Norges miljø- og
biovitenskapelige
universitet

Master's Thesis 2023 **30 ECTS**
Faculty of Social Sciences
NMBU School of Economics and Business(HH)

Changes in the Export trade relationship between Vietnam and US.

Erhumu Agbude
Master's degree in applied economics and sustainability
NMBU School of Economics and Business

ACKNOWLEDGEMENT

I would like to express my sincere gratitude to Roberto J. Garcia, my supervisor, for their guidance, patience, encouragement, and enormous support throughout the writing of this thesis/dissertation.

I offer my heartfelt thanks to God for granting me the opportunity to complete this thesis/dissertation and for providing me with the wisdom and strength to see it through to the end. It still feels surreal to me, but I am humbled by the fact that God has made this dream a reality.

I am deeply grateful to the Norwegian University of Life Sciences in Ås, Norway, for providing me with the essential resources and facilities that made it possible for me to complete this research. Additionally, I would like to extend my thanks to the Norwegian Authority for their generous support in providing me with the opportunity to pursue tuition-free education. Their contributions have been invaluable in helping me achieve my academic goals, and I am truly grateful for their assistance.

Finally, I would like to express my heartfelt thanks to my family and friends for their unwavering support and encouragement throughout this journey.

Completing this thesis has been an incredibly enriching experience for me. Throughout the research and writing process, I have honed my writing skills, developed my ability to think critically, and learned how to analyse data effectively. I have been able to apply the theoretical knowledge I gained during my studies to real-world data, and this has helped me become a more well-rounded scholar with both practical and theoretical experience. The lessons I have learned while completing this thesis will undoubtedly serve me well in my future academic and professional endeavours. I am grateful for the opportunity to undertake this research and for the support I have received along the way.

Thank you all for your invaluable support.

Erhumu Agbude

Ås, Norway

May 2023.

ABSTRACT

This study investigates the changes in the trade relationship between Vietnam and the US, with a focus on GDP, tariffs and distance, the impact of the US-Vietnam Bilateral Trade Agreement, and the effects of diplomatic tensions between the US and China on Vietnam's exports to the US. The study also analyses the panel data set which spans from 2001 - 2021 and compares to exporting partner countries. In this study, The gravity model equation was estimated using linear regression and random effects GLS regression, while estimation tests such as the Breusch-Pagan Test, Breusch-Godfrey Test, AIC, BIC, and VIF Factors were used to ensure the reliability of the results.

Overall, the study provides findings that could guide policymakers in developing effective strategies to enhance the performance of Vietnamese exports and further strengthen the trade relationship between Vietnam and its key trading partners. Future studies could investigate the potential impacts of non-economic factors on Vietnamese exports, such as social norms, culture, and institutional frameworks, to gain a better understanding of the country's trade relationship. Additionally, qualitative research methods such as case studies and interviews with key stakeholders in the export industry could provide further insights into the factors influencing Vietnamese exports

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

LIST OF ABBREVIATIONS

ABBREVIATIONS	FULL MEANINGS
ASEAN	Association of Southeast Asian Nations
BTA	Bilateral Trade Agreement
EPA	Environmental Protection Agency
FTA	Free Trade Agreement
FDI	Foreign Direct Investment
TIFA	Trade and Investment Framework Agreement
TPP	Trans- Pacific Partnership
GDP	Gross Domestic Product
IMF	International Monetary Fund
VND	Vietnamese Dong
USD	United States Dollar
WTO	World Trade Organisation

CHAPTER ONE

1.0 INTRODUCTION

International trade is a fundamental part of the global economy, enabling countries to specialize in certain goods or services and trade with other countries for products or services they cannot produce as efficiently themselves (Suranovic, 2020).

This trade can take various forms, which includes imports and exports. Imports involves goods and services being brought into a country from abroad, while when goods and services are produced locally and sold to foreign markets it is called Export (Spector, 2018). It is usually facilitated by various organizations such as trade associations, government agencies, and global financial organizations like the World Trade Organization (WTO) and International Monetary Fund (IMF) in order to promote economic growth, reduce the rate of poverty, enforce rules and regulations and lastly to promote political stability (Ozdemir, 2008).

The case of Vietnam demonstrates how international trade can shape the economic development and growth rate of a country. As one of the fastest growing economies in the Southeast Asia, Vietnam's shift towards a modern market economy from a centrally planned and closed economy has been significantly influenced by international trade. However, this transition has not left out the challenges that comes with it i.e., the country has witnessed and faced numerous challenges in this transition, including economic sanctions and wars. For instance, following the end of the Vietnam War in 1975, Vietnam was subject to a US-led trade embargo that lasted until 1994. During this period, Vietnam's economy was largely isolated from the global economy, and the country struggled to achieve economic growth (Suryadinata, 1991).

In the face of obstacles, Vietnam has made noteworthy advancements in incorporating its economy into the worldwide market. One of the significant turning points that contributed to Vietnam's shift towards a market-based economy was, in 1986, the Vietnamese government initiated a set of economic changes known as "Doi Moi," which sought to shift the country's economy from a centrally planned model to a market-oriented one (Pernia & Deolalikar, 2003). Despite both favourable and unfavourable consequences, the beneficial results of these reforms have ultimately prevailed in the long term (*The Economist*, 2019).

During the Doi Moi period, the Vietnamese government adopted a more lenient approach towards the economy. It lessened its grip on trade regulations, encouraged foreign investments, and lowered trade barriers. The market was opened to private enterprises alongside state-owned ones, while the labour and land markets underwent liberalization. The lifting of price controls and devaluation of the exchange rate were among the measures implemented to boost exports and stimulate economic growth, leading to a notable reduction in poverty levels in Vietnam. The growth of its economy can be attributed to the successful implementation of these reforms (Cooper, 2002).

While Vietnam's economic transformation has resulted in significant gains in terms of GDP growth and poverty reduction, there are worries that the benefits have not been evenly distributed and that segments of the population has been left behind. For example, some have argued that rural poor have not gotten enough benefits as much as the residents in the developed regions since the opening of the country's economy, and that it has resulted in inequality of income. Additionally, corruption remains a challenge in Vietnam, with some critics suggesting that the country's reform has not been so effective in addressing this issue. (Leproux & Douglas H, 2017).

Nevertheless, Vietnam's economy, is recognized as a significant player in the global economy, exporting various products such as textiles, electronics, and agricultural goods to different countries worldwide. However, despite the progress made in the economic reform, Vietnam still faces infrastructure bottlenecks, such as limited port capacity, inadequate transportation infrastructure, and limited access to credit for businesses. These factors tend to hamper the efficiency and competitiveness of Vietnam's trade (Leung, 1999).

It is important to consider the impact of protectionist policies implemented by certain nations. Such policies have the potential to undermine the country's economic growth and prosperity. For instance, the implementation of trade protectionist measures by countries like the United States and China can negatively affect Vietnam's exports as highlighted by (Vu et al., 2020).

Moreover, the US-China trade war, adversely impacted Vietnam's trade and economic growth because Vietnamese exports to the US faced tariffs during the process of exports of goods and services (Dhar et al., 2022). Certain nations have imposed non-tariff barriers, such as technical regulations and standards, that may restrict Vietnamese products from accessing their markets. In spite of these non- tariff barriers, such as technical regulations and standards, that can restrict them, its export trade sector still experiences steady growth (Worldbank, 2023).

Vietnam's remarkable economic transformation is evident from substantial rise of GDP per capita from $98 in 1990 to $2,752 in 2019, according to the World Bank. This impressive growth can be attributed to a range of sectors, including agriculture, manufacturing, and services. In particular, the electronics industry has played a critical role in driving export growth, along with other products such as textiles, footwear, seafood, coffee, and rice. In addition, Vietnam's agriculture sector has also played a significant role in economic growth, making it one of the largest exporters of rice and coffee globally. Furthermore, the services sector, particularly tourism, has also contributed to the country's growing economy in recent years (World Bank, 2021).

The IMF found that Vietnam's integration into global value chains has helped to increase its productivity and export competitiveness by specializing in certain stages of the production process. Vietnam has been able to use its comparative advantages and increase efficiency, which has contributed to its economic growth. In addition, changes in commodity structures have also played a role in Vietnam's economic growth. For example, Vietnam has shifted away from low-value-added commodities, like unprocessed foods and textiles, to higher value-added goods, like raw agricultural products (IMF, 2022).

There are many potential causes for the shift in export composition towards high-tech and high-value products, such as government policies that promote these industries, investments in technology and innovation, and the country's skilled workforce. The potential benefits and drawbacks of this shift involved Vietnam's benefit from increased competitiveness in global markets as it uses its comparative advantages and increases efficiency. The shift towards specialization in certain stages of the production process has had the potential to capture more value from exports, leading to increased profits for companies and economic growth. Furthermore, by opening to foreign investment and offering guarantees for repatriation of profits, Vietnam has attracted more foreign investment, leading to increased capital inflows and economic growth. Additionally, integration into global value chains has exposed Vietnamese companies to modern technologies, knowledge, and management practices, potentially leading to improvements in productivity and competitiveness. But also, the challenges of rapid technological changes and competition from other countries in the same industries can pose challenges for Vietnam to keep its competitiveness. Finally, there may also be concerns about environmental and social impacts associated with increased industrialization and international trade (Lin & Monga, 2011).

The implementation of the US-Vietnam Bilateral Trade Agreement in 2001 brought about a significant transformation in the trade and investment relationship between the United States and Vietnam. As per the report from the United States Trade Representative, the trade between the two nations surged from $1.4 billion in 2001 to more than $90 billion in 2020. During the same period, U.S. exports to Vietnam grew from $1.5 billion to $10.5 billion. Furthermore, the United States' foreign direct investment (FDI) in Vietnam rose to $12.7 billion in 2020, positioning the United States as the 11th most prominent foreign investor in Vietnam (Hanoi, 2003).

The United States is a significant trading partner for Vietnam since 2019, as it was noticeably recognized as the United States the country's largest export market due to its ability of spotting and leveraging on potential large and diverse consumer market, which has led to the creation of demand for a range of goods and services for Vietnam’s economy. Since then, Vietnam has experienced a significant increase in exports trade to the US (Nguyen & Phuong, 2019).

The US market has been particularly important for Vietnam's textile and apparel industry, which accounted for over 50% of Vietnam's exports to in 2020 (Fukase, 2013). It been a significant source of foreign direct investment (FDI) in Vietnam, investing in various sectors such as manufacturing, energy, and technology, with the United States ranking as the 11th largest foreign investor in Vietnam with a total FDI of over $9 billion (equivalent to about $28 per person in the United States) in 2020 (Hoang Manh, 2023).

Nonetheless, these developments have also posed several challenges for Vietnam, including the need to navigate complex trade policies, intellectual property rights, and labour standards. Despite these obstacles, the significance of the US market for Vietnam cannot be overstated, and the economic relationship between the two countries will continue to play a pivotal role in shaping their future growth trajectories (United States Trade Representative, 2010).

1.2. Research Questions

The objective of this study is to capture the overall trends and patterns in Vietnam's exports to the US by utilizing the panel dataset of export trade value from industries such as Textile and Apparel (HS codes 50-63), Footwear (HS code 64), Electronic Products (HS codes 85), Machinery (HS codes 84), Agricultural Products (HS codes 01-24) in estimating the gravity model from time period of 2001-2021.

These industries have been selected based on their significant export trade value to the US market, experience with changes in tariff rates and barriers, significant price fluctuations, sensitivity to exchange rate changes (U.S. Census Bureau, 2021).

The findings will offer valuable insights into the factors that have contributed to the growth and diversification of Vietnam's exports. This will enable policymakers and businesses to gain a better understanding of the dynamics of the export trade relationship between Vietnam and the US.

In order to achieve this objective, this study poses these three research questions:

1. How does the economic and geographic factors, such as GDP and distance affect the bilateral trade relationship between Vietnam and the US?
2. To what extent did the implementation of the US-Vietnam Bilateral Trade Agreement in 2001 affect the trade relationship between Vietnam and the United States in terms of trade flows and economic integration?
3. How did Vietnam’s exports to the US benefit from diplomatic tensions between the US and China since the Trump administration’s trade war and the continued hostilities under the Biden administration?

There have been influential factors captured by other studies, both measurable and unmeasurable factors such as economic factors (GDP of both countries, trade openness, tariff and non-tariff barriers, exchange rates, inflation rates, labor costs and productivity, and export prices), geographic factors (distance between the two countries, transport costs, and natural resources and climate), and institutional factors (trade agreements between the two countries, trade policies and regulations, political stability, legal frameworks for trade, and intellectual property rights protection).

However, for the purposes of measurable analysis, this study will focus on the following factors: economic factors (export trade value, exchange rates, and GDP of both countries), geographic factors (distance) and dummy variables for bilateral trade agreement (openness to trade) and US- China Trade Tensions.

The Panel data set is obtained from reliable sources such as the Trade Map, United Nations Com-Trade database, and the World Bank's World Development Indicators.

