Deglobalization And The Reconfiguration Of Global Supply

Chain In Asia

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Abstract

This paper studied the impacts of the disruption in the global supply chain on the trade relations between the U.S. - China and the U.S. - Southeast Asia. In 2018, the United States initiated a trade war with China, which dealt the first significant blow to the global trade flow. Unpredictable events (Covid-19, the Suez Canal incident, the Ukraine-Russia war) further worsened international trade. New difficulties highlight the importance of diversifying one's supply chain to hedge against natural disasters and geopolitical uncertainty. The United States's solution to reduce its supply chain dependence on China might be Southeast Asia countries. This paper argues that between 2018 and 2023, there has been a pivotality in trade between the United States and Southeast Asia and a cutback in trade between the United States and China. Difference-in-difference methodology was employed to find statistically significant results to support the above argument. Economic and political implications for Southeast Asia countries will be discussed. Among Southeast Asia countries, Vietnam was the biggest trade partner with the United States in 2023, and its trade relation with China has been negatively affected since 2018.

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I. **<u>Introduction</u>**

Historically, globalization has enhanced the efficiency of supply chains by allowing companies to optimize production and distribution worldwide, leveraging comparative advantages, lowering costs, faster product-to-consumer speed, and improving access to goods and services. However, recent disruptions in the global supply chain have prompted companies to reevaluate their supply chain dependencies on other countries. Rather than a full retreat from globalization, companies are seeking to diversify manufacturing and sourcing to build resilience against geopolitical uncertainties and natural disasters. It was argued that the U.S.-China trade war in 2018 was in the U.S.'s national interest to reduce its reliance on China's supply for intermediate goods. This paper discusses a hedging strategy for the US that can mitigate concentration risks yet retain their openness to trade: redirect their supply chain through Southeast Asia countries.

This paper provides evidence for growing trade between the U.S. and Southeast Asia, coupled with a slowing down in trade between the U.S. and China in the last decade. The U.S.'s trade deficit with Southeast Asia is continuously expanding, while the trade deficit with China had not recovered before the trade war level. The author employed the difference-in-difference method in time series analysis to test for the statistical significance of the shift in trade by the U.S. with China and Southeast Asia. The result suggested a trade diversion away from China and into Southeast Asia between 2019 and 2022. Using the same methodology, the author found evidence suggesting that the trade relationship between China and Vietnam was negatively affected, possibly due to the growing trade between Vietnam and the U.S. The Southeast Asia

area identifies a combination of competitive labor, expanding infrastructure, and favorable trade pacts with the U.S. They have emerged as a significant beneficiary of the global supply chain shift. With these tailwinds, Southeast Asia is positioned to play a crucial role in the strategic transformation of global supply chains toward regional diversification.

This study contributes to the existing international trade and risk management literature. Firstly, there is quantitative evidence of trade diversion by the U.S., where Southeast Asia emerged as a benefactor during rising global tensions. The discussion went in depth about how the findings can impact Southeast Asia's economy. Secondly, this paper discovered a negative indirect impact on the trade relationship between China and Vietnam.

II. Literature review

1. Globalization and deglobalization

a. Globalization and global value chain

Globalization is widely considered an increase in international trade and investment and implies greater economic interdependence among nations (Kim et al., 2020; Witt, 2019; Johnson, 2002). Global trade emerged from the Age of Exploration (early 15th century to the early 17th century), a period marked by extensive overseas exploration propelled by European powers to explore new trade routes. Europeans established colonies and trading posts in Africa, the Americas, Asia, and Australia, laying the groundwork for the global trade networks. The market became more extensive, and the world became much more interconnected.

Joseph Schumpeter theorized that innovations and diffusion of knowledge are at the heart of productivity and economic growth. Baldwin (2012) supports this theory in his paper,

arguing that technological advances have driven globalization. The Industrial Revolution in the 19th century bred significant breakthroughs in productivity in production. The inventions of steam engines and railroads made it possible to separate production and consumption spatially, enabling economies of scale and specialization. The second Industrial Revolution in Information and Communications Technology (ICT) in the United States in the 1980s allowed further geographic dispersion of production stages to take advantage of labor costs and resource access. Global supply chains emerged as production was internationally fragmented into stages, with multinational trade in parts and components. The production of the iPhone, designed in the United States with components manufactured in multiple countries and made in China, is the prime example of global economic integration through international value chains. Countries can join the global value chain based on their comparative advantages, and emerging countries' economies will significantly benefit from the progress of globalization.

b. Deglobalization

Post-World War II, the U.S. led the establishment of key international economic institutions like the World Bank, the International Monetary Fund (IMF), and the General Agreement on Tariffs and Trade (GATT), which later became the World Trade Organization (WTO). These institutions and the policies they promote have been central to expanding global trade and investment flow in the last two decades (Kim et al., 2020).

Contrary to globalization, deglobalization is the stagnation or decline of globalization progress. Deglobalization leads to lower trade levels between countries, lower international investments, and halt cross-national research progress (Kim et al., 2020; Witt, 2019).

Globalization has faced a series of disruptions since 2018, after recovering from the Financial Crisis in 2008. The US-China trade war (2018 -2020) led to tariffs and restrictions that strained supply chains and increased costs. Additionally, the COVID-19 pandemic (2019-2023) brought about lockdowns and significant labor and material shortages, causing major disruptions in manufacturing and logistics. The blockage of the Suez Canal (March 2021) by a massive container ship affected trade between Asia and Europe, while the Russia-Ukraine (2023) conflict introduced sanctions, transport blocks, and raw material shortages, further worsening supply chain challenges. These events had cascading effects on the global value chain, observed through reduced global trade volumes, elevated costs, prevalent shortages, inflation, and stagnancy in global economic growth (Dang & Tran, 2023; Kim et al., 2020; Li et al., 2020; Li et al., 2021).

