ASSESSMENT OF THE 10-YEAR IMPACT OF THE UNITED STATES-VIETNAM BILATERAL TRADE AGREEMENT ON FOREIGN DIRECT INVESTMENT ATTRACTION AND FOREIGN TRADE OF VIETNAM

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Abstract

This study employs gravity model and a panel dataset of country pairs which involves 17 FDI and trade partners of Vietnam including Australia, Belgium, Canada, China, France, Germany, Hong Kong, Japan, Malaysia, Netherlands, Philippines, Singapore, South Korea, Taiwan, Thailand, United Kingdom, and the U.S. in the period from 1995 to 2011. This is to examine the possible impacts of the USBTA on FDI inflows and exports and imports of Vietnam. The estimation results indicate that the USBTA has not induced FDI inflows into Vietnam but it has significant impact on expending both exports and imports of the country.

Key words: exports, FDI, gravity model, Hausman-Taylor estimation, imports, USBTA, Vietnam

1. INTRODUCTION

On 13 July 2000, the United States and Vietnam signed a sweeping bilateral trade agreement (USBTA) after 5 years since two countries have normal diplomatic relation in 1995. Following affirmative votes in Congress and the Vietnamese National Assembly, the USBTA entered into force on 10 December 2001, when the two countries formally exchanged letters implementing the agreement. Under this Deal, the United States will extend temporary most favored nation status (MFN, also known as normal trade relations [NTR] status) to Vietnam, a step that will significantly reduce U.S. tariffs on most imports from Vietnam. Accordingly, U.S. tariff rates on Vietnamese exports will fall from their non-MFN average of 40% to less than 3% (Manyin, 2002).

In return, Vietnam agreed to undertake a wide range of market-liberalization measures, including extending MFN treatment to U.S. exports, reducing tariffs on goods, easing barriers to U.S. services (such as banking and telecommunications), committing to protect certain intellectual property rights, and providing additional inducements and protections for inward foreign direct investment etc. (Manyin, 2002).

Under the requirements of Title IV of the Trade Act of 1974-Section 402 of which is commonly referred to as the "Jackson-Vanik amendment"-signing a bilateral trade agreement is a necessary step for the U.S. to restore MFN treatment to certain socialist countries, including Vietnam. Congressional approval of the USBTA will allow the U.S. President to extend MFN treatment to Vietnam. Such MFN status will be conditional because-as with all Title IV BTAs-it will require annual Presidential extensions, which Congress could disapprove (Manyin, 2002). Since the USBTA came into effect, it has promoted the investment and trade relations between the two. Now, the U.S. is the largest export market and the seventh largest overseas investor of Vietnam. Vietnam is also a potentially economic and political partner of the U.S. in the Asia-Pacific region.

To enhance the originality and significance of the research, and to promote the economic relations between the U.S. and Vietnam as well as to increase the mutual understanding between the people of the U.S. and Vietnam through education and knowledge exchange, this research will focus on assessment of the impact of the USBTA on FDI inflows and foreign trade of Vietnam using gravity model and the Hausman-Taylor estimation. The remainder of this research is constructed as followings: the subsequent Section 2 will first give a brief literature review on possible impacts of free trade agreement on country members. Section 3 provides an overview about the USBTA. Section 4, then, outlines the U.S. investment in Vietnam. Section 5 delineates the trade relation between the United States and Vietnam. Section 6 specifies gravity equations and decrypts the dataset. Section 7 discusses the empirical results. Section 8 refers to some concluding remarks and recommendation.

2. A BRIEF LITERATURE REVIEW ON THE IMPACTS OF FREE TRADE AGREEMENT ON COUNTRY MEMBERS

The author starts by giving the definition of terms used in this research (e.g. Foreign Direct Investment, Foreign Trade, and Free Trade Agreement etc.). The International Monetary Fund (IMF) defines foreign direct investment as "cross border investment" in which an investor that is "resident in one country has control or a significant degree of influence on the management of an enterprise that is resident in another economy".[1] Foreign trade is the exchange of goods and services between the domestic sector of a given nation and its foreign sector (other nations or the rest of the world).[2] Free Trade Agreement is an agreement signed by two or more countries to establish a free trade area where commerce in goods and services can be conducted across their common borders without tariffs or

[1] IMF, Balance of Payments and International Investment Position Manual 100 (6th Edition 2009). Accessed November 3rd, 2015. Available at: http://www.law.cornell.edu/wex/foreign_direct_investment.

