (2023) and Carluccio et al. (2024).

The first DiD specification estimates the direct effect of U.S. tariffs on Brazilian exports to the U.S.:

$$y_{pt} = \beta\, Tariff_{pt} + \mu_p + \lambda_t + \varepsilon_{pt}$$

[3] The full list of countries is described in Appendix 1.
[4] Destination-specific product shares are defined as:

$$share_{pdt} = \frac{X_{pdt}}{\sum_d X_{pdt}}; \;\; X_{pdt} = \text{FOB export value}$$

Where $Tariff_{pt}$ is a dummy that equals 1 from the month in which each product first becomes affected by a U.S. tariff and for all the succeeding months as well, and 0 otherwise; μ_p are HS6 product fixed effects and λ_t are time fixed effects. These two types of fixed effects are applied in all regressions involving the U.S. sample.

Product fixed effects absorb all time-invariant product characteristics, such as persistent comparative advantage, product-specific demand, transport intensity, and stable regulatory or logistical features. Time fixed effects absorb shocks common to all Brazilian products exported to the U.S. in a given month, including macroeconomic conditions, exchange rate movements, common seasonal patterns, and broad U.S.-market disturbances. These time effects absorb the common component of the two large tariff waves in April and August 2025 that affected all Brazilian exports at once.

The second specification estimates the indirect effect of U.S. tariffs on Brazil by measuring the reallocation of Brazilian exports to other markets following a gravity-style logic:

$$y_{pdt} = \beta Tariff_{pt} + \mu_{pd} + \lambda_{dt} + \eta_{st} + \varepsilon_{pdt};\ d \neq US$$

Where $Tariff_{pt}$ is the same as in the first specification; μ_{pd} dare destination-product fixed effects; λ_{dt} are destination-time fixed effects and η_{st} are sector-time fixed effects (HS-2-digit level). The three types of these fixed effects are applied in all regressions involving the non-U.S. sample.

Destination-time fixed effects absorb all shocks common to Brazilian exports to a given market in a given month, including destination-wide demand conditions, local macroeconomic fluctuations, exchange-rate changes, logistics disruptions, and policy shocks affecting all Brazilian products (Jakubik & Ruta, 2023; Blanga-Gubbay & Rubínová, 2024; Aiyar et al., 2023b). This is the most important control in the non-U.S. specification as it absorbs the common effect of the large U.S. tariff waves of April and August 2025. This logic resembles the role that importer-time fixed effects play in structural gravity models, where they absorb time-varying destination-specific shocks and multilateral resistance terms (Gopinath, 2024).

The destination-product fixed effects absorb all time-invariant bilateral product characteristics, including persistent trade intensity, geographical distance between Brazil and a given destination, stable market access conditions, regulatory compatibility, and product-specific transport costs (Jakubik & Ruta, 2023; Blanga-Gubbay & Rubínová, 2024; Hakobyan et al., 2023; Cigna et al., 2022). Sector-time fixed effects absorb broad sectoral shocks that vary over time but are common across destinations within the same HS2 category, such as global commodity cycles, sector-wide price swings, or demand changes affecting broad industrial groups (Frazer & Biesebroeck, 2007; Choi & Nguyen, 2023; Cigna et al., 2022).

2.4. Additional Specifications

In an alternative specification, an anticipation dummy is incorporated from November 2024 until March 2025 for both baseline specifications. This dummy controls the fact that general future tariff measures had already been publicly signaled after Trump's reelection (Garrity, 2024) and may therefore have affected export decisions before formal implementation. I also run both baseline specifications restricting the sample exclusively to manufacturing products (HS-2-digit ≥ 25) to check if the effect still holds after excluding agricultural products.