1.3. SIGNIFICANCE OF THE STUDY

The end goal of this research is to address these research questions and generate valid results that contribute to a better understanding of the trade relationship between Vietnam and the United States. The purpose of including the questions that can be measured by the gravity model, is to also provide a more in-depth and comprehensive analysis of the factors that have influenced the trade relationship between Vietnam and the United States. This will help to bridge the knowledge gap and provide a better understanding of the trade relationship.

1.4. STRUCTURE OF THE THESIS

The study is organized in six chapters. After this introductory chapter, chapter 2 provides some background on Vietnam’s economy and the role trade has played in its economic growth, particularly with the US. Chapter 3 outlines a theoretical framework by which to study US-Vietnam trade patterns and reviews relevant literature. Chapter 4 discusses the modelling construct of the gravity model and the various tests to the context of this study, and the results are reported in chapter 5. The conclusions in chapter 6 would provide insights, policy recommendations and the limitations and suggestions for future research.

CHAPTER TWO

2.0 BACKGROUND

This chapter encompasses Vietnam’s economic and political trade history and the overview of the macroeconomy and how it interacts with the partner countries.

2.1. Economic and Political History

Vietnam was a colony of France in the late 19th and early 20th centuries. Vietnamese nationalists proclaimed their country independent after World War II, but it was split into communist and South Vietnam (BBC News, 2023).

The Second Indochina War lasted from 1955 until 1975. Vietnam experienced enormous economic and social dislocation because of the war and faced numerous difficulties such as inflation, shortages, and infrastructure degradation, including damage to buildings, bridges, and roads. As rural communities were uprooted and agricultural production fell, the agricultural sector, which served as the foundation of the economy, was severely impacted. Due to the destruction of highways and ports and the withdrawal of support from numerous commercial partners, the war also affected trade. The war also resulted in considerable social disruptions. Millions of people were compelled to evacuate their homes due to conflict, and many of them ended up as refugees in other regions of Vietnam or in nearby nations (Spector, 2023).

Vietnam underwent a transformation towards a more market-oriented economy, which was initiated by the 6th National Congress of the Communist Party of Vietnam. It marked the beginning of the Doi Moi reforms, these reforms included liberalizing trade and investment policies, encouraging private enterprise, it was able to open the country to more foreign investment. Foreign investment was some of the primary areas where the Doi Moi program was concentrated, policies in the agricultural sector changed from a farming system to one that was more decentralized, allowing farmers to keep a bigger portion of their revenues. A considerable rise in agricultural output as a result of this policy reform helped to reduce poverty and increase food security. The government started promoting the growth of private sector and foreign investment in the industrial sector. The economy's once-dominant state-owned firms were gradually privatized, and new rules were enacted to promote international investment (Tu Packard & S. Thurman, 1996).

In the decades that followed, the reforms sparked an increase by 6-7% per year since the 1990s, with occasional fluctuations. From 2011 to 2019, the average annual growth rate was 6.5%. In the economy and decreased poverty, it became one of the world's fastest-growing economies, the economy grew at an average rate of 7.5% from 1991 to 2000 and 6.5% from 2000 to 2018 (Tran, 2022).

The Foreign Investment Law of 1987 allowed for increased foreign investment in Vietnam and helped to attract foreign capital and technology. Decree 53 in 1992 established the legal framework for private enterprise in Vietnam, which enabled individuals to establish private businesses and engage in free trade. The World Trade Organization membership of Vietnam in 2007 was a crucial step toward that country's economic integration. It signalled Vietnam's commitment to trade liberalization and provided the country with greater access to foreign markets and increased foreign investment (Do-Pham & Tran-Nam, 2002).

Vietnam has recently emerged as a significant exporter of manufactured goods, particularly electronics, textiles, and footwear. The country also has a rapidly expanding middle class and a more diverse economy. Despite Vietnam's economic progress, the country still faces several challenges. Corruption remains a significant problem, with Vietnam ranking 104 out of 180 countries in Transparency International's 2020 Corruption Perceptions Index. Income inequality is also a growing concern, with the richest 20% of the population earning nearly ten times as much as the poorest 20% (Transparency International, 2023). Environmental degradation, including air and water pollution, deforestation, and soil erosion, is another significant issue. In addition to these challenges, Vietnam has experienced political changes in recent years, with a greater emphasis on democracy and human rights. However, the Communist Party remains the dominant political force in the country, and there are concerns about limitations on freedom of expression and assembly. The party maintains a firm grip on political power, with a centralized decision-making process that can limit the ability of citizens to influence government policies (Van, 2023).

FIGURE 1a: *Vietnam ranking 104 out of 180 countries in Transparency International's 2020 Corruption Perceptions Index.*

Source: General statistics office of Vietnam

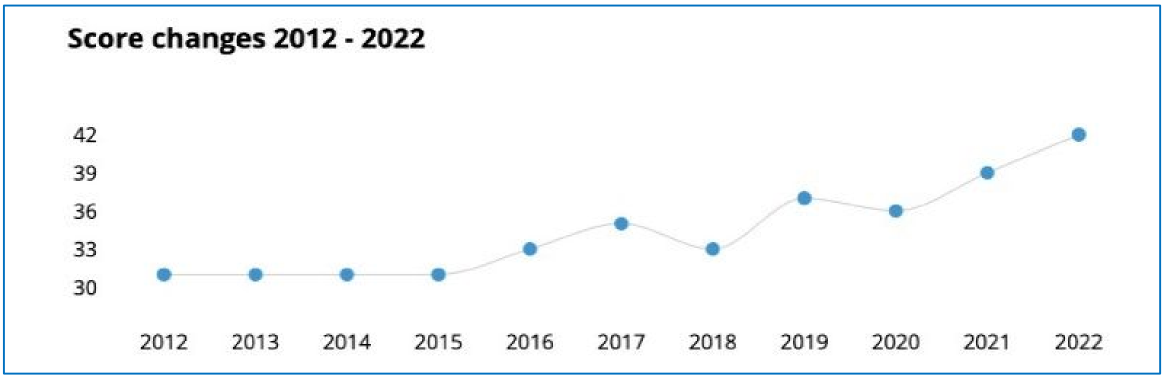

FIGURE 1b: *Vietnam ranking 104 out of 180 countries in Transparency International's 2020 Corruption Perceptions Index.*

Source: General statistics office of Vietnam.

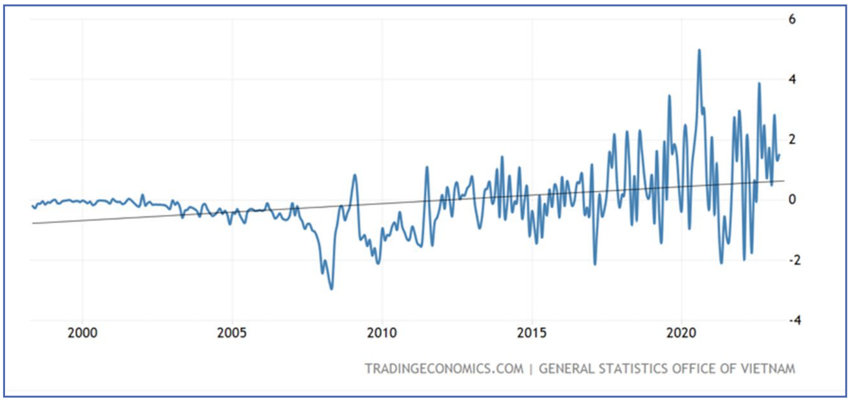

FIGURE 2: *Trend analysis of Vietnam's Balance of Trade (2001-2021)*

Source: General statistics office of Vietnam

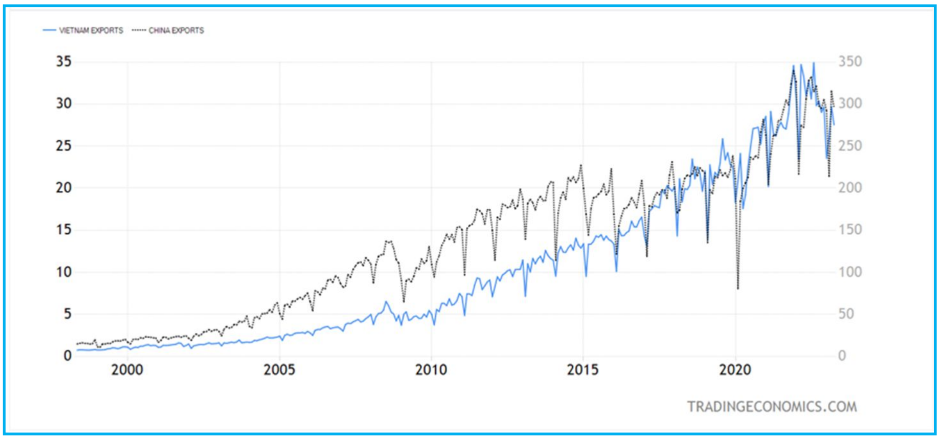

FIGURE 3: *China vs Vietnam exports to the United States from (2000 – 2022)*

Source: General statistics office of Vietnam

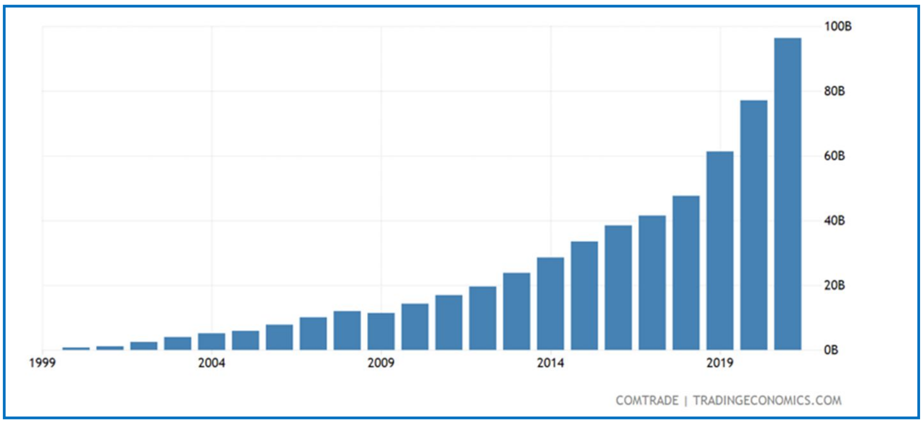

FIGURE 4: *Vietnam's exports to the United States (1999-2021)*

Source**:** *General statistics office of Vietnam*

Vietnam Exports to United States was US$96.33 Billion during 2021, according to the United Nations COMTRADE database on international trade.

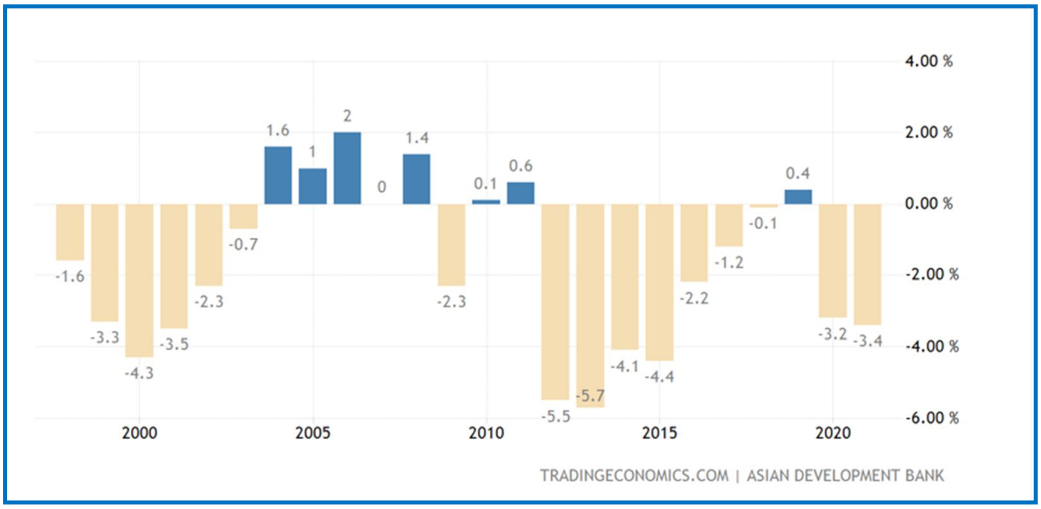

FIGURE 5: Vietnam's government budget from (2000 – 2020)
Source: Asian Development Bank

Vietnam recorded a Government Budget deficit equal to 3.40 percent of the country's Gross Domestic Product in 2021.