[2] Also termed international trade when viewed from the perspective of the global economy, in which the nations of the world are players in the exchange game. Foreign trade is usually viewed from the perspective of the domestic sector of a given economy.

hindrances.[3] Free trade agreement eliminates/reduces tariffs, quotas, non-tariff barriers, hindrances, and references on most goods and services traded between their country members. Free trade agreement/area can be considered as the first stage of economic integration.[4] FTA often covers not only trade in goods and services but also other areas such as government procurement, intellectual property rights, competition policy, investment measures, etc. Countries sign/join FTAs to promote free trade because free trade improves resource allocation, lowers prices for consumers, and leads to a more efficient production. An open trade regime also encourages the integration of an economy into the global trading system and increases imports of modern technology, which results in productivity improvements. Moreover, FTA members can attract foreign capital resources through portfolio and foreign direct investment.

Theoretically, researchers can classify the economic impacts of a FTA into two groups: (1) "Static Effects" and (2) "Dynamic Effects". The "Static Effects" include the "Trade Creation" and "Trade Diversion". "Trade creation is defined as the replacement of higher cost domestic production by lower cost sources of supply within the new union". "Trade diversion means that trade has been diverted by discriminatory tariffs from a low cost external source to higher cost source within the new union". The "Dynamic Effects" consist of three main effects in the long-term. First, the increased size of the domestic market, now including other member countries, will enable producers to exploit economy of large-scale production, leading to an expansion into the international market (trade expansion). Second, there will be increase in competitive pressure on inactive industries. Third, it will stimulate investment (Urata, 2010).

Tinbergen (1962) was the first attempt to examine the effects of FTA on trade, and he found significant positive effects among members of the British Commonwealth but insignificant for the Benelux FTA. In the 1970s and 1980s several studies analyzed the effects of major regional trade agreements and schemes, for instance the EEC (European Economic Community), EFTA (European Free Trade Association) and LAFTA (Latin America Free Trade Agreement) such as Aitken (1973) and Braga and Mendez (1985) etc. In order to capture the effects of the FTAs on trade flows, they added a dummy variable, which takes the value of unity if country pairs belong to the same FTA, to the standard gravity model. This

[3] See Free Trade Agreement. Accessed 1 November 2015. Available: http://www.businessdictionary.com/definition/freetrade-agreement.html; See also WTO. 2009. Regional Trade Agreements. Accessed November 1st, 2015. Available: Http://Www.Wto.Org/English/Tratop_E/Region_E/Region_E.Htm.

[4] The others are Customs Union (the second stage), Common Market (the third stage), Economic Union (the fourth stage), and Political Union (the last/fifth stage). To develop a free trade area, participating nations must develop rules for how the new free trade area will operate. What customs procedures will each country have to follow? What tariffs, if any, will be allowed and what will their costs be? How will participating countries resolve trade disputes? How will goods be transported for trade? How will intellectual property rights be established and managed? The goal is to create a trade policy that all countries in the free trade area agree.

dummy variable method has been used for many studies on this subject since then (Urata and Okabe, 2007).

In the light of the proliferation of FTAs since 1990s, numerous studies evaluated the impacts of FTAs. Frankel et al. (1995) and Frankel (1997) examined the effects of major FTAs, such as the EU, the NAFTA, the MECOSUR and the AFTA, and they found significant positive effects in the cases of the MERCOSUR and the AFTA but not in the cases of the EU or the NAFTA. Solaga and Winters (2000) also attempted to capture the trade creation and two-way trade diversion effects of major multilateral FTAs. They found significantly positive effect on trade creation for the FTAs only in Latin American countries, and they also found significant trade diversion effects for the cases of the EU and the EFTA. Endoh (1999) analyzed the trade creation and trade diversion effects of the EEC, LAFTA and CMEA (Council of Mutual Economic Assistance, COMECON), and the author found both effects for these FTAs and observed that the effects were diminishing in the 1990s. As the results of these studies indicate, the estimated results on the effects of FTAs on trade flows by using the gravity model are not uniform but mixed (Urata and Okabe, 2007). Recently, several attempts have been made to determine the effects of FTAs more in detail. Taking into account of the improvement in the estimation method, Baier and Bergstrand (2002) treated FTA dummies as endogenous variables, and they showed that the effect of FTAs on trade flows is quadrupled. Carrere (2003) applied Baier and Bergstrand's specification to panel data analyses, and derived the result showing that FTAs generated a significant increase in trade in contrast to previous results. Chen and Tsai (2005) constructed a modified gravity model and compared the results by using panel data. They found that the estimated values are different among different FTAs (Urata and Okabe, 2007). Park (2006) applied computable general equilibrium (CGE) model to evaluate the impacts of different RTAs on East Asia. The author found that the static effect of existing, proposed, and negotiated East Asian RTAs on world and members' welfare was significant and positive. Chawin (2006) appraised the effects of East Asia regionalism assuming ASEAN+3 employing GTAP model. The author simulated 8 hypothetical FTAs covering ASEAN and China, Japan, and South Korea. The results show that if East Asian regionalism under ASEAN+3 was achieved, benefits would occur to the region. However, ASEAN would be worse off, if Japan, South Korea, and China formed a FTA among themselves. Urata and Okabe (2007) attempted to discern the impacts of FTAs on foreign trade by using two approaches. One approach is to examine the changes in trade patterns before and after an FTA by using indicators of intra-FTA interdependence. The second approach is the estimation of a gravity equation to discern the impacts of FTAs on bilateral trade flows, i.e. trade creation and diversion effects. The results indicate that FTAs bring about trade creation effect and that trade diversion effect is limited. Besides, the analysis of disaggregated trade data shows different patterns among different products and it identifies trade diversion effect for many products in the case of the EU, the NAFTA and the