To test for friend-shoring, I extend the baseline non-U.S. specification by interacting tariff exposure with a geopolitical-bloc indicator. Following Voeten (2013) and Bailey et al. (2017), destinations are classified into two geopolitical blocs (East/West) using a measure of geopolitical distance from the United States, defined by how differently each country votes from the U.S. in the United Nations General Assembly[5]. Under this classification, Brazil is assigned to the East bloc. The interaction term then tests whether trade reallocation was stronger toward destinations that are geopolitically in the East Bloc, like Brazil, or further from it. I also interact tariff exposure with an additional set of discrete geopolitical indicators, described in the regression results table.

To test for near-shoring, I extend the baseline non-U.S. specification by interacting tariff exposure with each destination's distance from Brazil, measured in thousands of kilometers. This interaction term tests whether treated Brazilian exports were redirected more strongly toward closer destinations. I also interact tariff exposure with a set of discrete geographic indicators shown in the regression results table.

3. Results

This section presents the main findings in four stages. First, Table 3 presents the direct effect of U.S. tariff exposure on Brazilian exports to the United States. Second, Table 4 presents the indirect effect of tariffs over affected exports toward non-U.S. destinations. Finally, Table 5 presents friend-shoring estimates and Table 6 presents near-shoring estimates.

[5] The full list of countries with their respective classification is described in Appendix 1.

3.1. Baseline Specifications Results

Table 3. Difference-in-Differences Main Estimates for the U.S.-Only Sample

	Dependent variable (12-month log change)								
	FOB export value			**Export quantity (kg)**			**Destination-specific product share**		
	(1)	**(2)**	**(3)**	**(1)**	**(2)**	**(3)**	**(1)**	**(2)**	**(3)**
Tariff Dummy	-0.20* (0.11)	-0.29** (0.11)	-0.28** (0.12)	-0.25*** (0.09)	-0.31*** (0.11)	-0.31*** (0.11)	-0.01** (0.00)	-0.01* (0.00)	-0.01** (0.00)
Anticipation Dummy		-0.27** (0.12)	-0.27** (0.11)		-0.17* (0.09)	-0.18** (0.09)		-0.00 (0.01)	-0.00 (0.01)
Observations	140.300	140.300	116.625	140.300	140.300	116.625	140.300	140.300	116.625
R^2	0.05	0.06	0.05	0.06	0.06	0.06	0.05	0.05	0.05
Manufacture only sample	No	No	Yes	No	No	Yes	No	No	Yes

Technical notes for tables are reported in **Appendix 2**. ***(p<0.01); **(p<0.05); *(p<0.10)

U.S. tariffs significantly reduced Brazilian exports to the U.S. for all three dependent variables. Tariffs are associated with coefficients of -0.20 and -0.25 for FOB export value and quantities respectively, implying declines of about 18.1% and 22.1%[6]. The effect on the product's U.S. share is close to 1%. The anticipation control is large and significant; its effect ranges from -15.6% to -23.7% and suggests Brazilian exporters reacted quickly, even before tariffs were effectively implemented. Overall effects deepen to be between -24.4% and -26.7% when anticipation and manufacturing-only samples are considered.

Results for all three dependent variables show Brazilian exports were reallocated toward non-U.S. destinations. The effect of U.S. tariffs on non-U.S. destinations ranges from 0.05 to 0.07 for export values and quantities; this translates to a 5.1% to 7.3% higher export growth per destination after the tariff shock. Destination product shares increased by 0.1 percentage points on average, showing reallocation. The anticipation dummy is not significant for the non-U.S. sample.

[6] Because variables are 12-month log changes, coefficients are translated into approximate percentage effects using $100 \times (e^{\beta} - 1)$.