Deglobalization highlighted the vulnerabilities in our complex global supply chains, emphasizing the risks of relying on limited suppliers. As a result, there is expected to be a shift towards regional supply chains and domestic sourcing instead of global ones. The pressing need for supply chain resilience has become evident, emphasizing the importance of diversification, flexibility, and resilience against natural disasters (Baldwin, 2012; Kwon, 2022; Dang & Tran, 2023; Moeller, 2018).

c. Theoretical explanation of deglobalization

Deglobalization happened before. Elements that lead to deglobalization can be rising tensions between the world's major powers (World War I, II), international institutions losing credibility (The bankruptcy of Bank of Amsterdam in 1790, the Great Depression in the 1930s,

the Financial Crisis in 2008), or global disasters (COVID-19) that force nations to be aware of the integration risk of the global supply chain. Indicators of deglobalization include rising tariffs and non-tariff barriers, decreasing exports and imports as a share of GDP, more policies favor domestic producers, and global value chain reconfiguration (Kim et al., 2020).

Realism sees globalization as a process primarily driven by powerful states, such as through "hegemonic stability theory" (Witt, 2019). This theory suggests that periods of globalization occur when a dominant nation establishes and maintains international institutions that regulate trade and investments. Although resembling a structured order, these institutions reflect the hegemon's power and interests. As the hegemon's power declines or faces rising competition, these systems become unstable and can eventually fail, leading to periods of de-globalization. Manufacturers may shift to separate regional factories aligned with spheres of influence led by hegemons, as operating across spheres could entail high risks and costs.

Liberalism is more optimistic than realism (Witt, 2019). It emphasizes the benefits of interconnectedness and mutual dependence and the idea that international institutions can use globalization for the collective good. A decline in trust in international institutions or shifting national interests that favor reduced economic openness signals a shift towards more regional or bilateral agreements. Recently, we have seen new economic blocs initiated in Eastern countries, such as BRICS (Brazil, Russia, India, China, and South Africa), signifying the rise of regional bloc-centric commerce in response to perceived inadequacies of existing institutions led by the West.

 Under either realism or liberalism, deglobalization forces supply chains to disintegrate into regional factories, shifting away from global factories based on comparative advantages.

Deglobalization fragments the integrated global economy into smaller economic blocs based on geography, politics, or ideology rather than comparative advantage.

Globalization over 5 centuries

Shown is the "trade openness index". This index is defined as the sum of world exports and imports, divided by world GDP. Each series corresponds to a different source.
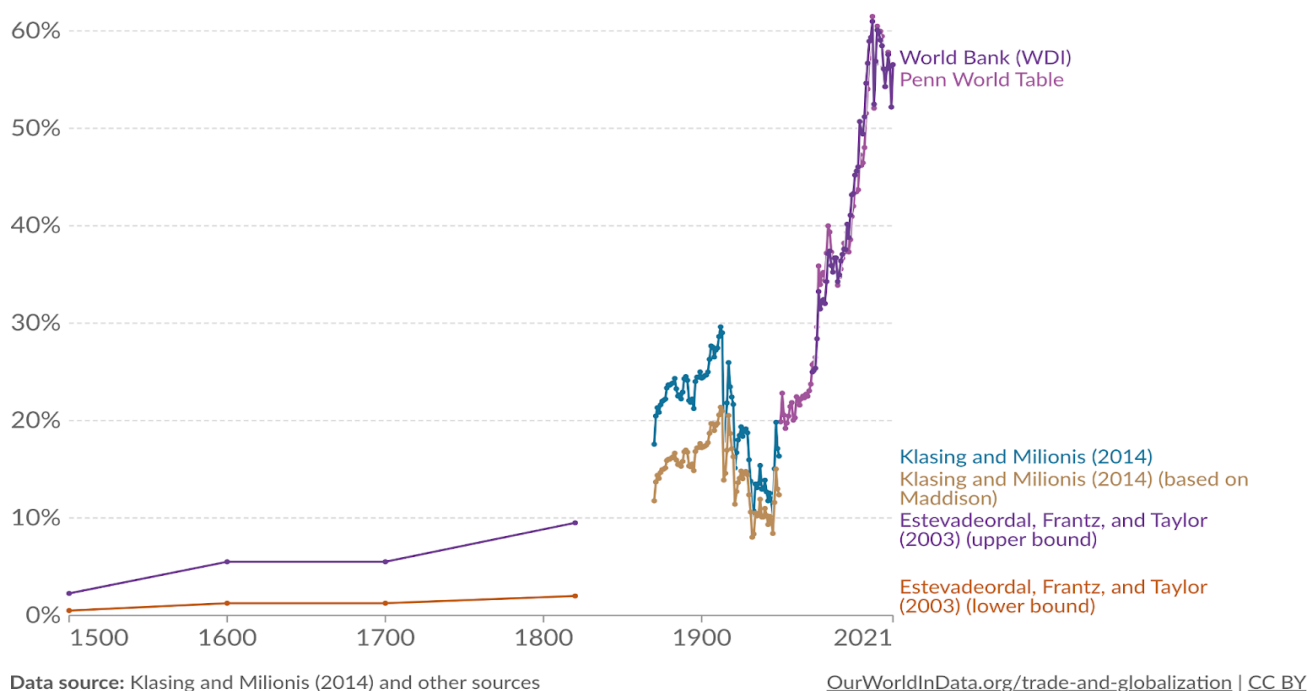
Data source: Klasing and Milionis (2014) and other sources

OurWorldInData.org/trade-and-globalization | CC BY

Figure 1. Globalization over 5 centuries from World Bank

2. The case between the U.S. and China

China's trade with the U.S. accelerated in the early 2000s, going from over 100 billion to 700 billion dollars, a sevenfold increase in 20 years (Figure 2). China has grown into a major trade partner of the U.S. and a critical component of the Global factory (Witt, 2019). Globalization has brought China economic growth, increased international investment inflow, and improved social welfare (Ching et al.,2011; Fishback, 2022; Li & Zhai, 2000; Martin, 2004).