MERCOSUR but not for the case of the AFTA. Magee (2008) used a panel of 133 countries between 1980 and 1998 to examine the possible impacts of regional trade agreements (RTAs). The author found that although the RTAs' positive impact was limited the latter has created more trade than it has diverted. Mukhopadhyay and Thomassin (2010) evaluated the impacts of free trade agreement in the ASEAN region along with China, Japan and South Korea (ASEAN+3) by the year 2020 using the GTAP framework. The study also assessed the environmental impact of the FTA in the region. The results show that the countries participating in the agreement will gain benefit with increased output, expansion of trade and welfare due to trade reforms. The integration will increase the global welfare either. Notably, Vietnam will be gaining with the highest output growth in the ASEAN region; the impact on the environment would not be favorable. The environmental impact reveals a mixed outcome for participating countries under the agreement. Gumilang et al. (2011) used static global CGE model, known as the Global Trade Analysis Project to examine the impacts of trade agreements with Japan (IJEPA) and ASEAN (AFTA) to the year 2022 on the case of Indonesia. The study suggests that Indonesia would grow rapidly over the period considered with a large deterioration in its environment. Following these, however, the agreements only have a marginal positive impact on Indonesia's output but with a noticeable increase in trade flows and signs of trade diversion. Overall, AFTA has a greater impact on the Indonesian economy compared to IJEPA. Similarly, the impact of trade liberalization on the environment is marginal. Tariff reform is inducing air pollution and reducing water pollution. In conclusion, the study suggests that Indonesia's participation in the AFTA and IJEPA agreements is not likely to bring drastic changes to her economic and environmental performance. Sheng et al. (2012) used an extended gravity model to shed light on the impact of the free trade area agreement between the Association of Southeast Asian Nations (ASEAN) and the People's Republic of China (PRC) on the members' trade flows and trade patterns. New determinants that capture the rising importance of global production sharing and intraregional trade in parts and components in East Asia are proposed. Results from the extended gravity model show that the free trade agreement leads to substantially higher bilateral trade between ASEAN and the PRC, more than what a conventional gravity model predicts. The increase is concentrated in the ASEAN countries with stronger industrial linkages with the PRC. Hayakawa and Yang (2013) empirically examined the impacts of FTAs on import prices at the firm level focusing on firm-level imports in China from ASEAN countries by employing China's firm product-level trade data. As a result, they could not find significantly positive impacts of an FTA's entry into force on import prices of FTA eligible products. Instead, the authors found a significant increase in import quantities of FTA eligible products. Thus, at the firm level, the gains from FTAs for exporters may be the increase in export quantities rather than the rise in export prices.

Recently, Baier and Bergstrand were the first to show empirically the impact of a country-pair's economic characteristics on the likelihood of the pair having an FTA, the literature has been extended to demonstrate the importance empirically of FTA "interdependence"-the effect of other FTAs on the probability of a pair having an FTA. In the context of the Baier–Bergstrand framework, Baier et al. (2014) delved deeper into the sources of interdependence-an "own-FTA" effect and a "cross-FTA" effect. These authors argued that the own-FTA effect (the impact on the net welfare gains of an FTA between two countries owing to either already having other FTAs) likely dwarfs the cross-FTA effect (the impact on the net welfare gains of an FTA between the pair owing to other FTAs existing in the rest of the world, or ROW). Augmenting a parsimonious logit model with simple "multilateral FTA" and "ROW FTA" terms to differentiate the own and cross effects empirically, it was shown that the marginal impact on the probability of a country-pair having an agreement of either country having one more FTA with a third country was 50 times that of one more FTA between another pair in ROW. The results suggest that "domino (own-FTA) effects" have far exceeded "competitive liberalization (cross-FTA) effects" in the proliferation of FTAs.