Table 4. Difference-in-Differences Main Estimates for the Non-U.S. Sample

	Dependent variable (12-month log change)								
	FOB export value			Export quantity (kg)			Destination-specific product share		
	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)
Tariff Dummy	0.06*** (0.02)	0.06*** (0.02)	0.07*** (0.02)	0.05*** (0.01)	0.05*** (0.02)	0.05*** (0.01)	0.001*** (0.00)	0.001** (0.00)	0.001*** (0.00)
Anticipation Dummy		-0.01 (0.02)			0.00 (0.01)			-0.00 (0.00)	
Observations	5,471,700	5,471,700	4,532,775	5,471,700	5,471,700	4,532,775	5,471,700	5,471,700	4,532,775
R^2	0.04	0.05	0.04	0.05	0.05	0.05	0.05	0.04	0.04
Manufacture only sample	No	No	Yes	No	No	Yes	No	No	Yes

Technical notes for tables are reported in **Appendix 2**. ***(p<0.01); **(p<0.05); *(p<0.10)

3.2. Alternative specifications results

Table 5. Friend-shoring estimates

		Dependent variable (12-month log change)		
	Interaction/Indicator	FOB export value	Export quantity (kg)	Destination-specific product share
(1)	Tariff Dummy (Friend Specification)	0.08*** (0.02)	0.06*** (0.02)	0.000* (0.000)
(1)	Tariff × Friend destination	-0.03 (0.02)	-0.03 (0.02)	-0.00 (0.00)
(2)	Tariff × MERCOSUR	0.04 (0.04)	0.07 (0.04)	-0.00 (0.00)
(3)	Tariff × BRICS	-0.00 (0.02)	-0.00 (0.02)	0.00 (0.00)
(4)	Tariff × Europe	0.03 (0.03)	0.00 (0.02)	-0.00 (0.00)
(5)	Tariff × China	0.38*** (0.08)	0.37*** (0.07)	0.00 (0.00)

Technical notes for tables are reported in **Appendix 2**. ***(p<0.01); **(p<0.05); *(p<0.10)

Results show no evidence of trade reallocation responding to general friend-shoring dynamics. The interaction between tariff and friend destination is negative and statistically insignificant across the three dependent variables. Likewise, the interactions with MERCOSUR, BRICS, and Europe are not statistically significant. By contrast, China shows an additional growth between 44.8% and 46.2%, compared to other non-U.S. destinations. This suggests a shift away from general friend-shoring to the East bloc, but specifically towards China.

Table 6. Near-shoring estimates

		Dependent variable (12-month log change)		
	Interaction/Indicator	**FOB export value**	**Export quantity (kg)**	**Destination-specific product share**
(1)	Tariff Dummy (Distance Specification)	0.12*** (0.03)	0.09*** (0.03)	0.001* (0.000)
(1)	Tariff × Distance from Brazil (1,000 km)	-0.01** (0.00)	-0.004** (0.00)	-0.00 (0.00)
(2)	Tariff × Contiguous	0.06* (0.04)	0.06* (0.03)	0.00 (0.00)
(3)	Tariff × South America	0.08** (0.03)	0.08*** (0.03)	0.00 (0.00)
(4)	Tariff × Same continent (incl. Mexico & Canada)	0.05* (0.03)	0.06** (0.03)	0.00 (0.00)