China's GDP is quickly approaching that of the U.S., posing a potential challenge to U.S. dominance, as shown in Figure 3. The U.S.-China trade war began in 2018 when the Trump administration imposed tariffs and restrictions on over $500 billion of Chinese goods, concerned over unfair trade practices like intellectual property violations and forced technology transfer. China retaliated with tariffs on billions of dollars worth of U.S. products. After nearly two years of rising tensions, increased tariffs, and global economic uncertainty, the U.S. and China signed a "phase one" trade deal in 2020 (Fishback, 2022; Kwon, 2022; Dang & Tran, 2023). The U.S. incurred around $245 billion in consumer welfare losses from higher prices, equivalent to costs of $736 per person (Fishback, 2022). China may have fared worse - Chinese companies lost over $1.7 trillion in market value (Liu et al., 2021) and could sustain nearly 1% GDP losses in the medium term (He et al., 2022). With the tariffs after the phase one trade deal as of March 2020, the trade war impact may decrease China's welfare by 1,7% (Li et al., 2021). The magnitude of change is comparable to China's accession to WTO in the early 2000s, which was estimated to increase its welfare between 1.24% by Li and Zhai (2000) and 2.2% by Ianchovichina and Martin (2004).

Studies on the U.S.-China trade war have suggested positive spill-over effects on Southeast Asia countries, namely Vietnam, Malaysia, and Thailand as the U.S. tries to reduce their dependence on China (Kwon, 2022; Dang & Tran, 2023; Moeller, 2018; Do, 2018).
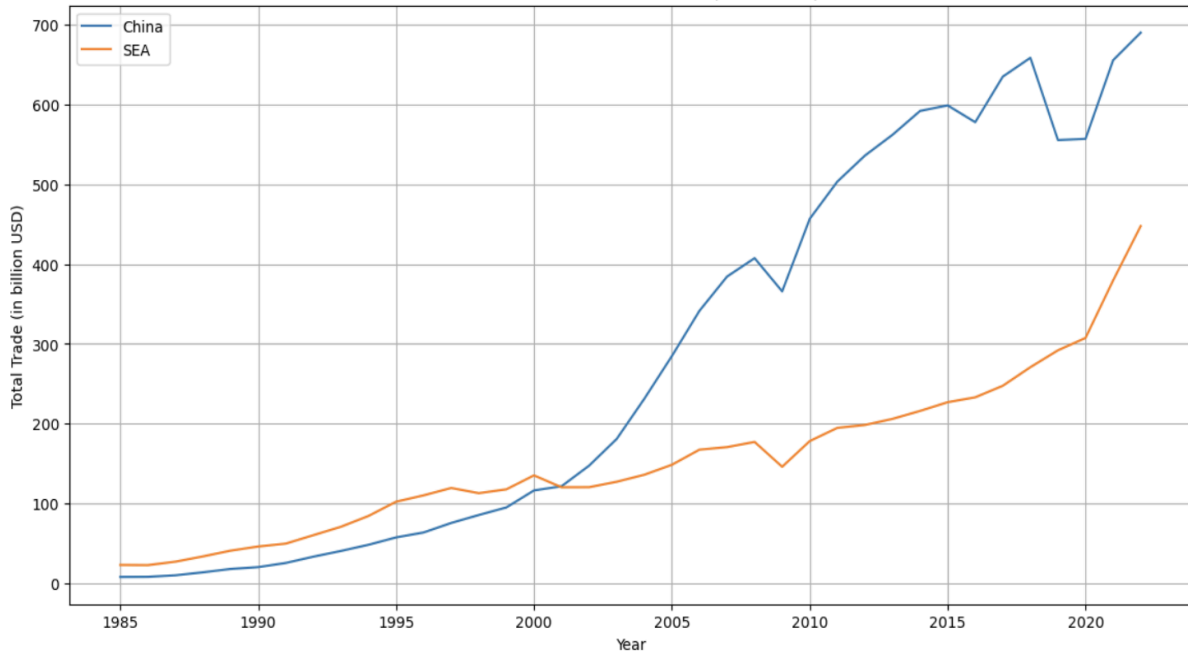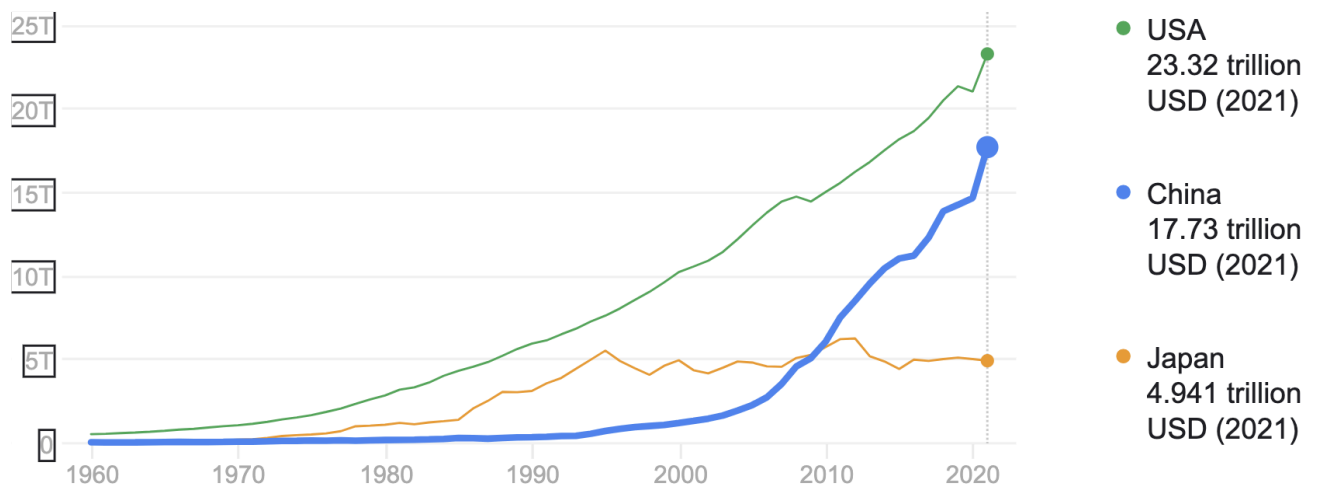
Figure 2. Annual total trade value between U.S. - China and between U.S. - Southeast Asia (in billion USD)