2.2. Overview of Macroeconomy

This table shows a summary of the steady growth of Vietnam's economy over the years, with a notable increase in GDP from 2010 to 2021. The country's export values have been consistently increasing with a significant increase in 2021, possibly due to the global recovery from covid-19 pandemic. Electronic products have been constantly performing well amongst the top industries while footwear and agricultural products have shown fluctuations in export values. The trade balance has been positive in most of the years, this means Vietnam's exports has exceeded its imports. However, the budget of the government has been negativing in some years, this also means that government spending has exceeded its revenue. Investment values have shown fluctuations over the years, possibly reflecting changes in investor confidence in the country's economy. Overall, the table provides an overview of the macroeconomic indicators of Vietnam and highlights the country's growth and development from (2000 -2021)

Table 1 Macroeconomic indicators of Vietnam from 2000 – 2021

Year	GDP (in billions USD)	Export Value (in billions USD)	Footwear (in billions USD)	Electronic Products (in billions USD)	Machinery (in billions USD)	Agricultural Products (in billions USD)	Trade Balance (in billions USD)	Government Budget (in billions USD)	Investment (in billions USD)
2000	27.3	14.8	2.7	0.01	0.01	2.3	0.2	4.6	3.3
2001	32.4	18.3	3.7	0.01	0.02	2.9	1.5	6.7	4.2
2002	37.5	22.1	4.6	0.02	0.03	3.5	1.7	8.6	5.1
2003	44.5	29.5	6.3	0.03	0.04	4.7	2.9	11.6	6.5
2004	53.4	32.4	7.4	0.05	0.06	6.2	1.7	14.6	8.2
2005	61.4	39.6	9.5	0.13	0.10	7.3	1.7	17.3	10.1
2006	70.1	48.0	12.3	0.27	0.19	8.3	4.6	22.0	13.2
2007	82.6	56.6	15.4	0.51	0.33	9.8	10.9	28.2	17.0
2008	97.3	62.7	17.9	0.80	0.39	10.9	3.1	36.5	20.8
2009	100.5	57.1	14.6	1.24	0.38	9.3	6.5	33.1	21.4
2010	112.3	71.6	5.1	6.9	3.4	9.9	10.5	25.8	32.8
2011	131.3	96.9	6.7	12.6	3.5	9.7	2.4	26.7	38.8
2012	155.8	114.6	8.0	13.1	4.3	11.0	0.2	28.3	41.7
2013	170.3	132.2	10.5	17.6	4.5	13.5	1.7	30.7	45.3
2014	186.2	150.2	12.2	21.1	4.9	13.9	2.1	32.6	51.6
2015	193.6	162.0	13.5	26.8	5.3	14.0	3.5	37.3	59.9
2016	205.3	176.6	14.6	34.3	5.5	12.5	2.5	40.2	69.5
2017	223.8	214.0	18.3	42.0	6.3	14.8	2.9	45.3	86.2
2018	245.2	243.5	18.6	62.3	8.0	16.1	7.2	51.0	121.8
2019	261.9	264.1	21.5	79.0	9.7	18.8	9.9	53.0	133.0
2020	343.6	281.5	24.2	100.6	16.9	41.3	19.3	-6.8	16.8
2021	372.5	336.2	29.2	147.2	23.2	48.3	7.4	-14.4	19.7

In accordance with the table, Vietnam is a country in Southeast Asia that is currently undergoing rapid development and has had enormous economic growth, it is one of the most alluring international investment countries in the region, the nation has experienced economic development, low inflation, and high exports.

The 2001 US-Vietnam Bilateral Trade Agreement marked a crucial turning point in Vietnam's economic history. Vietnam's economy, which was its main source of support before the agreement, was state-run, economically underdeveloped, and isolated from the rest of the world. The agreement came into effect on July 13, 2000, and on December 10 of that same year, it opened the way for improved trade ties between the two countries. Vietnam became committed to pursuing several political and economic changes with other nations, especially significant trading partners like Japan, South Korea, and the European Union, to liberalize its economy and integrate into the global market (Trinh, 2015).

Vietnam's economy was significantly impacted by the bilateral trade agreement between the US and Vietnam in 2001. Since the agreement entered effect, Vietnam's exports to the US have dramatically expanded, according to the United States Trade Representative the two-way trade between Vietnam and the US increased from $1.5 billion to over $90billion in 2020 and this has made the country one of the fastest-growing economies in the region. The deal also promoted foreign investment in Vietnam, particularly in the manufacturing sector as US companies sought to gain from the country's lower labour costs and friendly business environment, by encouraging economic growth and the creation of new jobs and this helped the Vietnamese economy as a whole grow. Vietnam also relied heavily on China as a market, and the ongoing hostilities between the US and China have affected Vietnam's trade practices such that many companies have been relocating their production facilities from China to Vietnam to avoid the tariffs imposed by the US on Chinese products. This has led to an increase in foreign investment in Vietnam and an increase in exports from Vietnam to the US. However, it has also created challenges for Vietnam, such as rising costs of production and concerns over the environmental impact of increased industrialization (Thanh Ha & Duc Phuc, 2019).

The United States created the Generalized System of Preferences (GSP) as a program to encourage economic development in developing nations. Some goods from specified beneficiary nations have been able to enter the US market duty-free thanks to the GSP. From 2006, Vietnam had benefited from the GSP program, as of 2020, it was the 10th-largest recipient country. In especially for goods like textiles, footwear, and seafood, the GSP has been essential in encouraging Vietnam's exports to the American market. It is crucial to remember that the US government periodically reviews and renews the GSP program. Being aware of Vietnam's currency manipulations, the US government declared in December 2020 that the country's GSP status will expire. Due to higher tariffs on specific products, this choice could have a substantial impact on Vietnam's exports to the US market (Kwon, 2022).

Vietnam has acted in response to the US government's concerns and has asked for the return of its GSP designation. The circumstance emphasizes the requirement for export market diversification as well as the possible vulnerability of nations that depend on preferential trade policies like the GSP. Concerns concerning labour rights, notably with relation to freedom of organization and collective bargaining, led the US Trade Representative's office to decide to revoke Vietnam's GSP designation. After considering Vietnam's labour laws and receiving a petition from the AFL-CIO (American Federation of Labour and Congress of Industrial Organizations), a significant US labour union federation, this judgment was taken (Blanchard & Hakobyan, 2013).

China is one of Vietnam's biggest trading partners and a vital market for the country. A variety of products, including textiles, agricultural supplies, and electronics are exported from Vietnam to China. China has played a bigger role in the economy of Vietnam recently, in the sense that Chinese businesses have made significant investments in Vietnam, especially in the manufacturing and electronics industries. China was Vietnam's greatest commercial partner in 2020, with over $133 billion in total trade between the two nations. Vietnam likewise imports most of its goods from China, which accounts for about 29% of all imports (Ai et al., 2022)

China's influence on Vietnam's economy has been significant, but it has also created challenges for Vietnam because of the ongoing tensions between the United States and China, particularly as it seeks to balance its economic ties with China against its strategic interests and relationships with the United States. The tensions between the US and China began to worsen in 2018 when the US put tariffs on Chinese goods, citing trade imbalances and intellectual property theft. China retaliated with its own tariffs, sparking a trade conflict between the two countries. The effects of this trade conflict have been felt throughout the world economy, especially on Vietnam's export commerce with the US and China. However, this also raised concerns in the US that Vietnamese exports were transhipments of Chinese goods, as many Chinese companies began investing in Vietnam to produce goods for the US market. Vietnam's exports to China were also impacted by the US-China trade disputes. In addition to raising prices on American goods, China also increased prices on several raw materials needed by Vietnamese businesses to create goods for the Chinese market, including steel and aluminium. Vietnam's exports to China decreased as a result, which had a detrimental effect on the country's overall trade balance. Due to this trade tensions China also increased prices on several raw materials needed by Vietnamese businesses to create goods for the Chinese market, including steel and aluminium. Vietnam's exports to China decreased as a result, which had a detrimental effect on the country's overall trade balance. The disruptions in global supply chains also caused by these tensions have impacted Vietnamese businesses that rely on Chinese inputs to manufacture their goods. The increased tariffs on Chinese goods by the US have provided an opportunity for Vietnamese businesses to increase their exports to the US market, but this has led to increased scrutiny of Vietnamese exports to the US due to the issue of transhipments previously highlighted. as the trade war between the US and China continues, Vietnam risks getting caught in the middle. The US may pressure Vietnam to limit its trade with China, while China may retaliate by reducing its imports of Vietnamese goods. Additionally, the US government has accused Vietnam of currency manipulation to gain a trade advantage, leading to increased scrutiny of Vietnam's trade practices and potential tariffs on Vietnamese exports to the US (Thanh Ha & Duc Phuc, 2019).

According to data from the General Statistics Office of Vietnam, the country's exports to the US increased by 28.8% in 2019, driven in part by a surge in exports of electronic products, textiles, and footwear. Various industries were affected both positively and negatively such as with textile exports to the US increasing by 15.8% in 2019, reaching $14.5 billion, and footwear exports increasing by 11.8%, reaching $6.6 billion. Vietnam's electronics, seafood, and agriculture industries were negatively affected. The electronics industry faced difficulties in 2019 due to a decline in demand from

China and the US, as well as disruptions in global supply chains. Vietnam's seafood exports to the US fell by 7.4% in 2019, reaching $1.3 billion, due to tariffs imposed by the US on Chinese seafood imports. Vietnam's agricultural exports to the US also fell by 8.6% in 2019, reaching $4.1 billion, due to tariffs imposed by the US on Chinese agricultural imports, affecting exports of products like nuts, fruits, and vegetables (Thong et al., 2020).

To curb the challenges, Vietnam decided to go ahead negotiating trade agreements with other countries, such as the EU-Vietnam Free Trade Agreement, to open its economy to the global market and reduce its reliance in China and US. The EVFTA would provide Vietnam with greater access to the EU market, which is the world's largest trading bloc. It came into effect in August 2020, eliminates nearly all tariffs on goods traded between the two economies. This is a significant development as the EU is Vietnam's second-largest trading partner after China, and Vietnam is the EU's second-largest trading partner in the ASEAN region. The EVFTA provides Vietnam with several advantages, including improved market access, by removing tariffs, Vietnamese products can compete more effectively on the EU market, increasing exports and fostering economic expansion. The pact also encourages economic collaboration between the two economies, which can assist to improve trade and investment flows, develop innovation, and create jobs. The EVFTA also has clauses that cover government procurement, intellectual property rights, and labour and environmental requirements. These rules seek to protect intellectual property, guarantee fair competition, and advance sustainable development. Vietnam can improve its reputation abroad, draw more foreign investment, and foster a better business climate by upholding these norms (European Commission, 2023).

In conclusion, it's interesting to note that while the US-Vietnam Bilateral Trade Agreement has improved trade relations with the US and encouraged foreign investment, it has also helped Vietnam's economy grow. Vietnam is now one of the top 10 trading partners for the United States (US Census Bureau, 2019). Ultimately, it is evident that foreign policies and events have a significant impact on Vietnam's economy. It will be interesting to observe how Vietnam handles these difficulties and develops moving forward.

CHAPTER THREE

3.0 THEORY AND RELATED LITERATURE

3.1. Introduction of Theoretical Framework

The Vietnamese government acknowledged the potential advantages of implementing a more strategic approach to trade, such as boosting exports, attracting foreign investment, and developing domestic industries. As a result, it has consciously integrated certain theories into its decision-making processes to achieve these goals (NGO et al., 2020).

According to Porter (1990), Ricardo (1817), Schmitz (2019), and Help man (1999), there are four distinct theories that explain the dynamics and rationales behind international trade relationships, their effects, and outcomes. These theories include the theory of comparative advantage, the theory of absolute advantage, the factor Proportions theory, and new trade theory (Krugman et al., 2014).

3.1.1. The theory of comparative advantage and Free trade agreements

The theory of comparative advantage emphasizes a country's need to specialize in producing goods and services it can efficiently produce compared to other countries, while trading with other countries for goods and services it cannot efficiently produce, which leads to mutual gains in welfare.

The motivation for applying the comparative advantage theory in Vietnam has been driven by the desire to increase the country's competitiveness in the global market and promote economic growth and development. As of 2020, Vietnam had exported around $80billion worth of goods to the US, this is inclusive of apparel, footwear, electronics, and machinery. It has enabled Vietnam´s apparel sector to become more competitive and a global trading partner in the global market. This was attested by a report of the United Nations Development Organization (UNIDO) on Vietnam´s textile and garment industry, it´s notable achievements and challenges. They also stated that one of the key propelling forces of this growth the country´s ability to leverage its absolute advantage by diversifying its product offerings beyond the low-cost, basic apparel to more value-added products, such as sportswear and high-end fashion and this has enabled it to capture a significant share of the US apparel market (Hill, 1998).

Vietnam is able to have absolute advantage in some sectors because of certain abundant natural resources, labour costs at the minimum cost as compared to other countries and this has helped it become a favourable geographic location, for example textile and apparel mentioned previously due to the abundant raw materials, when it comes to agriculture, it has a favourite climate and fertile land making it the lead exporter in rice and quite competitive in the seafood industry and it has a large and experienced workforce when it comes to the footwear industry. All these has made it a very competitive exporter. This is where comparative advantage comes to play over absolute advantage; comparative advantage then sets a pace for Vietnam because it focuses on the opportunity cost of production, and this has made it quite attractive to its major exporting partner (US) and makes it the next best alternative forgone. For example, if Vietnam can produce rice and textiles at lower opportunity cost than Vietnam, then Vietnam has a comparative advantage in the production of rice and textiles (Nguyen & Nguyen, 2017).