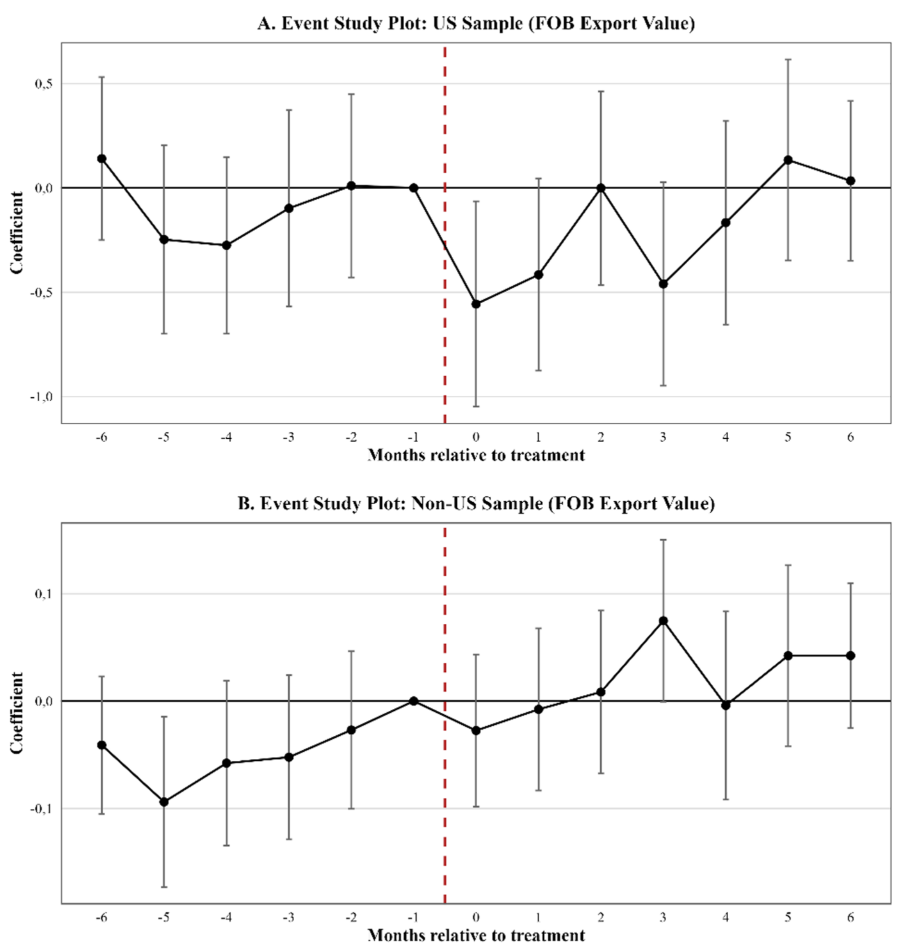
Technical notes for tables are reported in **Appendix 2**. ***(p<0.01); **(p<0.05); *(p<0.10)

Results support near-shoring. Each additional 1,000 km away from Brazil reduces the tariff-induced reallocation effect on export growth by about 1% on FOB value and 0.4% on quantities. For example, a destination approximately 4,000 km from Brazil, such as Colombia, would experience an implied export gain of about 8.3%, whereas a destination around 18,000 km away, such as the Philippines, would suffer an export decrease of roughly -5.8%. Contiguous, South American, and same-continent destinations all show stronger gains, with South American destinations being the strongest reallocation markets.

3.3. Robustness Checks

Any DiD design relies fundamentally on the parallel trends' assumption, which states that, in the absence of treatment, the average outcomes for the treated and control groups would have followed parallel paths over time (Callaway & Sant'Anna, 2021). Subsequently, the pre-trend test of coefficients is the standard requirement to establish the credibility of the DiD estimator (Cunningham, 2021). I conduct the pre-trends tests for both the U.S. and non-U.S. baseline specifications using alternative lead windows of three and six months. In both samples, the pre-treatment coefficients are individually close to zero and jointly indistinguishable from zero. The corresponding event-study plots are presented below in Figure 2, while the complete regression results are reported in Appendix 3.

Figure 2. Event-Study Plots for Both Samples



Source: Own elaboration.
Notes: Event time is normalized such that t=0 represents the first period of treatment for each cohort.
Confidence Intervals at 95%.