Sources include: World Bank

Figure 3. USA, China, and Japan real GDP (in trillion of USD)

3. Opportunity for Southeast Asia

Since the trade war started in 2018, Southeast Asia has consistently outperformed China

in the growth of exports to the U.S. (Figure 4). In 2022, Southeast Asia's trade with the United

States grew by nearly 25%, compared to only over 5% in China (Figure 4). In Figure 2, the total

trade value between Southeast Asia and the U.S. pivoted after 2020, similar to the trade volume

between the U.S. and China in the early 2000s. After the pivot point, China's trade with the U.S.

grew rapidly in the next decade until it was halted by the Financial Crisis in 2008. Is there a

chance for Southeast Asia to do the same, if not better, in the next decade?
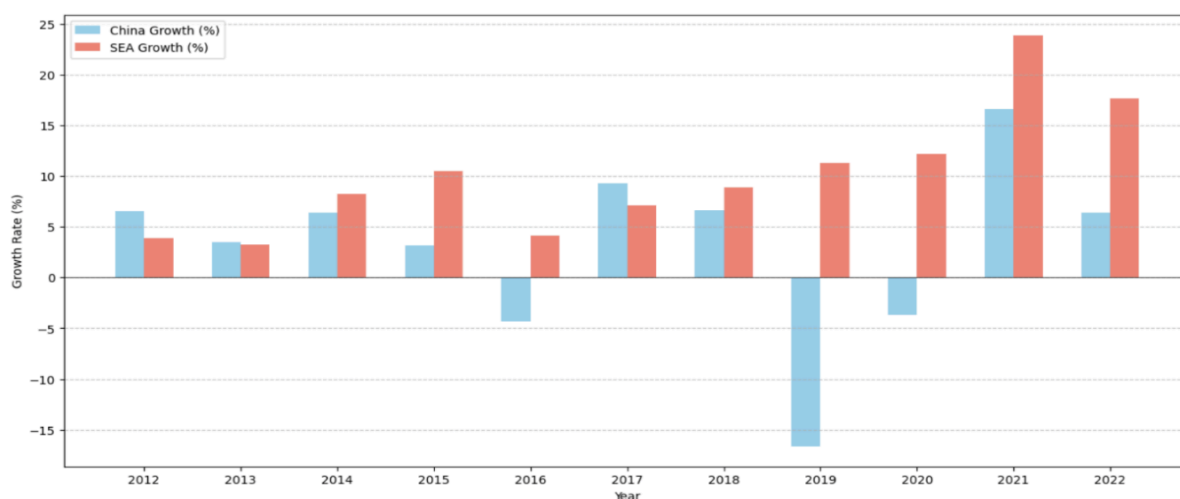

Figure 4. Year-over-Year Growth Rates in Imports from China and Southeast Asia by the U.S. (2012-2022)

Between Southeast Asia countries, trade with the U.S. was led by four countries:

Vietnam, Malaysia, Singapore, and Thailand (Figure 5). In 2022, Vietnam was the only country

that surpassed the 100 billion USD threshold in trade volume with the U.S. Thailand, Singapore,

and Malaysia demonstrated robust trade activities with the U.S., with trade value between 50

billion and 100 billion USD. Brunei, Cambodia, Indonesia, Laos, the Philippines, Timor-Leste, and

Burma (Myanmar), recorded trade volumes below the 50 billion USD mark for the year 2022.
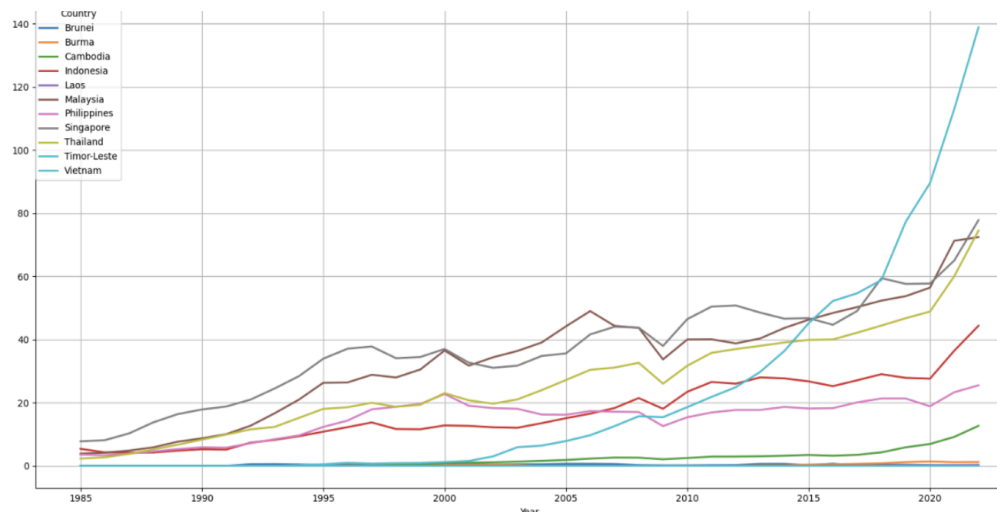

Figure 5. Annual trade between the U.S. and Southeast Asia (1985 - 2022, in billion)

Frankle & Romer (1999) and Alcalá & Ciccone (2004) suggested trade is a critical factor driving economic growth. Alongside economic growth, there will be a higher inflow of international investment into Southeast Asia, and the diffusion of knowledge through shared technology with the U.S. will drastically improve developing countries' productivity (Do, 2018). Makki & Somwaru (2004) found evidence that FDI boosts economic growth and domestic investment, and the effect is further enhanced with appropriate public policy and institutional stability. Southeast Asia has an excellent opportunity to exploit the deconvoluting global supply chain.