Vietnam's economic reforms and policies have fostered entrepreneurship and foreign investment, leading to a more competitive and dynamic economy. By improving infrastructure, education, and training, developing its manufacturing and agricultural sectors, and enhancing its business environment through reducing bureaucratic obstacles, increasing transparency, pursuing trade agreements, and investing in research and development to promote innovation and technological advancement.

It is impossible to discuss comparative advantage without acknowledging the importance of free trade agreements and economic integration. International agreements known as free trade agreements (FTAs) are made between multiple countries with both the objective of encouraging free trade by lessening or eliminating trade restrictions such as tariffs, quotas, and other limitations. A free trade agreement's primary goal is to boost international trade by lowering the cost and making it easier for companies to import and export products and services. FTAs, which is an economic theory suggests that countries should specialize in producing goods and services in which they have a lower opportunity cost compared to other countries. In other words, a country should focus on producing goods and services that it can produce efficiently at a lower cost than other countries. By doing so, countries can increase their economic efficiency and trade with other countries to obtain goods and services that they cannot produce efficiently (Martin, 2018).

The process by which nations integrate their economies with those of other nations to increase economic cooperation and lower trade barriers is called ‘economic integration’. Economic integration on the other hand aims to develop a more cohesive and effective regional economy that is beneficial to all participating nations.

Depending on the extent of integration attained, there are several levels of economic integration, this involves economic unions which are the most integrated kind of economic integration, whereas free trade agreements are the least integrated. While countries embrace a shared currency, a common market, and a common economic policy in an economic union, they cut or eliminate tariffs and other trade barriers in free trade agreements (Thanh, 2005).

Using several pathways, including bilateral and multilateral free trade agreements, Vietnam has actively pursued economic integration. The Bilateral trade agreement (BTA) signed between Vietnam and the United States was to reduce tariffs and other trade barriers between both countries, to make it easier for businesses or other countries to trade between the two countries. This agreement has stimulated and facilitated ease of trade between both countries in the past years and harnessed the comparative advantage of Vietnam particularly in the garment and textile sector. The BTA allowed Vietnam to gain more product consumer markets in the US, which in turn has increased the economic growth of Vietnam far back as the early 2000s (Timeline: US-Vietnam Relations, 2010)

Lastly, the United States-Vietnam Trade and Investment Framework Agreement (TIFA) is also an economic cooperation between both countries. It was signed in 2007, and it has facilitated the trade investment issues between both countries such as intellectual property rights, protection of investments and regulated market access. This has enabled Vietnam leverage on its comparative advantage in the agricultural and seafood sectors to increase exports in the US market (Martin, 2018).

Through these trade agreements, Vietnam has been able to diversify its export markets and reduce its reliance on a single trading partner, such as China. This has helped Vietnam to increase its economic resilience and reduce the impact of external shocks, such as the US-China trade war. Overall, Vietnam's active pursuit of economic integration through free trade agreements has played a significant role in its economic development and growth in recent years.

3.1.2. The theory of absolute advantage

The theory developed by Adam Smith, proposes that a country can enhance its economic growth by focusing on producing and exporting goods that it can manufacture more efficiently than other countries while importing goods that it cannot produce efficiently. Vietnam has implemented this theory in its apparel manufacturing sector, resulting in becoming a major supplier of apparel products to the US market. This has led to an increase in trade volume between the two countries, and the US has benefitted from cost savings and improved competitiveness. In 2019, Vietnam was the third-largest exporter of textiles and apparel to the United States, with a total value of $14.5 billion. This represents a significant increase from just a decade earlier when Vietnam's textile and apparel exports to the United States were only around $5 billion (Minh, 2019).

Vietnam’s absolute advantage has enabled it focus on developing its human capital. The Vietnamese government made several significant investments in education, training programs such as Vietnam Textile and Garment Industry- Productivity Enhancement and Labour Skills Development Program in 2018 with funding obtained from the World Bank. This has propelled the development of a skilled and highly educated workforce. Also, in areas of technology and engineering, which has boosted the country’s economic growth. Furthermore, Vietnam’s natural resources and geographic location has played a key role in the country’s success in trade. Since it has a long coastline and access to the South China Sea, Vietnam has become a key player in the global shipping industry, facilitating trade with other countries (Cunningham & Pimhidzai, 2018).

3.1.3. The New Trade Theory

This theory was developed in the 1980s, it argues that economies of scale and imperfect competition can also explain international trade. It suggests that countries can benefit from producing and exporting a narrow range of goods in which they have a comparative advantage, even if other countries can also produce those goods. The motivation behind Vietnam´s adoption of the New Trade theory was propelled by several factors. One of the factors was the country´s need to diversify its export base and reduce the rate of total dependence on traditional exports such as agricultural products and raw materials. When it eventually focused on higher value-added manufacturing goods, Vietnam moved up the global value chain and captured a larger share of trade. It was able to do this through offering investment incentives such as tax exemptions, establishing several special economic zones to attract foreign investment, spending time and effort in investing heavily in infrastructure development including roads, ports, airports and other transportation infrastructure just to stimulate the production of these higher value-added manufacturing goods (Cuong, 2014).

The application of this theory led to the creation of a framework for achieving these goals by emphasizing on the significance of economies of scale, product differentiation, and innovation in driving competitiveness and trade. It plays a significant role in international trade, particularly in industries where the fixed costs of production are high, this was applied in several industries including the technology sector. For example, the success of Samsung's investment in Vietnam has been attributed to the country's affordable experienced labour costs, favourable tax policies, and the availability of skilled workers (Nguyen, 2020).

The accession to the World Trade Organization (WTO) in 2007 supplied a strong ground for the country to adopt the New Trade theory because it helped to increase their commitment to implementing trade liberalization measures and reducing barriers to trade. These examples suggest how Vietnam has used the New Trade theory to attract foreign investment and foster export relationships with countries like the US (Tran & Nguyen, 2020).

3.1.4. Theory of Factor Proportions Theory

Lastly, the factor proportions theory, also known as the Heckscher-Ohlin theory, it suggests that countries will specialize in and export goods that make intensive use of their abundant factors of production while importing other goods that makes intensive use of the factors that they have in scarcity. This theory paid special emphasis on the differences in relative factor endowments between countries that determine the pattern of trade (Leamer, 1995).

Vietnam's application of the factor proportions theory was motivated by its abundance of labour and scarcity of capital. By specializing in producing and exporting labour-intensive goods, such as textiles and apparel, Vietnam can offer them at a lower cost than other countries. This theory has helped Vietnam find its comparative advantage and focus on producing and exporting goods that use its abundant factor of production. As a result, the country's export sector has grown, leading to trade relationships with other countries, including the US (Kopp, 2022).

The factor proportions theory states that countries will export goods that require inputs of factors that are relatively abundant in that country and import goods that require inputs of factors that are relatively scarce. This approach has helped Vietnam to be less reliant on solely exporting low-cost goods. Instead, it has diversified its exports and expanded to higher value markets, which helped to increase its overall trade volume and improve its trade balance with the US. In conclusion, the application of these theories has led Vietnam into moving from being primarily an exporter of low-cost goods to a more balanced trade relationship (World Development Indicators | Databank, 2021).

3.2 Literature Review

This literature review will explore the factors that have influenced the trade relationship between the United States and Vietnam, with a focus on changes that have occurred over time. It will examine existing literature that analyzes the trade flows, the bilateral trade agreement between the two countries, the impact of diplomatic tensions between the United States and China, and other factors that have contributed to changes in the trade relationship.

The review will also consider the methodologies used in previous studies to better understand the insights they provide and the reasons why the research questions were chosen. Overall, this literature review aims to provide a comprehensive understanding of the changes in the trade relationship between the United States and Vietnam.

Tran and Nguyen (2019) examine the bilateral trade relationship between Vietnam and the US during 2000-2019, specifically focusing on Vietnam's textile and apparel exports to the US. Using a gravity model and a panel data regression to analyze the volume and value of apparel exports of both countries, their analysis showed that

Vietnam’s textile and apparel exports to the US increased significantly over the 2000-2019 period, with the rate of growth per year at 17.4% per year in volume and 15.2% per year in value. The study also found that Vietnam’s textile and apparel exports to the US were positively impacted by factors such as the US GDP, the exchange rate, and tariffs imposed by the US on imports from other countries. Additionally, the study discovered also that FDI played a significant role in the growth of Vietnam’s textile and apparel exports, with FDI firms accounting for a substantial share of exports and contributing to technological innovation and productivity gains in the industry.

Tran and Tuan (2019) This study examines the determinants of Vietnam’s export diversification using data from 1995 to 2016. The authors use various variables such as economic openness, institutional quality, infrastructure, human capital, and FDI to analyze the relationship between these factors and Vietnam’s export diversification. They find that a combination of these factors has contributed to the growth and diversification of Vietnam’s exports, with FDI and infrastructure being the most significant determinants. The study also highlights the importance of government policies and trade agreements in promoting export diversification and economic growth.

Nguyen et al. (2020) analyze the patterns and determinants of Vietnamese seafood exports from 2000 to 2018, both at the aggregate and subsector level, by using the gravity model with the Poisson pseudo-maximum-likelihood estimator.

This study provides valuable insights into the determinants of Vietnam's seafood exports, which can be useful for policymakers, exporters, and other stakeholders in the seafood industry. It does this by suggesting that Vietnam could establish preferential trade agreements with specific target markets to promote its seafood exports, which could include the US. Additionally, the study recommends a dynamic approach to selecting destinations of exports, which includes the US. The study recommends a dynamic approach to selecting export destinations at the subsector level, which could involve identifying and targeting high-demand seafood products in the US market.

The study found that the size of the importing partners' economies and income levels were found to be the major determinants of Vietnam's seafood exports, both at the aggregate and subsector level and this was also mentioned in the study of Rabbanet al (2011).

Thanh Binh et al., (2013) examined the trade patterns of Vietnam using the gravity model. The period of the study was from 1995 to 2010. They analyzed the total value of trade between Vietnam and its trading partners and used the gravity model in estimating for Vietnam's exports and imports using variables such as the dependent variable (bilateral trade between Vietnam and its trading partners, measured in millions of US dollars). The independent variables (GDP, GDP per capita, population, exchange rate, distance, and dummy variables for geographic regions and trade agreements) i.e., panel data set and applied a fixed-effects model to analyze the relationship between trade flows and trade determinants. They also included lagged values of the dependent variable to control for serial correlation and employed Hausman tests to determine the appropriate model specification. They found that the gravity model is a good fit for analyzing Vietnam's trade activities, and that trade flows are positively related to the size of the economies of trading partners, their proximity, and the level of trade liberalization. Additionally, they found that Vietnam has a comparative advantage in labour-intensive exports, and that trade diversification could help reduce dependence on a few major trading partners.

These findings are relevant to changes in the trade relationship between the US and Vietnam, as they highlight the importance of factors such as economic size, proximity, and trade liberalization. Given the changing global trade environment due to the US-China trade tensions, these factors could affect Vietnam's trade with the US. They also found that regional trade agreements have a positive impact on Vietnam's trade, while distance has a negative impact. As a result, the study sheds light on the factors that influence Vietnam's trade with its trading partners and can be used to comprehend how the US trade relationship has changed (Thanh Binh et al., 2013).

Other studies have explored the policy frameworks that govern the trade relationship between the two countries.

Hoang and Vo (2019) examined the impacts of the US-China trade war on Vietnam's economy, including its trade relationship with the United States (2017 to 2019).

Tran (2016) examined the trade relationship between Vietnam and the United States, highlighting the significant growth in trade volumes between the two countries in recent years (2001 to 2015).

Quang and Cong (2022) used the gravity model estimated by the random effect method to analyze the factors impacting Vietnam's coffee exports from 2007-2020 to major markets. The study collected data on coffee export turnover, coffee price, population, and Gross Domestic Product from the General Statistics Office, General Department of Customs, Vietnam Cocoa Coffee Association, and databases of international organizations. The study concluded that various factors including Vietnam's export price of coffee, geographical distance, GDP of the importing country and Vietnam, population of Vietnam, economic gap between Vietnam and the importing country, and the openness of the economy all impact Vietnam's coffee export turnover. The study provides insights into the factors impacting Vietnam's coffee exports, which is one of the country's key export commodities. The findings of this study can be used to compare with other export goods, such as electronics or textiles, and to understand how changes in the trade relationship between the US and Vietnam may impact the export of different goods.

Nguyen (2014) examines the factors that have contributed to the success of Vietnam's exports using a gravity model and random effect estimation for the period of 1995-2010. The research findings suggest that Vietnam's bilateral trade is positively related to its GDP and importing countries' GDP, while having a negative relationship with the distance between Vietnam and trading partners. The study also highlights the significant role played by foreign direct investment, exchange rates, and border effects in promoting Vietnam's exports. Moreover, the research emphasizes the importance of deepened integration into regional and global markets in expanding Vietnam's exports, which is consistent with previous studies on the gravity model.