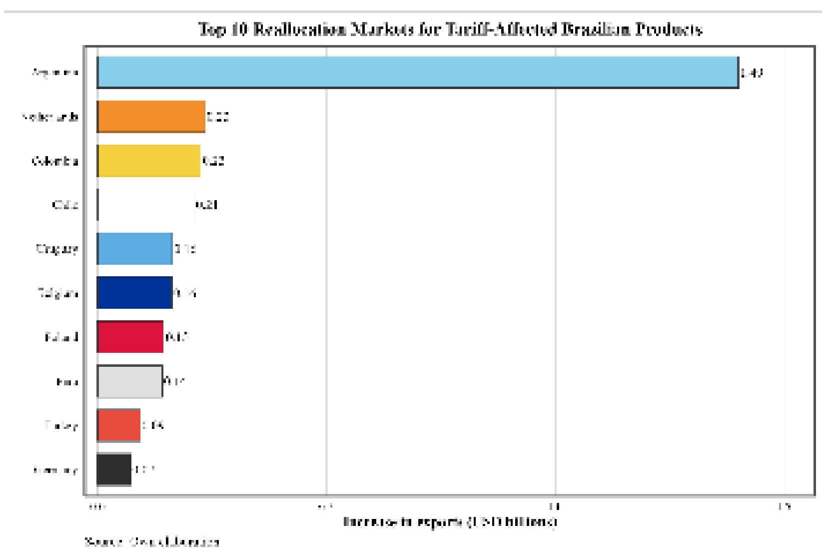
4. Discussion

4.1. Geoeconomic fragmentation

The 2025 U.S. tariffs represented a clear GEF shock for Brazil, leading to a substantial contraction in exports to the U.S. and a notable reallocation toward third countries. This reallocation is consistent with the fragmentation literature on market access restrictions. Nicita (2019) found clear trade diversion from tariffed Chinese products toward third countries such as Taiwan, Mexico, the European Union, and Vietnam. Wang & Ahmed Hannan (2023) found that increases in U.S. tariffs on Chinese goods raised Mexican exports. Other authors find similar trade diversion caused by the U.S.-China trade war (Fajgelbaum et al., 2024; Dang et al., 2023).

The absence of significant friend-shoring, paired with strong evidence of near-shoring, indicates that Brazilian exporters adjusted primarily according to distance, logistics, and market access, rather than geopolitical affinity. Additionally, the large, negative, and significant effect of the anticipation dummy in the U.S. sample indicates that Brazilian exporters quickly adapted to the tariffs. This interpretation is also consistent with recent work emphasizing connector countries and selective rerouting rather than systematic friend-shoring (Mulabdic & Nayyar, 2024; Alfaro & Chor, 2023; Schulze & Xin, 2025). Indeed, in terms of total value. Brazil's tariffed exports were reallocated mainly toward geographically close Latin American partners, especially Argentina, Colombia, and Chile, as well as a few European destinations including Netherlands and Belgium. Figure 3 describes Brazil's main reallocation markets in terms of total value

Figure 3. Main Reallocation Markets for Brazil



The new logic of U.S. foreign policy uses trade measures less as technical instruments than as tools to correct perceived trade imbalances, strengthen economic and national security and exert political pressure (USTR, 2026; Heerman, 2026). For example, the U.S. now uses tariff pressure to obtain reciprocal concessions from its trading partners. Recent examples include the U.S. reciprocal-trade agreements signed with Argentina, Ecuador, Guatemala, and El Salvador, under which these countries commit to opening their markets widely to U.S. products in exchange for selective tariff relief (USTR, 2026). In this context, GEF impacts in Latin America may force firms to seek geographically and commercially viable alternatives. Meanwhile, governments will face mounting pressure to negotiate market access under asymmetric bargaining conditions.

4.2. Limitations

First, Brazil cannot not fully represent Latin America due to the region's wide heterogeneity in terms of size, export structure and adjustment capacity. Therefore, this analysis is best understood as a case study, and results should not be overgeneralized. Second, the analysis adopts a micro-level DiD design instead of a macro time-series or general equilibrium framework, which could potentially be better, but would require a much broader modeling exercise than an essay permits. Third, tariff shocks were numerous and overlapping, so some confounding influences may remain. Fourth, staggered fixed effects may wrongly use newly treated units as controls for already treated ones, generating negative weights and potentially biasing the coefficients downward (De Chaisemartin & D'Haultfœuille, 2020). Finally, results mostly capture short-run trade adjustments.