In Figure 6, Vietnam, Malaysia, and Thailand's export volume dominates their imports from the U.S., indicating they are running a trade surplus with the United States. The surplus reflects these countries' competitive advantage in manufacturing and export to the U.S., posing

an alternative option to China in Asia. Only Singapore runs a trade deficit with the U.S., where

their imports exceed exports.

Figure 6. The proportion of exports and imports in trade with the U.S. (in %)

The biggest trade partner in Southeast Asia with the U.S. was Singapore before Vietnam

overtook in 2015 (Figure 5). Vietnam normalized its trade relationship with the U.S. in 1995, and

trade started taking off in the early 2000s. Since then, Vietnam has continued to increase

economic ties with the U.S. and is becoming increasingly important to the U.S.'s global supply

chain. Vietnam's trade with the U.S. has been growing exponentially in the last two decades,

and the recreation of the U.S.'s supply chain in Asia may be Vietnam's chance to further

accelerate its progress toward globalization.

Between 2012 and 2022, Vietnam's year-over-year growth in trade with the U.S. consistently beat the average of the Southeast Asia area (Figure 7), implying Vietnam's trade with the U.S. is growing faster than its neighbors. The partnership between the U.S. and Vietnam may possibly be driven by shared concerns over China's growing assertiveness in the region and the U.S.'s attempt to reduce supply dependencies on China (Moeller, 2018; Dang & Tran, 2023; Do, 2018). Vietnam seeks closer relations with the U.S. to help counter China's actions, and both consider each other as critical trade partners.
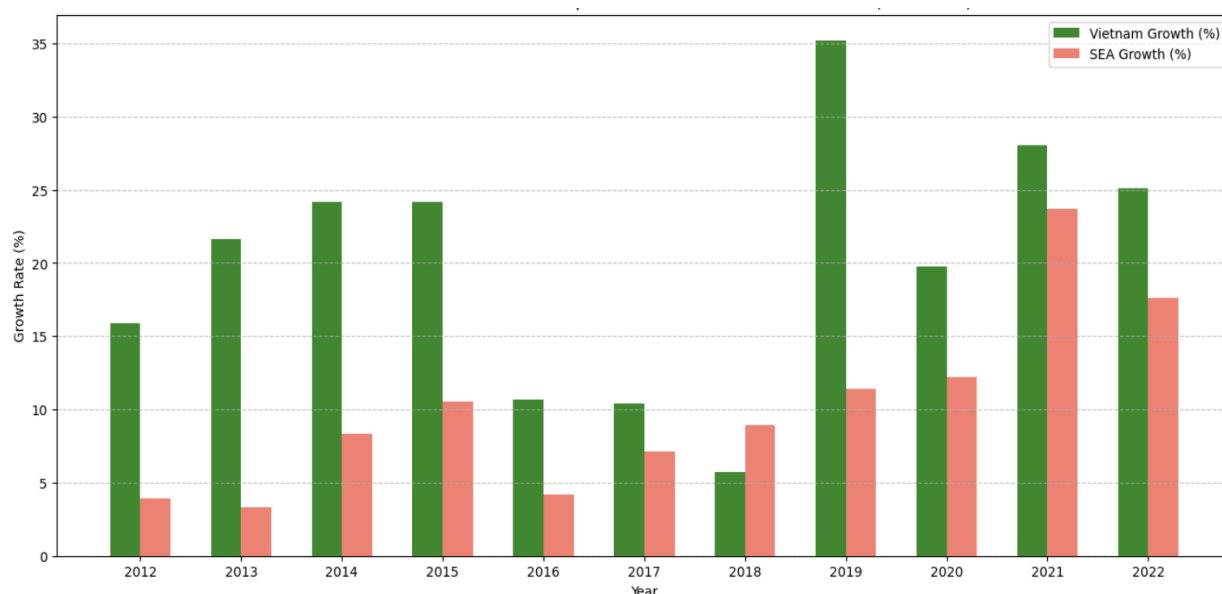

Figure 7. Year-over-Year Growth Rates in Exports from Vietnam and Southeast Asia to the U.S. (2012-2022)

4. Hypothesis

4.1. After the U.S.-China trade war, did the U.S. divert their trade away from China and into Southeast Asia?

a. Did total trade (export + import) between the U.S. and China fall from expectation between 2018 and 2023?

If the difference between projected and real data is statistically significant, it implies that since the trade war, trade activities between the U.S. - China have fallen from expectation. The U.S. has been able to reduce its dependence on China for intermediary goods. Was Southeast Asia where the U.S. found its alternative for China?

b. Did total trade (export + import) between the U.S. and Southeast Asia pivot from expectation between 2018 and 2023?

Studies have suggested a spill-over effect on neighboring countries with China to replace its place for exports to the U.S. (Moeller, 2018; Do, 2018). If this is the case, it will greatly benefit Southeast Asia countries economically and socially. If we observe statistically significant results from both hypotheses, we can conclude there was trade diversion away from China and into Southeast Asia by the U.S.

4.2. Was the trade relationship between China and Vietnam affected?

- How is the trade between China and Vietnam when Vietnam is increasing its ties with the U.S.?

The trade war damaged both the U.S. and China's economies, and disruption in trade flows greatly benefited Vietnam as its exports filled part of the gap left by reduced U.S.-China trade (Kwon, 2022; Dang & Tran, 2023; Fishback, 2022; Li et al., 2020). Will this affect the trade relationship between China and Vietnam?

- If there is a statistically significant difference, is it being led by exports or imports by China?

If China's exports to Vietnam pivoted, there would be more competition for Vietnam's domestic producers, but benefit the consumers.