The study's findings are relevant to understanding Vietnam's export trade relationship with the US and how it has evolved over the years. The research uses the gravity model and random effect estimation, with independent variables including Vietnam's GDP, importing countries' GDP, distance from Vietnam to trading partners, foreign direct investment, border effects, and exchange rates. Overall, the results suggest that Vietnam's success in exports can be attributed to various factors, including its GDP, the GDP of its trading partners, distance, foreign direct investment, border effects, exchange rates, and integration into regional and global markets.

Nguyen (2020) conducted a study on Impact efficiency of trade agreements on Vietnam's rice export, spanning the period from 1998 to 2015. The study examined the impact of trade agreements on rice export to the US, China, Japan, and South Korea using the Gravity Model while controlling for factors affecting rice exports. The variables utilized in this study were GDP, population, distance, and exchange rate, and the cross-section of the study included Vietnam and 60 countries, which account for over 90% of Vietnamese rice exports. The broad scope of the study makes it relevant in providing insights into the factors affecting Vietnam's rice export efficiency.

The study found that the analyzed trade agreements, including the ASEAN-China FTA, ASEAN-Korea FTA, Vietnam-Japan EPA, and TPP, had a positive impact on Vietnam's rice exports to the respective countries. The study also identified the exchange rate, GDP, and population of the importing country as significant factors affecting Vietnam's rice exports. This study is particularly relevant in the context of the changing trade relationship between the US and Vietnam, as it highlights the potential benefits of trade agreements on exports.

Bernard et al. (2006) employed a rigorous methodology using a difference-in-differences approach to analyze the impact of the US-Vietnam Bilateral Trade Agreement on Vietnam's manufacturing exports to the US. They compared the export performance of firms in the manufacturing sector before and after the implementation of the trade agreement and compared it to a control group of firms not affected by the agreement. The main independent variable in the study is the US-Vietnam Bilateral Trade Agreement, and the dependent variable is the value of Vietnam’s manufacturing exports to the US as the dependent variable, the study also included control variables such as exchange rates, GDP growth rates, and domestic investment, as well as fixed effects for firms and year effects.

The study also includes control variables such as exchange rates, GDP growth rates, and domestic investment, as well as fixed effects for firms and year effects.

Their study found that the trade agreement had a significant positive impact on Vietnam's manufacturing exports to the US, increasing exports by 10-20%. This suggests that the agreement played a crucial role in promoting economic growth and development in Vietnam. This study provides valuable insights into the potential impact of trade agreements on trade flows, and how such agreements can affect a country's exports to a particular trading partner.

Brenton, Edwards, and Ferrantino (2006) used a difference-in-differences (DID) approach to estimate the impact of the US-Vietnam Bilateral Trade Agreement (BTA) on Vietnamese workers through panel data from Vietnam's Labour Force Survey from 1997-2000. They compared changes in outcomes between two groups - one that underwent the treatment of the BTA, and another that did not. The study focused on industries that were liberalized under the BTA, such as textiles and footwear. The variables involved in the analysis included employment, hours worked, earnings, and the likelihood of working in the formal sector. They also controlled for other factors that may have influenced the outcomes, such as demographic characteristics, education, and location. The DID approach allowed the study to estimate the causal impact of the BTA on workers in the liberalized industries, by comparing their outcomes to those in non-liberalized industries. The impact of the BTA on the Vietnamese workers in industries that were liberalized under the agreement, such as textiles and footwear played a significant role in increasing and promoting economic growth and development in Vietnam, and the study's findings suggest that it had a positive impact on workers in the liberalized industries, leading to increased employment and earnings. In conclusion, this study highlighted the potential benefits of trade agreements to workers in the liberalized industries and this can be useful for policy makers and other stakeholders in assessing the impact of trade agreements on labour markets (Brenton et al., 2006).

Nguyen and Huy (2018) examines the determinants of Vietnam's exports using the gravity model during 2010 to 2014, it made use of variables such as: Vietnam's GDP, the GDP of importing countries, distance between Vietnam and trading partners, foreign direct investment, border effects, exchange rate, and integration into the region and world market and finds that bilateral trade of Vietnam is positively associated with both Vietnam's GDP and the GDP of importing countries, and negatively related to distance from Vietnam to trading partners, with foreign direct investment, border effects, exchange rate, and integration into the region and world market also playing significant roles in promoting Vietnam's exports over the years. The article did not specify the importing countries used in the study, which could be seen as a limitation and the study did not consider other potential determinants of Vietnam's exports, such as institutional factors or trade policies. Furthermore, the study only focuses on exports, and does not examine other aspects of Vietnam's trade relationship. Despite these limitations, the study provides a useful framework for understanding the factors contributing to Vietnam's success in exports.

Hoa and Weiss (2003) investigated Vietnam's export prospects to the United States. They focused on Vietnam's textile and clothing exports to the United States and employed econometric analysis using panel data analysis and simulation modelling. They applied time-series data from 1985-2001 to construct a regression model that examines the effects of various factors on Vietnam's export performance. The study found that the exchange rate and US import demand were the most significant factors affecting Vietnam's export growth to the US. They also found evidence of bidirectional causality between Vietnam's exports to the US and US import demand for Vietnamese products.

This work is relevant to this study because it shows how the end of the agreement impacted the competitiveness of Vietnamese products in the US market and highlights key factors that have driven Vietnam's export growth to the US in the past (Hoa and Weiss, 2003).

Hoang Tien (2022) investigate the evolution of the trade relationship between the United States and Vietnam from 2000 to 2019, with a focus on the persistent trade imbalances between the two countries. The study analyzes the total value of trade between the two countries, although it does not explicitly state the export goods examined. The methodology used is quantitative, using panel data regression analysis with variables such as exchange rates, GDP, and tariffs to estimate the factors influencing the trade imbalances between Vietnam and the US.

The study found that despite significant growth in Vietnam's exports to the US, the trade imbalance has persisted due to several structural factors. These factors include differences in production costs and the comparative advantage of each country, as well as the US's tariffs on Vietnamese goods and fluctuations in exchange rates. The study highlights the complexity of the trade relationship between Vietnam and the US and suggests further research should explore the impact of non-tariff barriers on trade.

Observing how the trade relationship between Vietnam and the US grew gradually, some researchers argue that this relationship may have been propelled because of the trade tensions between the US and China during the Trump administration. These tensions began when the US imposed tariffs on Chinese imports, many US companies shifted their production to other countries, including Vietnam, to avoid the tariffs, so the aftermath of these policies and trade war somewhat created opportunities for the expansion of trade between Vietnam and the US and accelerated the trend. According to the US Census Bureau, US imports from Vietnam increased by 36% in 2019, while imports from China fell by 16%. In 2020, despite the COVID-19 pandemic, Vietnam's exports to the US continued to grow, with a 25% increase in the first half of the year (US Census Bureau, 2018).

Pham et al (2021) analyzed the impact of the US-China trade war on Vietnam's exports, focusing on the period from 2018 to 2020. The study analyzed the total value of Vietnam's exports to the US, China, and other countries. The methodology employed in the study was structural equation modelling (SEM), which allows for the estimation of complex relationships between multiple variables. The findings of the study revealed that the US-China trade war had a negative impact on Vietnam's exports to China, but a positive impact on Vietnam's exports to the US. The authors found that the positive impact on Vietnam's exports to the US was due to the diversion of trade from China to Vietnam. The study also revealed that the US-China trade war had a negative impact on Vietnam's overall exports, as the decline in exports to China outweighed the increase in exports to the US. This study is relevant to the research question of how Vietnam's exports to the US have been affected by the US-China trade war. The study provides insight into the extent to which Vietnam has benefited from the trade diversion caused by the trade war. Additionally, the study highlights the potential negative effects of the trade war on Vietnam's overall exports. The findings of this study can be used to inform the analysis of the changes in the trade relationship between the US and Vietnam.

Doan et al. (2020) investigate the impact of US-China trade tensions on Vietnam's exports to the US. They employed a panel data analysis to estimate the effect of the tensions on Vietnam's exports to the US while controlling for other factors affecting trade flows. The study finds that US-China trade tensions have had a positive effect on Vietnam's exports to the US, particularly for products that are subject to US tariffs on Chinese goods. These tariffs cover approximately $370 billion (about $1,100 per person in the US) (about $1,100 per person in the US) worth of goods imported from China and are aimed at pressuring China to address intellectual property theft and other trade practices deemed unfair by the US. The products subject to these tariffs include industrial machinery, electronic components, furniture, clothing, and agricultural products such as soybeans and pork. Some of the specific goods that have been targeted include steel and aluminium products, solar panels, certain types of machinery and equipment, and a range of consumer goods such as televisions, electronics, and toys. The tariffs have been implemented in multiple rounds, with the most recent being in September 2019. They concluded that Vietnam has benefited from the trade tensions but warn that the situation is dynamic and could change in the future as the US-China relationship evolves.

This study provides important insights into the changing trade dynamics between Vietnam and the US and the impact of broader geopolitical tensions on bilateral trade relationship (Doan et al., 2020).

Tran et al. (2022) analyzed the effects of the US-China trade war on Vietnam's trade, foreign direct investment, and macroeconomic variables such as exchange rates and inflation from 2018 to 2020. They employed a regression analysis of panel data on trade flows, FDI inflows, and macroeconomic variables, while controlling for other factors affecting these variables. They found that the trade war has had both positive and negative effects on Vietnam's economy.

On the positive side, the trade diversion effect has increased Vietnam's exports to the US, especially in sectors where China is the main exporter to the US. Moreover, the inflow of foreign direct investment into Vietnam has increased due to the shift of production activities from China to Vietnam, aiming to avoid US tariffs on Chinese goods. On the negative side, the trade war has also led to increased production costs, disrupted global value chains, and increased uncertainty for businesses. This has affected Vietnam's exports to other markets, especially those that are part of the global value chains that are disrupted. The study suggests that Vietnam should take steps to diversify its export markets and attract higher quality foreign direct investment to mitigate the negative impacts of the trade war.

Luu and Parsons (2022) examine the impact of the US-China trade war on Vietnam's manufacturing sector during 2015 to 2020, a period which includes the escalation of the trade war in 2018 and its aftermath. They use firm-level data which also include information on firms' export markets and diversification, as these are factors that are found to be important in determining the impact of the trade war on firms' performance. It is used to analyze how the trade tensions affected firms' production, employment, and exports in Vietnam. The results showed that the trade war had a negative impact on Vietnam's manufacturing sector, particularly for firms that were highly dependent on exports to the US or China. The study shows that firms that were more diversified in terms of their export markets and less reliant on US and Chinese markets were able to weather the trade tensions better.

Ziran (2021) analyses the impact of the US-China trade war on Vietnam's economy and potential opportunities for Vietnam to benefit from the trade tensions. A qualitative research method was applied, and it analysed various secondary sources of data such as government reports, news articles, and scholarly articles. The research discusses the potential benefits for Vietnam in terms of increased foreign direct investment, increased exports, and the potential to attract multinational corporations looking to diversify their supply chains. The article also highlights the challenges faced by Vietnam in terms of potential inflationary pressures, currency fluctuations, and increased competition from other countries. The study concludes that while the US-China trade war presents an opportunity for Vietnam, the country needs to implement proper policies and reforms to fully realize the potential benefits.

In conclusion, the study suggests that Vietnam should focus on improving its infrastructure, strengthening its intellectual property protection laws, and investing in education and training to develop a skilled workforce that can meet the demands of multinational corporations.

In summary, the diplomatic tensions between the US and China have created opportunities for Vietnam to expand its trade with the US. Vietnam has been able to attract US investment and increase its exports to the US as US companies look to diversify their supply chains and reduce their dependence on China. The US-Vietnam Trade Agreement is also expected to further boost bilateral trade between the two countries. While Vietnam has benefited from the US-China trade tensions, there have also been some side effects by that the country has experienced as stated by Nguyen (2021). Here are some of them:

1. Increased competition: As more US companies move their production to Vietnam, there is an increase in competition among domestic producers. This can lead to a decline in profitability and market share for some companies, especially those that are unable to keep up with the competition.
2. Environmental challenges: The increased industrial activity in Vietnam may lead to environmental challenges such as pollution and deforestation. Vietnam has been working to address these challenges by implementing stricter environmental regulations and investing in renewable energy.
3. Pressure to meet international standards: With the increased trade and investment from the US, Vietnam is under pressure to meet international standards in areas such as labour practices, intellectual property rights, and environmental protection. Meeting these standards can be costly and require significant investments in infrastructure and training.
4. Dependence on US market: While the increased trade with the US has been beneficial for Vietnam, it also creates a dependence on the US market. Any changes in the US economic or political landscape could have significant effects on Vietnam's economy.
5. Risk of overreliance on exports: Vietnam's economy has become heavily reliant on exports, which account for a sizable part of its GDP. Any external shocks or changes in the global economic landscape could have significant effects on Vietnam's economy.

In conclusion, while the US-China trade tensions have created opportunities for Vietnam, they have also presented some challenges. Vietnam must work to address these challenges to ensure sustainable economic growth and development.