5. Policy Recommendations and Conclusion

The Brazilian case suggests that diversified and regionally connected economies have a greater capacity to adjust and redirect exports under severe tariff pressure from large trading partners. Tariffs actually accelerated the structural diversification of Brazilian exports (FTI Consulting, 2026), but this only happened because Brazilian exporters adjusted quickly. Firms that treat tariffs as a temporary shock rather than a structural shift risk losing market share to those that act first. Therefore, policy should focus on three priorities. First, deepen regional integration, logistics, trade facilitation, and regulatory coordination so that forced nearshoring becomes a durable form of regional resilience and stronger value chains. Second, upgrading the productive and exporting structure beyond commodities and low-value goods towards manufacturing, renewable energy, and digital capabilities is essential to secure a stronger position in world trade, enjoy better bargaining conditions against bigger trading partners, and be less vulnerable to shocks. Finally, it is also necessary to build stronger fiscal frameworks and external buffers to preserve room for countercyclical action when trade, commodity-price, or financial shocks hit the region.

Overall, this essay found that the 2025 U.S. tariffs acted as a clear sign of GEF over Latin America. In the case of Brazil, increased tariffs reduced exports of affected products to the U.S., redirected that trade toward third markets, and did so primarily through near-shoring rather than friend-shoring. The findings underscore the need to strengthen regional integration, establish alternative and rapid adjustment channels, and diversify exports. These measures will reduce vulnerability to external trade shocks, which will likely occur more frequently as GEF extends throughout the world.

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7. Appendix

Appendix 1. List of the 40 countries included in the analysis with additional information

Country	Imports From Brazil (USD bn)	Destination Share (%)	Distance to Brazil (km)	Geopolitical Bloc (2-blocs)
China	90.5	30.1	17,182	East
United States	40.8	13.6	7,887	West
Argentina	14.7	4.9	2,089	West
Netherlands	12.0	4.0	9,111	West
Spain	10.3	3.4	7,697	West
Mexico	7.6	2.5	7,514	West
Singapore	7.6	2.5	16,049	West
Chile	6.7	2.2	3,017	West
Canada	6.6	2.2	8,220	West
Germany	5.8	1.9	9,307	West
South Korea	5.6	1.9	17,741	West
Japan	5.5	1.8	17,932	West
India	5.3	1.8	13,908	West
Italy	4.7	1.6	8,855	West
UAE	4.2	1.4	11,810	East
Indonesia	4.2	1.4	15,995	East
Belgium	4.1	1.4	8,977	West
Malaysia	4.1	1.4	16,164	East
Vietnam	4.1	1.4	16,821	East
Egypt	4.1	1.4	9,699	East
Turkey	4.0	1.3	10,152	West
Paraguay	3.8	1.3	1,345	West
Portugal	3.6	1.2	7,275	West
Thailand	3.4	1.1	16,215	East
Colombia	3.2	1.1	4,158	East
United Kingdom	3.1	1.0	8,837	West
Iran	3.0	1.0	11,673	East
Saudi Arabia	3.0	1.0	10,596	East
France	3.0	1.0	8,585	West
Peru	2.9	1.0	3,479	West
Bangladesh	2.8	0.9	15,292	East
Uruguay	2.7	0.9	1,829	West
Algeria	2.5	0.8	7,797	East
Philippines	2.1	0.7	18,213	West
Iraq	1.9	0.6	11,041	East
Taiwan	1.7	0.6	18,232	West
Switzerland	1.4	0.5	8,881	West
South Africa	1.4	0.5	7,281	East
Poland	1.3	0.4	9,878	West
Bolivia	1.3	0.4	2,267	East

Notes: Brazil is classified as East in the two-bloc classification. Flows obtained from the 12-month period immediately preceding the first tariff shock in March 2025.