In the case of the USBTA, the question of whether the trade liberalization under the USBTA regime really induces foreign direct investment capital to Vietnam and expands the country's foreign trade (exports and imports) has been documented in some previous studies. Using a statistic computable general equilibrium model, Emiko Fukase and Will Martin (2001) stated that the United States-Vietnam Bilateral Trade Agreement would have impact on foreign direct investment flows into Vietnam. Steve Parker, Vinh Quang Phan, and Ngoc Anh Nguyen (2002) stated that the resulting surge in trade surpassed most expectations. The impact of the USBTA on FDI, however, has been less visible, especially with regard to U.S. FDI into Vietnam. And, their descriptive data supports strongly the conclusion that the USBTA has had a major impact on FDI into Vietnam, especially with regard to FDI from U.S. multinationals. Nevertheless, no formal economic model has been developed to examine these statements. Recently, some studies concerned about the possible impacts of U.S. tariffs cuts under the USBTA on poverty reduction and labor's wage in Vietnam. Brian McCaig (2011) used variation in the structure of the labor force across provinces prior to the USBTA and constructed provincial measures of U.S. tariffs to address concerns over confounding trends between changes in provincial poverty and changes in provincial tariffs. The author followed two approaches: controlling for trends based on observable initial conditions and differencing away time invariant trends using pre-USBTA data. The results indicated that provinces that were more exposed to the U.S. tariff cuts experienced faster decreases in poverty between 2002 and 2004. Additionally, the movement of workers across provinces was limited in scale, particularly for those with low levels of education. Finally, the most exposed provinces experienced faster wage growth for workers with low levels of education, but not for highly educated workers. Emiko Fukase (2012) used the data on panel individuals

from the Vietnam Household Living Standards Surveys of 2002 and 2004, and addressed the issue of endogeneity confirming the existence of a Stolper-Samuelson type effect, i.e., those provinces more exposed to the increase in exports experienced a relatively larger wage growth for unskilled workers and a decline of (or smaller increase in) the relative wage of skilled workers.

Overall, to the best of the author's knowledge, no study has undertaken an FDI attraction, exports and imports impact assessment of the USBTA using economic model with superior estimation technique after ten years since this agreement came into effect. Using this inquiry as a starting point, this research intends to fill that gap by investing the possible impacts of the USBTA on FDI attraction and expansion of the country's foreign trade. To acquire reliable results and to enhance the significance of the research, the author will employ gravity model and the Hausman-Taylor estimator.

3. AN OVERVIEW ABOUT THE UNITED STATES-VIETNAM BILATERAL TRADE AGREEMENT

The Bilateral Trade Agreement between the United States and the Socialist Republic of Vietnam, herein called the United States-Vietnam Bilateral Trade Agreement (USBTA), entered into force on 10 December 2001. This agreement has advanced the bilateral trade and investment relations between the two countries to new heights. The USBTA has created the opportunities for Vietnam's enterprises to enter into the vast U.S. markets. Specifically, this USBTA helps to develop traditional products which Vietnam has comparative advantage such as garment, textile, footwear and aquatic products.[5] Just after the USBTA came into force, the United States immediately extended Normal Trade Relations/Most Favoured Nation status (NTR/MFN) to Vietnam and reduced its average tariff rates from 40% to 4% imposing on Vietnamese imported goods.[6] In turn, Vietnam committed to initiate comprehensive reforms to bring its laws, regulations, and administrative practices much more in line with international practice, and to liberalize market access. The followings are some key provisions of the USBTA.