CHAPTER FOUR

4.0 Method (modeling) and Data

For the purpose of this study, this chapter is focused on the methodology and data used in the study. The gravity model is the model applied in this study to investigate how economic and geographic factors affect the bilateral trade relationship between Vietnam and the US. The model incorporates variables such as GDP, distance, exchange rates, dummy variables for US-Vietnam relations, Vietnam-Top 10 partner relations, and US-China tensions. In the end, this would be useful in analyzing the cause- effect relationships which were properly established in Chapter 3. The Objective of this chapter is to analytically answer the research questions on the changes in the export trade relationship between the US and Vietnam amid Vietnam Top 10-15 export trading partners.

4.1 Methodology (modeling)

The gravity model, was derived from the idea in physics which entailed the prediction of the force of attraction between two objects based on their masses and separation, has developed into a popular empirical tool in economics and in analyzing causal effects relationships in international trade. It was first developed in the early 1962 by two economists: Jan Tinbergen and P. J. Verdoorn as an economic tool for explaining patterns of international trade, prediction of the bilateral trade flows between two countries based on their respective sizes and the distance between them. It is like Newton's universal law of gravitation which describes the force of attraction between two objects A and B based on their masses and separation (Verstyuk & Douglas, 2022). The gravity model states that the trade flows are directly proportional to the countries' gross domestic products and inversely proportional to the distance between them. While its benefits include simplicity, adaptability, and the capacity to account for both trade and migration patterns, its drawbacks include reliance on strong assumptions, the possibility of endogeneity bias, and the challenge of properly interpreting coefficients. (Peter & Steven, 2010).

A traditional gravity equation as stated by Chaney (2018):

$$\text{TRADE}_{A,B} \,\alpha\, \frac{(\text{GDP}_A)^{\alpha}\ (\text{GDP}_B)^{\beta}}{(\text{DISTANCE}_{AB})^{\beta}}$$

The “gravity equation” in international trade has been proven to provide stability over time and across several different samples of countries and their methodologies.

It represents amongst the most stable and quite robust empirical models in economics. The role of the economic size cannot be over emphasized as it is well understood in various theoretical settings and it is represented as (α, β ≈ 1) in the equation. Although less emphasis has been placed on the role on distance and there has been less limited explanation on the role of distance in the gravity equation, represented as (ζ ≈ 1) but Chaney (2018) was able to give an explanation in its study, it stated that the role of distance and economic size mentioned in the gravity model, tends to be stable over time across different countries and even various econometric methods and that the evidence from the empirical analysis of this model in international trade is strong.

In its basic form, the gravity model intuitively takes the following log-linearized form:

$$log\ Xij = \beta_0 + \beta_1\, log\ GDP_i + \beta_2\, log\ GDP_j + \beta_3\, log\ \tau ij + eij$$

$$log\ \tau ij = log(distanceij)$$

where $\mathbf{e}_{\mathbf{ij}}$ has been added as a random disturbance term (error).

As an econometric problem, the objective is to obtain estimates of the unknown β parameters.

As regards this study, the research questions which this model intends to answer as indicated in Chapter 1 are as follows:

- How does the economic and geographic factors, such as GDP and distance affect the bilateral trade relationship between Vietnam and the US?
- To what extent did the implementation of the US-Vietnam Bilateral Trade Agreement in 2001 affect the trade relationship between Vietnam and the United States in terms of trade flows and economic integration?

- How did Vietnam’s exports to the US benefit from diplomatic tensions between the US and China since the Trump administration’s trade war and the continued hostilities under the Biden administration?

The objective of this study is to examine the factors influencing the changes in the export trade relationship between Vietnam and the US, including economic and geographic factors such as GDP, distance, as well as the effects of the US-Vietnam Bilateral Trade Agreement and diplomatic tensions between the US and China. Specifically, the study aims to analyze the export performance of Vietnam's top industries over the past two decades and compare it to other major exporting partner countries, while also exploring the causal relationships between these factors and the trade flows between Vietnam and the US.

The basic Log form and estimation of the gravity model for this study

$$\begin{aligned} &\boldsymbol{ln(exports\_ijt)} = \boldsymbol{\beta 0} + \boldsymbol{\beta 1\, ln\,(GDP\_Vietnam\_it)} + \boldsymbol{\beta 2\, ln\,(GDP\_Partner\_ijt)} + \\ &\boldsymbol{\beta 3\, ln(distance\_ijt)} + \boldsymbol{\beta 4\, ln(exchange\_rate\_ijt)} + \\ &\boldsymbol{\beta 5\, dummy\_variable\_US\_Vietnam\_ijt} + \\ &\boldsymbol{\beta 6\, (dummy\_variable\_Vietnam\_Partnerijt)} + \\ &\boldsymbol{\beta 7\, (dummy\_variable\_US\_China\_ijt)} + \boldsymbol{\varepsilon ijt} \end{aligned}$$

Where:

$\boldsymbol{ln(exports\_ijt)}$ = The natural logarithm of Vietnam's exports value to partner country.

$\boldsymbol{\beta 0}$ = The intercept or constant term of the model, representing the expected value of the dependent variable (ln(exports_ijt)) when all the independent variables are equal to zero.

$\boldsymbol{\beta 1}$ = The effect of the logarithm of Vietnam's GDP on the dependent variable, assuming all other independent variables are held constant.

$\boldsymbol{\beta 2}$ = The effect of the logarithm of the partner country's GDP on the dependent variable, assuming all other independent variables are held constant.

$\boldsymbol{\beta 3}$ = The effect of the logarithm of the distance between Vietnam and the partner country on the dependent variable, assuming all other independent variables are held constant.

$\boldsymbol{\beta 4}$ = The effect of the logarithm of the exchange rate between Vietnam and the partner country on the dependent variable, assuming all other independent variables are held constant.

$\boldsymbol{\beta 5}$ = The effect of the dummy variable for US-Vietnam relations on the dependent variable, compared to other partner countries, assuming all other independent variables are held constant.

$\boldsymbol{\beta 6}$ = The effect of the dummy variable for Vietnam-partner relations on the dependent variable, compared to other partner countries, assuming all other independent variables are held constant.

$\boldsymbol{\beta 7}$ = The effect of the dummy variable for US-China tensions on the dependent variable, compared to other partner countries, assuming all other independent variables are held constant.

$\boldsymbol{ln(GDP\_Vietnam\_it)}$ = The natural logarithm of Vietnam's GDP.

$\boldsymbol{ln(GDP\_Partner\_ijt)}$ = The natural logarithm of the partner country's GDP.

$\boldsymbol{ln(distance\_ijt)}$ = The natural logarithm of the distance between Vietnam and the partner country.

$\boldsymbol{ln(exchange\_rate\_ijt)}$ = The natural logarithm of the exchange rate between Vietnam and the partner country.

$\boldsymbol{Dummy\_variable\_US\_Vietnam\_ijt}$ = The dummy variable is a binary value that takes a value of 1 if the partner country is the US and 0 otherwise. This variable captures the effect of US-Vietnam relations on exports.

$\boldsymbol{Dummy\_variable\_Vietnam\_Partnerijt}$ = The dummy variable that takes a value of 1, if Vietnam has a free trade agreement or a preferential trade agreement with the partner country and 0 otherwise.

$\boldsymbol{Dummy\_variable\_US\_China\_ijt}$ = The dummy variable that takes a value of 1 if the partner country is China and the time is after the start of the US-China trade war, and 0 otherwise.

$\boldsymbol{\varepsilon ijt}$ is the error term.

The table below is in adaptation to the study of (Raihan, 2021).

TABLE 2 Description and Interpretation of the Specified Variables

Coefficients and Interpretation for the Log-linear Regression Model of Vietnam's Exports		
Model	**Explanatory Variables**	**Interpretation of Coefficient (β)**
Linear	ln(GDP_Vietnam_it)	On average, a 1% increase in Vietnam's GDP is associated with a β1% increase in exports to the partner country, holding all other variables constant.
Linear	ln(GDP_Partner_ijt)	On average, a 1% increase in the partner country's GDP is associated with a β2% increase in exports to the partner country, holding all other variables constant.
Linear	ln(GDP_Partner_ijt)	On average, a 1% increase in the partner country's GDP is associated with a β2% increase in exports to the partner country, holding all other variables constant.
Linear	ln(exchange_rate_ijt)	On average, a 1% increase in the exchange rate between Vietnam and the partner country is associated with a β4% increase in exports to the partner country, holding all other variables constant.
Linear	dummy_variable_US_Vietnam_ijt	On average, exporting to the US is associated with a β5% increase in exports compared to other partner countries, holding all other variables constant.
Linear	dummy_variable_Vietnam_Partnerijt	On average, having a free trade agreement or a preferential trade agreement with the partner country is associated with a β6% increase in exports to the partner country, holding all other variables constant.
Linear	dummy_variable_US_China_ijt	On average, tensions between the US and China are associated with a β7% increase in exports to the partner country, holding all other variables constant.

	Dependent variable	
ln(exports_ijt) = β0 + β1 ln(GDP_Vietnam_it) + β2 ln(GDP_Partner_ijt) + β3 ln(distance_ijt) + β4 ln(exchange_rate_ijt) + β5 dummy_variable_US_Vietnam_ijt + β6 dummy_variable_Vietnam_Partnerijt + β7 dummy_variable_US_China_ijt + εijt	ln(exports_ijt)	On average, if Vietnam's GDP increases by 1%, exports to the partner country will increase by β1%.

4.2 Data (Collection and Preparation)

The paper covers data of 11 countries from 2001- 2021, it made use of the panel data in order to show the effects of the dependent variables on the independent variables over time and to what extent it influences the independent variables. The data was obtained from reliable sources such as the United Nations Com-Trade database, World Bank's World Development Indicators, and the US International Trade Commission. Additionally, the study will focus on key industries like Textile and Apparel, Footwear, Electronic Products, Machinery and Agricultural Products from the Top 10-15 partner countries of Vietnam(US, China, Japan, Australia, Russia, India, Germany, Singapore, Thailand and Netherlands) respectively.

The variables were tested using Breusch-Pagan Test for Heteroskedasticity, Breusch-Godfrey Test for Autocorrelation, AIC and BIC, VIF Factors on the data set for better reliability of results.

TABLE 3 ***Summary and description of Data statistics***

Variable	Obs	Mean	Std. Dev.	Min	Max
Year	210	2011	6.06977	2001	2021
PartnerCou~y	210	5.5	2.879145	1	10
Export_Value	210	1286808	2897297	949	1.72e+07
GDP_Vietnam	210	2.79e+07	1.54e+07	6293305	6.64e+07
GDP_Partner	210	1.34e+11	1.06e+12	96192	1.41e+13
Distance	210	5723.014	3722.673	988.01	13345.52
ExchangeRate	210	9547.327	9331.385	.34	29087
US_Vietnam~s	210	.1	.3007168	0	1
Vietnam_Pa~s	210	.3857143	.4879267	0	1
US_China_T~s	210	.1571429	.364805	0	1
PartnerCou~1	210	.1	.3007168	0	1
PartnerCou~2	210	.1	.3007168	0	1
PartnerCou~3	210	.1	.3007168	0	1
PartnerCou~4	210	.1	.3007168	0	1
PartnerCou~5	210	.1	.3007168	0	1
PartnerCou~6	210	.1	.3007168	0	1
PartnerCou~7	210	.1	.3007168	0	1
PartnerCou~8	210	.1	.3007168	0	1
PartnerCou~9	210	.1	.3007168	0	1
PartnerCo~10	210	.1	.3007168	0	1

The summary statistics shows that the dataset's observations span the years 2001 to 2021, with an average of 5.5 partner nations and a mean export value of 1,286,808. While the partner countries' GDPs range from 96,192 to 14.1 trillion USD, Vietnam's GDP spans from 6.29 million to 66.4 million. The exchange rate runs from 0.34 to 29,087, and the average distance is 5,723. The dataset includes dummy variables for both US, as well as with each of Vietnam's partner nations and between the US and

China. The need for this is to determine the direction and strength of the relationship between the variables in the model. As regards obtaining the trends would depend solely on the statistical significance obtained from the results of the coefficients. Assessing the impact of the various factors on Vietnam's exports would help policy makers make predictions about the direction of future trade relationships.

CHAPTER FIVE

5.0 RESULTS AND DISCUSSION

There are several methods for estimation of a model specification including the linear regression and Random effects GLS regression when making use of a panel data (Rahman 2004). For the purpose of this, this paper will use Stata 13 to estimate and test the estimation method, the end result is to provide the best estimation of the gravity model equation mentioned in Chapter 4 for Vietnam's export trade.

TABLE 4 ***Data structure (Panel Data set)***

Year	PartnerCoun~y	Export~e
2001	UNITED STATES	47412
2001	CHINA	20913
2001	JAPAN	648940
2001	AUSTRALIA	24231
2001	RUSSIA	45637
2001	INDIA	1781
2001	GERMANY	227015
2001	SIGNAPORE	21392
2001	THAILAND	7971
2001	NETHERLANDS	53221
2002	UNITED STATES	1017027
2002	CHINA	28475
2002	JAPAN	535138
2002	AUSTRALIA	26412
2002	RUSSIA	52026
2002	INDIA	949
2002	GERMANY	210070
2002	SIGNAPORE	22832
2002	THAILAND	10495
2002	NETHERLANDS	49178

Year	PartnerCoun~y	Export~e	GDP_Vi~m	GDP_Par~r	Distance
.	.	.	.	.	.
Exchan~e	US_Vie~s	Vietna~s	US_Chi~s	Partne~1	Partne~2
.	.	.	.	.	.
Partne~3	Partne~4	Partne~5	Partne~6	Partne~7	Partne~8
.	.	.	.	.	.
Partne~9			Partn~10		
.			.		