Appendix 2. Tables Notes

Table 2. Average Year-on-Year Exports Growth (%) of Brazilian Tariff Affected and Unaffected Products Across Main Export Destinations

Growth rates are measured as year-on-year percentage changes in monthly export values. Ever-treated products are averaged across cohorts using cohort-specific pre- and post-shock windows, while never-treated products are split around March 2025 for comparison. **Go back to table.**

Table 3. Difference-in-Differences Main Estimates for the U.S.-Only Sample Notes.

***Notes:* All regressions include product and month fixed effects.** Columns (2) include the anticipation dummy. Columns (3) restrict the sample to manufacturing products only while keeping the anticipation dummy. Standard errors are robust and clustered at the HS6-product level. **Go back to table.**

Table 4. Difference-in-Differences Main Estimates for the Non-U.S. Sample

***Notes:* All regressions include destination-time, destination-product and sector-time fixed effects.** Columns (2) include the anticipation dummy. Columns (3) restrict the sample to manufacturing products only and omit the anticipation dummy, given it was not significant in specification (2). Standard errors are robust and clustered at the HS6-product level. **Go back to table.**

Table 5. Friend-shoring estimates Notes

***Notes:* All regressions include destination-time, destination-product and sector-time fixed effects.** **Friend destination** is a dummy that **equals 1 for destinations that belong to the same geopolitical bloc as Brazil** (East), and 0 otherwise. **MERCOSUR, BRICS, Europe, and China** are dummy variables equal to 1 when the destination belongs to the corresponding group, and 0 otherwise. Standard errors clustered at the HS6-product level. **Go back to table.**

Table 6. Near-shoring estimates Notes

***Notes:* All regressions include destination-time, destination-product and sector-time fixed effects.** **Distance from Brazil** is a **continuous** variable expressed in **thousands of kilometers. Contiguous, Southamerica and Same continent** are dummy variables equal to 1 when the destination geographically belongs to the corresponding group, and 0 otherwise. Standard errors clustered at the HS6-product level. **Go back to table.**

Appendix 3. Pre-trends tests

Pre-trends test for the U.S. Sample

Coefficient	Dependent variable (12-month log change)					
	FOB export value		Export quantity (kg)		Destination-specific product share	
	Coef.	P-value	Coef.	P-value	Coef.	P-value
Lead 6	0.14	0.48	0.12	0.45	-0.01	0.30
Lead 5	-0.25	0.28	-0.19	0.31	-0.02	0.10
Lead 4	-0.27	0.20	-0.13	0.47	-0.02	0.06
Lead 3	-0.10	0.69	-0.07	0.74	-0.01	0.30
Lead 2	0.01	0.96	-0.03	0.88	-0.01	0.43
Joint test (3-leads)		**0.86**		**0.94**		**0.56**
Joint test (6-leads)		**0.07**		**0.13**		**0.42**

Note: Regression **includes product and month fixed effects.** Standard errors clustered at the HS6-product level. **Joint tests** report **p-values for the null hypothesis** that all reported pre-treatment coefficients are **jointly equal to zero.** t=-1 is the reference period.

Pre-trends test for the Non-U.S. Sample

Coefficient	Dependent variable (12-month log change)					
	FOB export value		Export quantity (kg)		Destination-specific product share	
	Coef.	P-value	Coef.	P-value	Coef.	P-value
Lead 6	-0.04	0.21	-0.04	0.06	0.00	0.13
Lead 5	-0.09	0.02	-0.09	0.00	0.00	0.42
Lead 4	-0.06	0.14	-0.06	0.02	0.00	0.67
Lead 3	-0.05	0.18	-0.04	0.12	0.00	0.39
Lead 2	-0.03	0.47	-0.03	0.23	0.00	0.82
Joint test (3-leads)		**0.40**		**0.23**		**0.68**
Joint test (6-leads)		**0.26**		**0.06**		**0.11**

Note: Regression **destination-time, destination-product and sector-time fixed effects.** Standard errors clustered at the HS6-product level. **Joint tests** report **p-values for the null hypothesis** that all reported pre-treatment coefficients are **jointly equal to zero.** t=-1 is the reference period.