III. Data and Methodology

1. Data

Quarterly trade data between 2004 and 2023 for U.S. trade with Southeast Asia and China were collected from the United States Census Bureau. Even though China joined WTO in 2001, there was a 2-year transitional period to adjust to the external shock of foreign competitors (Ching et al., 2011). Using data from 2004 allows us to exclude the initial pull-back after China's access to WTO. Estimation data from January 01, 2004, to December 31, 2017.

Summary statistic of the U.S.'s trade activity (in million USD)

country	Average Exports	Average Imports	Average Trade Balance (X - M)	Average Total Trade (X + M)
Brunei	51.507087	40.62520	10.8913386	92.132283
Burma	20.916535	65.32520	-44.4125984	86.241732
Cambodia	44.361905	675.88730	-631.5246032	720.249206
China	14,291.114194	57,859.17161	-43,568.0683871	72,150.285806
Indonesia	1,137.352258	3,211.90323	-2,074.5496774	4,349.255484
Laos	3.651181	13.97402	-10.3204724	17.625197
Malaysia	2,458.163871	6,119.08258	-3,660.9122581	8,577.246452
Philippines	1,588.834194	2,178.19161	-589.3632258	3,767.025806
SEA	13,165.669677	26,667.71935	-13,502.0490323	39,833.389032

Singapore	5,193.668387	4,335.77097	857.8929032	9,529.439355
Thailand	1,885.055484	4,949.26194	-3,064.2025806	6,834.317419
Timor-Leste	1.514444	0.62000	0.8955556	2.134444
Vietnam	980.432283	6,377.52677	-5,397.1047244	7,357.959055

Monthly data on China and Vietnam (between 2015-2023) was retrieved from the General Administration of Customs of the People's Republic of China. Estimation data from January 01, 2015 to December 31, 2017.

Summary statistics of China's trade activity with Vietnam between 2015 - 2022 (in million USD)

Metrics	Exports	Imports	Trade Value (X+M)	Trade Balance (X-M)
Min.	12772	6640	20290	2626
Median	23299	16757	39264	8231
Mean	24627	15942	40569	8444
Max	39842	26285	61958	20234

2. Methodology

In this paper, the author utilizes time series analysis to examine the actual trade data deviation from the prediction based on the previous trajectory. The data sets are split into training data and accurate data. Training data is used to construct a model to explain past trade patterns, and the model is used to predict future value. We use t-statistic to test for the

statistical significance in the difference between predicted and actual values. T-statistic

represents how many standard deviations from the mean are. This metric can tell us how far off

the prediction from real data was and whether it was an upward or downward deviation.

2.1. U.S. trade with Southeast Asia and China

Total trade with the U.S. = $\beta 0$ + $\beta 1$(Lagged data of total trade) + $\beta 2$(time dummy for quarter 1) +

$\beta 3$(time dummy for quarter 2) + $\beta 4$(time dummy for quarter 3) + $\beta 5$(log of the U.S. real GDP) +

$\beta 6$(country dummy) + c

Trade balance by the U.S. = $\beta 0$ + $\beta 1$(Lagged data of trade balance) + $\beta 2$(time dummy for quarter

1) + $\beta 3$(time dummy for quarter 2) + $\beta 4$(time dummy for quarter 3) + $\beta 5$(log of the U.S. real

GDP) + $\beta 6$(country dummy) + c

Imports by the U.S. = $\beta 0$ + $\beta 1$(Lagged of imports) + $\beta 2$(time dummy for quarter 1) + $\beta 3$(time

dummy for quarter 2) + $\beta 4$(time dummy for quarter 3) + $\beta 5$(log of the U.S. real GDP) +

$\beta 6$(country dummy) + c

2.2. Trade between China and Vietnam

Total trade between China & Vietnam = $\beta 0$ + $\beta 1$(Lagged trade data) + $\beta 2$(time dummy for

quarter 1) + $\beta 3$(time dummy for quarter 2) + $\beta 4$(time dummy for quarter 3) + c

Trade balance between China & Vietnam = $\beta 0$ + $\beta 1$(Lagged balance data) + $\beta 2$(time dummy for

quarter 1) + $\beta 3$(time dummy for quarter 2) + $\beta 4$(time dummy for quarter 3) + c

China Imports from Vietnam = $\beta 0 + \beta 1$(Lagged imports data) + $\beta 2$(time dummy for quarter 1) + $\beta 3$(time dummy for quarter 2) + $\beta 4$(time dummy for quarter 3) + c

IV. Result

1. U.S. trade with Southeast Asia countries and China

1.1. Total Trade (X + M) and Trade Balance (X - M)

country	Trade Value		Trade Balance	
	t_statistic	p_value	t_statistic	p_value
Brunei	-0.7892379	0.44024577882	-6.051926843	0.000010134734
Burma	2.6898401	0.01497108080	-6.442738538	0.000004610146
Cambodia	4.6488222	0.00019964557	-5.375469573	0.000041494741
China	-2.1829809	0.04252469206	5.671735515	0.000022226611
Indonesia	0.5516054	0.58800193546	-2.304721704	0.033308207635
Laos	2.0034251	0.06042209512	-1.452947855	0.163449627865
Malaysia	1.6805440	0.11012223732	0.009430366	0.992579502188
Philippines	-0.7436322	0.46669566965	-0.473671049	0.641428823761
SEA	5.9741454	0.00001188332	-3.428182638	0.002998322956
Singapore	2.8060133	0.01168514109	-1.316145884	0.204640479432
Thailand	4.5460235	0.00025027934	-6.072921505	0.000009709849
Timor-Leste	2.8306802	0.01108264564	5.771220237	0.000018066068
Vietnam	3.4716009	0.00272308162	-5.860416278	0.000015018224

The t statistic indicates how many standard deviations the data is from the predicted values. At a 99% confidence interval, China and Southeast Asia have statistically significant deviations from the prediction, but in different directions. China's trade with the U.S. failed from expectation (t = -2,18), while Southeast Asia had pivoted during this time (t = 5.97). The U.S. narrowed its trade deficit with China (t = 5.67) while expanding trade with Southeast Asia (t = -5.86).