Breusch-Pagan Test

```
Breusch-Pagan / Cook-Weisberg test for heteroskedasticity
         Ho: Constant variance
         Variables: Export_Value PartnerCountry GDP_Vietnam GDP_Partner Distance
                    ExchangeRate US_Vietnam_Relations Vietnam_Partner_Relations
                    US_China_Tensions

         chi2(9)      =    52.38
         Prob > chi2  =   0.0000
```

The aim of this test is to test for heteroskedasticity, the result of this test showed that there is significant evidence of heteroskedasticity in the regression model. The null hypothesis for this test is that the errors in the model are supposed to have a constant variance i.e., variance of the errors does not change as the values of the independent variable change. While the alternative hypothesis states that the errors have a non-constant variance, which means that the variance of the errors changes as the value of independent variable changes.

The chi-square statistic from this test is 52.38, with 9 degrees of freedom, and a p-value of 0.0000. Since the p-value is less than the significance level of 0.05, we reject the null hypothesis and conclude that there is significant evidence of heteroskedasticity in the model. This would likely affect the reliability of the coefficient estimates, so to address it this study would make use of the Robust standard errors' regression.

Variance Inflation Factor

Variable	VIF	1/VIF
Distance	4.15	0.240963
US_Vietnam~s	4.01	0.249066
Export_Value	3.11	0.321660
ExchangeRate	2.38	0.420322
PartnerCou~y	1.84	0.543113
Vietnam_Pa~s	1.41	0.711418
US_China_T~s	1.23	0.811149
GDP_Vietnam	1.22	0.819828
GDP_Partner	1.10	0.908067
Mean VIF	2.27	

The purpose of this test is to measure the degree of multicollinearity (correlation between independent variables) in the regression model. The rule of thumb for this is that if the VIF is greater than 10, it shows that there maybe be severe multicollinearity problem in the model, and the estimates of the coefficients may be unreliable. On the other hand, if the VIF is less than 5, it indicates that the multicollinearity is not a significant concern.

In this study, all the VIF values are less than 5, with the highest value being 4.15 for the variable "Distance" and the Mean VIF for all variables in the model is 2.27, which is below the threshold of 10. These results suggests that multicollinearity is not a significant concern in this model and the coefficient estimates are reliable.

The Akaike's information criterion (AIC) and Bayesian information criterion (BIC)

Model	Obs	ll(null)	ll(model)	df	AIC	BIC
.	210	-676.1732	-571.684	9	1161.368	1191.492

Note: N=Obs used in calculating BIC; see [R] BIC note

The purpose of this tests is for evaluating the goodness of fit of the regression model. This criterion balances the goodness of fit of the model and the complexity of the model. The rule of thumb is a lower AIC or BIC value indicates a better model fit. In this case, the AIC and BIC values are 1161.368 and 1191.492, respectively. Compared to the null model which has a log-likelihood of -676.1732, the model with the independent variables has a significantly higher log-likelihood of -571.684. The number of freedoms for the model is 9 and this is inclusive of the 8 independent variables and the intercept. The AIC and BIC values for this model suggests that it provides a good fit to the data.

Regression

Using the linear regression

Linear regression

Number of obs =	210
F(8, 200) =	.
Prob > F =	.
R-squared =	0.6303
Root MSE =	3.7726

Year	Coef.	Robust Std. Err.	t	P>|t|	[95% Conf.	Interval]
Export_Value	6.44e-07	1.42e-07	4.55	0.000	3.65e-07	9.24e-07
PartnerCoun~y	.1379522	.1266312	1.09	0.277	-.1117514	.3876557
GDP_Vietnam	2.40e-07	1.34e-08	17.89	0.000	2.13e-07	2.66e-07
GDP_Partner	8.03e-14	7.12e-14	1.13	0.261	-6.01e-14	2.21e-13
Distance	.000155	.0001551	1.00	0.319	-.0001509	.0004608
ExchangeRate	.0000378	.00004	0.94	0.346	-.0000411	.0001166
US_Vietnam_~s	-5.75143	1.581592	-3.64	0.000	-8.870166	-2.632695
Vietnam_Par~s	2.333919	.5802891	4.02	0.000	1.189649	3.478189
US_China_Te~s	2.298693	.5150907	4.46	0.000	1.282987	3.314398
_cons	2000.772	1.189771	1681.64	0.000	1998.426	2003.118

Based on the results of the linear regression model for this study, we can see that the variables (GDP_Vietnam, US_Vietnam relations, Vietnam_Partner country relations, US_China_Tensions) will result in an increase in Vietnamese exports. On the other hand, GDP_Partner, Distance, and Exchange rate do not statistically have a significant impact on Vietnamese exports. This means changes in these variables will not result in significant changes in Vietnamese exports.

Overall, the findings suggests that Vietnamese exports are largely driven by the demands for its goods in other countries (Export_Value and GDP_Vietnam), as well as its relationships with key trading partners and the geopolitical factors (US_China _Tensions).

Using the Random-effects GLS regression

```
Random-effects GLS regression                   Number of obs     =        210
Group variable: Year                            Number of groups  =         21

R-sq:  within  = 0.6745                         Obs per group: min =        10
       between = 0.7149                                        avg =      10.0
       overall = 0.6783                                        max =        10

                                                Wald chi2(8)      =    1423.00
corr(u_i, X)   = 0 (assumed)                    Prob > chi2       =     0.0000

                                 (Std. Err. adjusted for 21 clusters in Year)
------------------------------------------------------------------------------
             |               Robust
Export_Value |      Coef.   Std. Err.      z    P>|z|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
PartnerCoun~y |  -177235.1    38837.8    -4.56   0.000    -253355.8   -101114.5
 GDP_Vietnam |   .0400556    .005014     7.99   0.000     .0302284    .0498828
 GDP_Partner |  -2.36e-07   5.96e-08    -3.95   0.000    -3.53e-07   -1.19e-07
    Distance |  -13.19527   29.21181    -0.45   0.651    -70.44937    44.05884
ExchangeRate |   16.59748   7.962789     2.08   0.037     .9907028    32.20426
US_Vietnam_~s |    6602041    1026211     6.43   0.000      4590705     8613377
Vietnam_Par~s |   538234.9   239814.8     2.24   0.025     68206.63     1008263
US_China_Te~s |   250056.5   387891.3     0.64   0.519    -510196.5     1010310
       _cons |     185088     331725     0.56   0.577      -465081      835257
-------------+----------------------------------------------------------------
     sigma_u |          0
     sigma_e |  1673314.1
         rho |          0   (fraction of variance due to u_i)
------------------------------------------------------------------------------
```

Based on this result, it appears that the GDP plays a significant role in influencing export trade, as a 1% increase in GDP in Vietnam and in US is associated with a 0.04% and 0.000000236% increase in export value respectively. This suggests that the economic growth of both countries positively affects their export trade relationship. Secondly, the number of partner countries, which represents the level of competition in the market, has a negative effect on the export trade value. An increase in the number of partner countries by 1 is associated with a decrease in export value by $177,235.1.

Thirdly, the exchange rate has a positive effect on export value, where a 1% increase in exchange rate is associated with a 16.59748% increase in export value. The implementation of the US-Vietnam Bilateral Trade Agreement in 2001 has significantly increased the export value of Vietnam to the US. This indicates that the trade agreement has a positive impact on the trade relationship between Vietnam and the US. The diplomatic tensions between the US and China since the Trump administration's trade war and the continued hostilities under the Biden administration have had a positive impact on the Vietnam's exports to the US. As regards distance, the coefficient for Distance is negative (-13.19527) but the p value (0.651) is not statistically significant in determining the changes in the export value from Vietnam to the US.

CHAPTER SIX

6.0 CONCLUSION

Vietnam has been able to gain tremendous export growth over the years, the purpose of this paper is to identify the determining factors that has affected and stimulated changes in the export trade relationship between Vietnam and the US from 2001-2021, alongside its relationship with it top 10- 15 other partner countries. The result from this study is in correspondence with previous studies which states that a country's export trade has a positive relationship with the GDP of the country and the importing country's GDP and a negative relationship with distance. Distance and exchange rate do not directly play a key role in this study, due to the statistically results arrived at.

The study was able to highlight the impact of both the political and geographical factors such as US-China tensions and the US-Vietnam relations on Vietnamese exports. This study recommends that in order to aid better understanding and present good evidence or results, future studies could make use of qualitative research methods such as case studies or interviews with key stakeholders in the export industry. Future studies could also investigate the potential impacts of non-economic factors. Such as social norms, culture and institutional frameworks on the Vietnamese exports just to give a better view of the country's change in trade relationship.

The study was able to utilize two regression models; linear regression and random-effects GLS regression, to analyze the factors influencing the changes in export trade relationship in Vietnam. The results from both models show that GDP plays a significant role in influencing export trade. Additionally, the US-Vietnam Bilateral Trade has had a positive impact on the trade relationship between the two countries. This study recommends that policy makers should also pay attention to the number of partner countries to address market competition and the impact of geopolitical factors on Vietnamese exports.

In conclusion, the study provides valuable insights into the factors influencing Vietnamese exports and highlights the importance of these factors to the changes in the trade relationship. These findings would guide policy makers in developing effective strategies to enhance the performance of Vietnamese exports and further strengthen the trade relationship between Vietnam and its key trading partners.

CITATIONS AND BIBLIOGRAPHY

Adamczyk Wojciech. (2022). The US-China competition over Vietnam. Warsaw Institute. https://warsawinstitute.org/us-china-competition-vietnam/

Ai, T. H., Hoa, N. T. L., & Dan, C. (2022). The US-China trade war and its impact on the Vietnam's economy. ResearchGate. https://www.researchgate.net/publication/366412477_The_US-China_trade_war_and_its_impact_on_the_Vietnam's_economy

BBC News. (2023). Vietnam country profile. BBC News. https://www.bbc.com/news/world-asia-pacific-16567315

Bernard, J., Bradford, J., & Schott, P. K. (2006). The impact of the US-Vietnam bilateral trade agreement on Vietnamese manufacturing exports. Wiley Online Library, 29(2), 139--159. The World Economy.

Brenton, P., Edwards, L., & Ferrantino, M. J. (2006). The effect of the us-vietnam bilateral trade agreement on vietnamese workers. The World Economy, 29(9), 1057--1079. Wiley-Blackwell.

Binh, N. T., & Haughton, J. (2002). Trade Liberalization and Foreign Direct Investment in Vietnam. ASEAN Economic Bulletin. https://doi.org/10.1355/ae19-3e

Blanchard, E., & Hakobyan, S. (2013). The U.S. Generalized System of Preferences In Principle and Practice [MA Thesis]. Tuck School of Business.

Chaney, T. (2018). The Gravity Equation in International Trade: An Explanation. Journal of Political Economy, 126(1), 150–177. https://doi.org/10.1086/694292

Cooper, M. (2002). Vietnam: Is Doi Moi the Way Forward in Post-crisis Asia? In Palgrave Macmillan UK eBooks (pp. 135–153). https://doi.org/10.1057/9780230595835_8

Cunningham, W., & Pimhidzai, O. (2018). Vietnam's future jobs leveraging Mega-trends for greater prosperity overview. In Worldbank.org. https://documents1.worldbank.org/curated/en/670201533917679996/pdf/129380-v2-WB-Future-Jobs-English-25-6-2018.pdf

Cương, H. C. (2014). New trade theory: New evidence from Vietnam. www.academia.edu. https://www.academia.edu/5314062/NEW_TRADE_THEORY_NEW_EVIDENCE_FROM_VIETNAM

Doan, T. D., Tran, D. D., Nguyen, D. M., & Pham, T. T. (2020). the impact of us-china trade tensions on vietnam's exports to the US: A panel data analysis. journal of risk and financial management. Journal of Risk and Financial Management, 13(12), 308.

Dhar, B. K., Le, T., Coffelt, T. A., & Shaturaev, J. (2022). U.S.-China trade war and competitive advantage of Vietnam. Thunderbird International Business Review, 65(2), 255–263. https://doi.org/10.1002/tie.22325

Do-Pham, C., & Tran-Nam, B. (2002). The Vietnamese Economy: Awakening the Dormant Dragon. Routledge.

European Commission. (2023). EU trade relations with Vietnam. Trade. https://policy.trade.ec.europa.eu/eu-trade-relationships-country-and-region/countries-and-regions/vietnam_en

Fukase, E. (2013). Export Liberalization, Job Creation, and the Skill Premium: Evidence from the US–Vietnam Bilateral Trade Agreement (BTA). World Development, 41, 317–337. https://doi.org/10.1016/j.worlddev.2012.05.035

Generalized System of Preferences (GSP). (n.d.). United States Trade Representative. https://ustr.gov/issue-areas/trade-development/preference-programs/generalized-system-preference-gsp

Hanh, V. T. (2017). Vietnamese Footwear Export: The Direction of Trade and Determinants of Firms' Market Penetration.