Vietnam has agreed to open up the right to import and export for the first time. It allowed: (i) all Vietnamese companies the right to trade immediately; (ii) all U.S. invested companies the right to trade, in connection with their operations; (iii) U.S. invested companies the right to trade any products (subject to some exception) in 3 years; (iv) U.S. persons to form joint ventures for the purpose of trading, in three years, with maximum 49% share; in six years, the maximum U.S. share is 51%. Vietnam committed to MFN tariff treatment on all U.S. imports. Vietnam has also agreed to cut tariffs (typical cut is by one-third to one-half) on

[5] it can produce more efficiently (at lower opportunity cost) than other goods and services (which it should import). Read more at: http://www.businessdictionary.com/definition/comparative-advantage.html#ixzz3qXi232cT.
[6] The Vietnam Ministry of Planning and Investment, CIEM, 2007.

a broad range of products of interest to U.S. exporters, including toiletries, film, air conditioners and refrigerators, electrical motors, valves, mobile phones, papers, video games, lamb, cheese, potatoes, tomatoes, onions, garlic, other vegetables, grapes, apples and pears, other fresh fruits, certain floors, soybeans, vegetable oils, prepare meats and fish, pasta, fruit juices. Phase in period in 3 years.[7] Notably, Vietnam only committed to cut down about 261 tariff lines, hence there was no reason to expect that the U.S. exports would accelerate into Vietnamese markets in a short time.

To non-tariff, Vietnam agreed to eliminate all quantitative restrictions on a range of industrial and agricultural products (e.g., auto parts, citrus, beef), over a period of 3-7 years, depending on the product. It also eliminated all discretionary import licensing, in accordance with the WTO agreements. Thus, the country promised to comply with the WTO rules-using transactions value for customs valuation, and limiting customs fees to cost of services rendered-in 2 year.[8]

Vietnam ensures to full TRIPs compliance in all areas in short time frame including TRIPs-level patent and Trademark protection (comply in 12 months) and TRIPs-level Copyright and Trade Secrets Protection (comply in 18 months). Vietnam agreed to liberalize the trade in services in many sectors such as legal, accounting, architecture, engineering, computer and related, advertising, market research, telecommunications, audio visual, construction and related, distribution, education, finance, banking, and insurance services etc.[9]

One of the most important regulations on the USBTA is the provision related the investment of U.S. investors. Accordingly, Vietnam phased out all the WTO inconsistent TRIMs (local content, export performance requirements, discriminatory pricing) and made the general national treatment. Vietnam ensures that U.S. persons can conduct routine business practices, such as setting up offices, import products for office use, advertise, and conduct market studies. Vietnam provides advance notice of all laws regulations and other administrative procedures relating to any matter covered in the agreement and requiring their publication, and an indication therein of effective dates and government contact points.[10]

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[7] Summary of Key Provisions of the US-Vietnam Bilateral Trade Agreement (BTA), accessed on November 2nd, 2015, website: http://www.usvtc.org/trade/bta/key_provisions.htm

[8] Summary of Key Provisions of the US-Vietnam Bilateral Trade Agreement (BTA), accessed on November 2nd, 2015, website: http://www.usvtc.org/trade/bta/key_provisions.htm.

[9] Summary of Key Provisions of the US-Vietnam Bilateral Trade Agreement (BTA), accessed on November 2nd, 2015, website: http://www.usvtc.org/trade/bta/key_provisions.htm.

[10] Summary of Key Provisions of the US-Vietnam Bilateral Trade Agreement (BTA), accessed on November 2nd, 2015, website: http://www.usvtc.org/trade/bta/key_provisions.htm. For further provisions, please visit the website: http://www.usvtc.org/trade/bta/text/.
"Following the signing of the Agreement, Clinton Administration officials and business representatives were careful not to argue that the USBTA will significantly boost U.S. exports and investment to Vietnam in short term. Rather, they stressed that U.S. exporters and investors will benefit most in the medium and long-term, as Vietnam continues market-oriented reforms, becomes more developed and integrated to global economy, and as Vietnam phases in more and more of the USBTA's requirements. Moreover, exports to and investment in Vietnam are expected to increase as Hanoi and other members of the Association of Southeast Asian Nations (ASEAN)-a 10 country, 500-million person market-follow through

Generally, Vietnam was not required to make significant tariff cut under the USBTA. However, it was asked to reform its commercial laws and regulations in tandem with improving market access for the U.S. firms in key service sectors as described earlier. These reforms would be expected to attract investment of the U.S. investors and expand Vietnam's exports to the vast U.S. markets due to the grant of the MFN and lower tariff rates (under 4%). And, Vietnam's imports from the United States may also increase as the review of bilateral trade between the two countries in Section 5 of this research.