At a 99% confidence, Southeast Asia's top trade partners with the U.S. - except for Malaysia with insignificant results (t = 1.68) - Vietnam (t = 3.47), Singapore (t - 2.81), and Thailand (t = 4,55) all exceed previous speculations. Malaysia's (t = 0.009) and Singapore's (t = -1.32) trade balance with the U.S. did not deviate significantly from predicted values, while Vietnam's (t= -5.86) and Thailand's (t = -6.07) had a significant increase in trade surplus with the U.S.

For the remaining countries, only Burma (t = 2.68), Cambodia (t = 4.64), Laos (t = 2.00), and Timor-Leste (t = 2.83) had pivotality in trade with the U.S. Although Brunei (t = -0.78) and Indonesia's (t = 0.55) total trade results were insignificant, their trade surplus with the U.S. is growing. Only the Philippines (t = -0.74)had no significant change at all.

1.2. Exports by Southeast Asia and China to the U.S.

country	t_statistic	p_value
Brunei	3.8603930	0.001146254038
Burma	-1.0406039	0.311835876275
Cambodia	4.9933081	0.000094196043
China	-3.2893361	0.004076115654
Indonesia	1.0229356	0.319890474146
Laos	0.6758716	0.507713550489
Malaysia	0.6770235	0.506999460059
Philippines	-0.7429952	0.467071781131
SEA	6.6647151	0.000002974098
Singapore	2.7648018	0.012762584797
Thailand	5.6348243	0.000024010622
Timor-Leste	-0.7361530	0.471123125795
Vietnam	4.2364602	0.000496358200

Nationalism favors domestic producers. One way nationalists can create an advantage for domestic producers is to increase barriers to trade with foreign countries. On average, China's total trade was two standard deviations less than the predicted value (t = -2.18). However, considering export data alone, the number is exacerbated to 3 standard deviations (t = -3.28) less than predicted. The difference is more significant for Southeast Asia when we examine exports alone rather than combined exports and imports. The same goes for Cambodia (t = 4.99), Thailand (t = 5.64), and Vietnam (t = 4.23).

Brunei had an insignificant difference in total trade (t = -0,79), but their exports to the U.S. were significantly higher than predicted (t = 3.86). On the contrary, Burma and Laos have insignificant results only considering exports, with t-statistics of 0,1 and 0,68, respectively. Indonesia, Malaysia, and the Philippines' results remain insignificant for either total trade or exports to the U.S.

2. Trade between China and Vietnam

   2.1. Total trade

Coefficients:

	Estimate	Std. Error	t value	Pr(>|t|)
(Intercept)	-6435.5331	3997.4344	-1.610	0.1585
L(total_trade)	1.4600	0.1493	9.778	0.0000658 ***
Q1	-13311.0732	1109.7508	-11.995	0.0000204 ***
Q2	-730.1157	1157.6582	-0.631	0.5515
Q3	-3548.5377	976.6266	-3.633	0.0109 *

Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Multiple R-squared: 0.9711, Adjusted R-squared: 0.9518

F-statistic: 50.36 on 4 and 6 DF, p-value: 0.00009471

One Sample T-test

Null hypothesis: the difference between predicted and actual data was not significant (t = 0)

Alternative hypothesis: the difference between predicted and actual data was significant (t ≠ 0)

t = -6.4578, df = 19, p-value = 0.000003444

95 percent confidence interval: [-12807.565; -6537.625]

The t-value for the difference in total trade between Vietnam and China is -6,4578. The result implies a drastic decrease in trade between the two countries, with the aggregate trade volume being six standard deviations less than predicted. Vietnam's trade relations with China are taking a toll, possibly due to Vietnam's increasingly closer relationship with the U.S., as seen in the results above.

2.2. Trade balance

Coefficients:

	Estimate Std.	Error	t value	Pr(>|t|)
(Intercept)	3027.1117	2835.6485	1.068	0.327
L(balance)	0.6135	0.4056	1.512	0.181
Q1	-2935.3835	2067.3336	-1.420	0.205
Q2	217.1156	1658.4083	0.131	0.900
Q3	-1117.9858	1696.3153	-0.659	0.534

Multiple R-squared: 0.3648, Adjusted R-squared: -0.05864

F-statistic: 0.8615 on 4 and 6 DF, p-value: 0.5367

One Sample T-test

Null hypothesis: the difference between predicted and actual data was not significant (t = 0)

Alternative hypothesis: the difference between predicted and actual data was significant (t ≠ 0)

t = 2.5859, df = 19, p-value = 0.01812

95 percent confidence interval: [351.4094; 3335.7716]

     Even though the t-statistic was statiscally significant, adjusted R-squared was negative, suggesting this model does not do too well of explaining past data.

     2.3. China's imports from Vietnam

Coefficients:

	Estimate	Std. Error	t value	Pr(>|t|)
(Intercept)	-1533.140	2612.648	-0.587	0.57872
L(Import)	1.410	0.249	5.661	0.00131 **
Q1	-4233.347	1235.581	-3.426	0.01404 *
Q2	-509.670	1244.921	-0.409	0.69646
Q3	-894.461	1143.889	-0.782	0.46398

Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Multiple R-squared: 0.89,   Adjusted R-squared: 0.8167

F-statistic: 12.14 on 4 and 6 DF, p-value: 0.004882

One Sample T-test

Null hypothesis: the difference between predicted and actual data was not significant (t = 0)

Alternative hypothesis: the difference between predicted and actual data was significant (t ≠ 0)

t = -5.386, df = 19, p-value = 0.00003381

95 percent confidence interval: [-6241.258; -2748.010]

  The t-value is -5.386, implying the deviation in China's imports from Vietnam is

statistically significant and negative, so China is substantially decreasing imports to Vietnam.