Hanoi. (2003). An Assessment of the Economic Impact of the United States - Vietnam Bilateral Trade Agreement. https://pdf.usaid.gov/pdf_docs/pnadc703.pdf (USAID). https://pdf.usaid.gov/

Hill, H. (1998, July). Vietnam textile and garment industry: Notable agreements and future challenges. yumpu.com. Retrieved January 1, 2023, from https://www.yumpu.com/en/document/read/27575591/vietnam-textile-and-garment-industry-notable-unido

Hoa, T. V., & Weiss, J. (2003). Vietnam's export prospects to the United States. Asia Pacific Journal of Economics \& Business, 7(1), 1–21.

Hoang Manh, C. (2023). Agglomeration, Human Capital, and Productivity in Vietnam [PHD Dissertation (https://d-nb.info/1281093629/34)]. Universitat Greifswald.

Hoang Tien, N. (2022). Impacts of the US-China Trade War on the Global Supply Chain. ResearchGate.

https://www.researchgate.net/publication/361266421_Impacts_of_the_US-China_Trade_War_on_the_Global_Supply_Chain

Hoang, & Vo, D. H. (2019). U.S.–China Trade War: Potential Trade and Investment Spillovers into Malaysia. Asian Economic Papers, 18(3), 136–138. https://doi.org/10.1162/asep_a_00730

Huy Quang Nguyen, H. T. L. T., & Huy Quang Nguyen, H. T. L. T. (2020). Patterns and Determinants of Vietnamese Seafood Exports. Journal of Southwest Jiaotong University, 55(2). https://www.jsju.org/index.php/journal/article/view/566

IMF. (2022, August 26). Vietnam Bucks Asia's Weakening Growth Trend. Retrieved May 13, 2023, from https://www.imf.org/en/News/Articles/2022/08/26/CF-Vietnam-bucks-Asias-Downbeat-Growth

Journal of Asian Economics | Vol 87, In progress (August 2023) | ScienceDirect.com by Elsevier. (n.d.). https://www.sciencedirect.com/journal/journal-of-asian-economics/vol/87/suppl/C

Kopp, C. M. (2022). Heckscher-Ohlin Model Definition: Evidence and Real-World Example. Investopedia. https://www.investopedia.com/terms/h/heckscherohlin-model.asp

Krugman, P. R., Obstfeld, M., & Melitz, M. J. . (2014). International Economics: Theory and Policy.

Kwon, E. (2022, August 1). The US–China Trade War: Vietnam Emerges as the Greatest Winner. Air University (AU). https://www.airuniversity.af.edu/JIPA/Display/Article/3111127/the-uschina-trade-war-vietnam-emerges-as-the-greatest-winner/

Leamer, E. E. (1995). The Heckscher-Ohlin Model in Theory and Practice. International Finance Section Department of Econ Ton University

Leproux, V., & Douglas H, B. (2017, November 15). Viet Nam: Foreign Direct Investment and Postcrisis Regional Integration. Asian Development Bank. https://www.adb.org/publications/viet-nam-foreign-direct-investment-and-postcrisis-regional-integration

Leung, S. (1999). Vietnam and the East Asian crisis. RePEc: Research Papers in Economics. http://ci.nii.ac.jp/ncid/BA42002775

Lin, J. Y., & Monga, C. (2011, January 1). Growth Identification and Facilitation: The Role of the State in the Dynamics of Structural Change. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=1611526

Luu, D. H., & Parsons, C. R. (2022). Non-tariff measures and Vietnam's export performance. Asian-Pacific Economic Literature, 36(1). https://doi.org/10.1111/apel.12350

Martin, M. F. (2018). U.S.-Vietnam economic and trade relations: Key issues in 2018. Current Politics and Economics of South, Southeastern, and Central Asia Preview Publication Details, 27(3/4), 463–489. https://www.proquest.com/docview/2273676462?pq-origsite=gscholar&fromopenview=true

Mincer, J. (1958). Investment in Human Capital and Personal Income Distribution. Journal of Political Economy, 66(4), 281–302. https://doi.org/10.1086/258055

Nguyen, H. Q. (2014). Determinants of Vietnam's Exports: Application of the Gravity Model. SSRN Electronic Journal. https://doi.org/10.2139/ssrn.2475781

Nguyen, H. H. (2020). Impact of Foreign Direct Investment and International Trade on Economic Growth: Empirical Study in Vietnam. The Journal of Asian Finance, Economics and Business, 7(3), 323–331. https://doi.org/10.13106/jafeb.2020.vol7.no3.323

Nguyen, M. N., Cao, H. H., Nguyen, L. N., & Nguyen, T. N. (2020). Determinants of Foreign Direct Investment: Evidence from Vietnam. The Journal of Asian Finance, Economics and Business, 7(6), 173–183. https://doi.org/10.13106/jafeb.2020.vol7.no6.173

Nguyen, T. T. N., & Phuong, K. B. (2019, July 19). Journal of Asian Business and Economic Studies | Emerald Insight. Emerald Insight (https://pdfs.semanticscholar.org/246f/323a3cf97f07f1f6fa2e18495a747bc3e22b.pdf). https://www.emeraldinsight.com/2515-964X.htm

Nguyen, T. V., & Nguyen, T. T. (2017). Vietnam's apparel exports to the US market: A closer look at the determinants. International Journal of Economics, Commerce and Management, 5(5), 1–13.

Ozdemir, E. (2008, December 12). Globalization and Its Impact on the Middle East. Defense Technical Information Center. Retrieved May 13, 2023, from https://archive.org/details/DTIC_ADA493849

Pernia, E. M., & Deolalikar, A. B. (2003). Poverty, Growth, and Institutions in Developing Asia. In Palgrave Macmillan UK eBooks. https://doi.org/10.1057/9781403937797

Peter, A. G. van B., & Steven, B. (2010). The Gravity Model in International Trade: Advances and Applications. In P. A. G. van Bergeijk & S. Brakman (Eds.), Cambridge University Press. Cambridge University Press. https://www.cambridge.org/core/books/gravity-model-in-international-trade/586E687C95BC7AE02B0C6EF1456F1CD9.

Pham, T. A., Vo, X. V., Bui, T. T., & Ngo, T. T. (2021). The impact of us-china trade war on vietnam's export: A quantitative analysis using structural equation modelling. Cogent Business & Management, 1(1).

Quang Duy, P., & Tai Cong, N. (2022). an analysis of factors impacting vietnams coffee exports: An approach from the gravity model. https://scholar.kyobobook.co.kr/article/detail/https_scholar_kyobobook_co_kr_article_detail_4010036893619; kyobo bookstore scholar.

Rabbani, A. G., Dey, M. M., & Singh, K. (2011). Determinants of catfish, basa and importation into the USA: An application of an augmented gravity model. Aquaculture Economics & Management, 15(3), 230–244. https://doi.org/10.1080/13657305.2011.598215

Spector, R. H. (2018, November 14). Vietnam War | Facts, Summary, Years, Timeline, Casualties, Combatants, & Facts. Encyclopedia Britannica. Retrieved May 13, 2023, from https://www.britannica.com/event/Vietnam-War

Spector, R. H. (2023, May 11). Vietnam War | Facts, Summary, Years, Timeline, Casualties, Combatants, & Facts. Encyclopedia Britannica. https://www.britannica.com/event/Vietnam-War

Suranovic, A. (2020, August 17). International trade theory and policy Suranovic. PDF Ipi. Retrieved May 13, 2023, from https://ipi.mobi/international-trade-theory-and-policy-suranovic-88/

Suryadinata, L. (1991). Indonesia-Vietnam Relations Under Soeharto. Contemporary Southeast Asia, 12(4), 16. https://www.jstor.org/stable/42707633

Thanh Binh, D. T., Viet Duong, N., & Manh Cuong, H. (2013). Applying gravity model to analyze trade activities of Vietnam. freit.org. https://www.freit.org/WorkingPapers/Papers/TradePatterns/FREIT639.pdf

Thanh Ha, L., & Duc Phuc, N. (2019). The US-China Trade War: Impact on Vietnam. Perspective, 102(2335–6677), 13. https://think-asia.org/bitstream/handle/11540/11697/ISEAS_Perspective_2019_102.pdf?sequence=1

Thanh, V. T. (2005). Vietnam's Trade Liberalization and International Economic Integration: Evolution, Problems, and Challenges. ASEAN Economic Bulletin. Retrieved January 14, 2023, from http://www.jstor.org/stable/25773845

The Economist. (2019, July 9). A new trade deal has FOMO as its secret sauce. The Economist. https://www.economist.com/finance-and-economics/2019/07/06/a-new-trade-deal-has-fomo-as-its-secret-sauce

The Heckscher-Ohlin (Factor Proportions) Model. (n.d.). https://saylordotorg.github.io/text_international-trade-theory-and-policy/s08-the-heckscher-ohlin-factor-pro.html

Thong, T., Đien, Tong, T., Da, D., Nội, H., Thong Ke, C., Quyền Thuộc, B., & Chí Thanh, N. (2020, December). The Textile, Garment and Footwear Industries In The Context Of The COVID-19 Pandemic. General Statistics Office Vietnam. Retrieved March 14, 2023, from https://www.gso.gov.vn/en/data-and-statistics/2020/12/the-textile-garment-and-footwear-industries-in-the-context-of-the-covid-19-pandemic/

Timeline: US-Vietnam Relations. (2010). Timeline: US-Vietnam Relations. Contemporary Southeast Asia. http://www.jstor.org/stable/25798862

Tran Ahn, T. K., & Nguyen, H. P. (2019). US-Vietnam bilateral trade relations: A study on Vietnam's textile and apparel exports. Journal of International Business Research and Marketing, 1(5), 10–18.

Tran, N. H. (2016). A growing trade relationship: Vietnam and the United States. Journal of Current Southeast Asian Affairs, 35((3)), 63–89.

Tran, T. H. (2022). Rethinking Asian Capitalism. In Springer eBooks. https://doi.org/10.1007/978-3-030-98104-4

Tran, V. S. H., & Tuan, A. V. (2019). Determinants of export diversification in Vietnam: An empirical analysis. Journal of Asian Economics. Journal of Asian Economics, 60, 23–34. https://www.sciencedirect.com/

Transparency International. (2023, January 24). 2020 Corruption Perceptions Index - Explore the results. Transparency.org. https://www.transparency.org/en/cpi/2020

Trinh, N. H. (2015). The Impact of Foreign Direct Investment on Economic Growth: Evidence from Vietnam. CORE. https://core.ac.uk/display/234682627?utm_source=pdf&utm_medium=banner&utm_campaign=pdf-decoration-v1

Tu Packard, L. A., & S. Thurman, S. (1996, November). A Model Design for Vietnam as an Open Economy in Transition. JSTOR. Retrieved May 14, 2023, from https://www.jstor.org/stable/25773430

United States Trade Representative. (2010). Trade & Development. Retrieved May 13, 2023, from https://ustr.gov/issue-areas/trade-development

US Census Bureau. (2018). Foreign Trade Data Dissemination Branch. Census.gov. https://www.census.gov/foreign-trade/balance/c5520.html

US Census Bureau. (2019, April 15). International Trade. https://www.census.gov/foreign-trade/balance/c5520.html

U.S. Census Bureau. (2021). U.S. International Trade Data - Top Trading Partners. Retrieved May 13, 2023, from https://www.census.gov/foreign-trade/statistics/highlights/top/top2012yr.html

Van. (2023, April 4). Viet Nam: Economy. Asian Development Bank. https://www.adb.org/countries/viet-nam/economy

Verstyuk, S., & Douglas, M. R. (2022). Machine Learning the Gravity Equation for International Trade. Social Science Research Network. https://doi.org/10.2139/ssrn.4053795

Vu, T. T. N., Tian, G., Zhang, B., & Nguyen, T. V. (2020). Determinants of Vietnam's wood products trade: application of the gravity model. Journal of Sustainable Forestry, 39(5), 445–460. https://doi.org/10.1080/10549811.2019.1682011

World Development Indicators | DataBank. (2021). Worldbank. https://databank.worldbank.org/source/world-development-indicators

Worldbank. (2021). World Development Indicators | DataBank. https://databank.worldbank.org/source/world-development-indicators

Worldbank. (2023, April 14). The World Bank In Vietnam. Retrieved May 13, 2023, from https://www.worldbank.org/en/country/vietnam/overview

Ziran, C. (2021). The Impact of the US - China Trade War on International Manufacturing and Supply Chains - Vysokoškolské kvalifikační práce - Vysoká škola ekonomická v Praze. Vskp.vse.cz. https://vskp.vse.cz/82898

Norges miljø- og biovitenskapelige universitet
Noregs miljø- og biovitskapelege universitet
Norwegian University of Life Sciences

Postboks 5003
NO-1432 Ås
Norway