The result suggests that China's lower trade with Vietnam is due to decreased imports.

  2.4. China's exports to Vietnam

Coefficients:

	Estimate Std.	Error	t value	Pr(>|t|)
(Intercept)	6707.6939	5253.0019	1.277	0.248817
L(Export)	0.7818	0.3181	2.458	0.049255 *
Q1	-7595.8057	1271.8312	-5.972	0.000988 ***
Q2	-1769.9079	1165.2377	-1.519	0.179586
Q3	-2909.2578	956.0137	-3.043	0.022712 *

Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Multiple R-squared: 0.865,   Adjusted R-squared: 0.7749

F-statistic: 9.607 on 4 and 6 DF, p-value: 0.008854

One Sample T-test

Null hypothesis: the difference between predicted and actual data was not significant (t = 0)

Alternative hypothesis: the difference between predicted and actual data was significant (t ≠ 0)

t = 5.4722, df = 19, p-value = 0.000028

95 percent confidence interval: [2002.284; 4482.648]

V. Discussion

1. Opportunities for Southeast Asia

Trade can stimulate economic growth, productivity, and innovative capabilities. For emerging countries, trade is critical for economic development. When exports to the U.S. increase, emerging countries can access a bigger market, build stronger relationships with the U.S., and increase their reserve currency holdings to withstand macroeconomic shocks. The United States is one the largest markets in the world, offering vast opportunities for emerging countries to provide goods and services. Southeast Asian manufacturers can sell their products at a higher markup price in the U.S. market than the domestic market, leading to higher revenue potential. Higher markup prices come with higher requirements for goods. To meet the regulatory and quality standards of the U.S. market, exporters in Southeast Asia need to improve their product quality and compliance. This can have a broader positive impact on the domestic industries by raising standards and enhancing competitiveness globally (Ching et al., 2011). Improvement in quantity and quality of production calls for better manufacturing facilities and the need for specialized skills. Trade can stimulate economic growth and create employment opportunities in the exporting countries. Increased export demand can expand the

manufacturing and services sectors, creating jobs and improving incomes. Exposure to the competitive U.S. market encourages businesses in developing countries to adopt new technologies and innovative practices to meet market demands. Technology diffusion can drastically improve productivity and enhance the internal innovation capabilities of developing countries (Alcalá & Ciccone, 2004; Pavcnik, 2002). Providing products and services to the U.S. generates foreign exchange earnings, which are crucial for the economic stability of Southeast Asia countries. These earnings can finance imports, pay off international debts, and build foreign exchange reserves to withstand macroeconomic shocks. Bilateral trade can strengthen diplomatic and economic ties between Southeast Asia countries and the United States. A robust trade relationship may lead to further cooperation in investment, development aid, and cultural exchange.

2. Opportunities and challenges for Vietnam

Vietnam is the biggest exporter to the U.S. in Southeast Asia, and their exports have pivoted since 2018. The shift in export quantity signals a stronger relationship between the U.S. and Vietnam, and Vietnam can become the substitute for China's manufacturers for the U.S. For example, Nvidia considers Vietnam to be the manufacturer of its semiconductor. If the proposal is accepted, Vietnam can leverage the manufacture of chips to improve its internal technological capability. It is costly for multinational corporations to operate across China and the U.S. political sphere, and Vietnam may emerge as an attractive location that offers a solution to this problem.

Vietnam faces many challenges, including corruption, low-skilled labor, and lack of intellectual property protection. According to the results, China is increasingly exporting to Vietnam but lowering its imports from Vietnam. China's exports to Vietnam will benefit Vietnam's consumers because consumers can now access more goods at a lower cost. However, Vietnam's domestic producers are facing more challenges because they now have to compete with producers from China, who can produce much more efficiently at scale. On the one hand, competition from international firms will drive efficiency gain for domestic producers through 2 channels: increasing innovation and adopting new existing technologies to compete, resources, and employment reallocation towards more technologically advanced firms (Pavcnik, 2002; Bloom et al., 2016).

On the other hand, inefficiencies will cause firms to close down, creating unemployment. China's lowering of imports from Vietnam means Vietnam's manufacturers are losing share in the world's biggest market. In the short term, there may be a pullback in Vietnam's economy, similar to China's when it first entered the WTO (Ching et al., 2011).

Vietnam is benefiting from the U.S. market, but it is also taking damage to its trade with China. In the result section, we saw a pivot in trade between the U.S. and Vietnam, but there was a drastic cutdown between Vietnam - China. For Vietnam, how they navigate their political stance between the two world superpowers will be critical for their growth shortly.

VI. Conclusion

The research presented herein underscores a notable escalation in commerce between the United States and the Southeast Asian region. This expansion in economic engagement has

been particularly evident in nations that have diverged from their expected economic courses, such as Myanmar, Cambodia, Laos, Singapore, Thailand, Timor-Leste, and, notably, Vietnam. This surge in commercial activity with the United States is poised to enhance the economic vitality and innovative progress of these emerging markets while bolstering their foreign currency reserves.

However, the anticipated trade volumes between China and the United States have yet to be met, with actual data being substantially lower. This could be attributable to mounting geopolitical strains and the reverberations of recent disruptions in the global supply chain. Evaluating the BRICS nations' influence on Asian regional commerce presents an intriguing question for future research.

Vietnam has emerged as the preeminent trade ally for the United States within the Southeast Asian block. Post-2018 figures indicate a decisive turn in its export patterns favoring the U.S. market, underscoring the strategic shift by the U.S. to reduce its dependency on Chinese supply chains. Nonetheless, as Vietnam gravitates more towards the United States, its trade dynamics with China are affected; the trade volumes have not only declined against forecasts but also reflect a stark imbalance between imports and exports. This shift has led to a burgeoning trade deficit with China—a challenge reminiscent of the quandary the United States is attempting to navigate.

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