4. AN ANALYSIS OF THE U.S. INVESTMENT IN VIETNAM

Table 1. Foreign Direct Investment Projects Licensed by Main Counterparts (Accumulation of projects having effect as of 31/12/2014)

	Number of projects	Total registered capital (Mill. USD) (*)
TOTAL	**17,768**	**252,716**
Of which	..	..
Korea Rep. of	4190	37726.3
Japan	2531	37334.5
Singapore	1367	32936.9
Taiwan	2387	28468.5
British Virgin Islands	551	17990
Hong Kong SAR	883	15603
United States	**725**	**10990.2**
Malaysia	489	10804.7
China, PR	1102	7983.9
Thailand	379	6749.2
Netherlands	229	6625.4
Cayman Islands	57	5948.5
Canada	143	4995.2
Samoa	122	4270.2
France	426	3324.5
United Kingdom	199	3159
Fed. Russian	106	1957.4
Switzerland	101	1943.8
Australia	326	1656
Brunei	160	1624.4
Luxembourg	32	1579.1
Germany	247	1359.7
British West Indies	7	992.2
Cyprus	13	960.2
Denmark	112	705.3
Belgium	56	419.8
Indonesia	42	386.4

on commitments to reduce trade barriers by 2006. Ultimately, U.S. trade and investment opportunities in the future will depend on a) Hanoi's implementation of the USBTA; b) Vietnam progress on moving toward a more market-oriented economy; and c) Vietnam's rate of economic growth" (Manyin, 2002).

Italy	61	384.9
Finland	10	325.3
India	92	299.2
The Philippines	72	298.1
Mauritius	39	282.8
Slovakia	5	235.5
Bermuda	6	232.6
Cook Islands	3	191
Poland	12	138.8
United Arad Emirates	8	135.1
Norway	30	120.9
Channel Islands	14	114
Bahamas	3	108.7
Austria	21	94.2
New Zealand	25	82.1

(*) *Including supplementary capital to licensed projects in previous years.*

Source: Vietnamese GSO, 2015.

After launching the Renovation policy, Vietnam officially encourages foreign direct investment as part of its development strategy and the government has stated its commitment to improving the country's business and investment climate. The Investment Law of 2005 provides the legal framework for foreign investment in Vietnam.[11] Vietnam's attractiveness to foreign investors resulted in large part from the country's open government policies encouraging FDI, geographical position near global supply chains, political and economic stability, and abundant labor resources.[12]

Recently, political and economic relations between Vietnam and the United States have also continued to improve, especially as Hanoi locks horns with the region's other economic power, China, over territorial rights in the East Sea-all of which could make U.S. companies feel even more welcome in Vietnam than before.

At the moment, U.S.-invested projects cover about 40 out of 64 provinces and cities across Vietnam. However, both the project number and capital are concentrated in nine localities of Ba Ria-Vung Tau, Ho Chi Minh City, Dong Nai, Binh Duong, Hanoi, Danang,

[11] The 2005 Investment Law, together with its implementing decrees and circulars, regulates investment in Vietnam, including investors' rights and obligations, investment incentives, state administration of investment activities, and offshore investment. The Investment Law also provides for guarantees against the nationalization or confiscation of assets and applies to both foreign and domestic investors. The Investment Law designates prohibited and restricted sectors for investment, but there are additional laws that apply conditions to investments in sectors such as mining, post and telecommunications, property trading, banking, securities, and insurance.

The 2005 Investment Law provides for five main forms of foreign direct investment: (1) 100 percent foreign-owned or domestic-owned companies; (2) joint ventures (JV) between domestic and foreign investors; (3) business contracts such as business cooperation contracts (BCC), build-and-operate agreements (BOT and BTO), and build and transfer contracts (BT); (4) capital contribution for management of a company; and (5) merger and acquisitions (M&A). Foreign investors can, with restrictions, invest indirectly by buying securities or investing through financial intermediaries.

[12] Bureau of Economic and Business Affairs, 2013 Investment Climate Statement-Vietnam, accessed on November 3rd, 2015, website: http://www.state.gov/e/eb/rls/othr/ics/2013/204760.htm.

Hai Duong, Binh Dinh and offshore oil wells. Notably, many corporations from the United States stepped into Vietnam via their affiliates, which were positioned in other nations and territories, such as Coca-Cola, Pepsi Cola, Procter & Gamble, Unocal, Conoco, KFC, McDonald, Ford, Exxon Mobil, Chevron, Boeing, ADC - HAS Airport, General Electric, General Atlantis, AES, Microsoft, HP, Apple, and Intel.[13]

In general, U.S. direct investment in Vietnam has been poured in 725 projects totaling USD 10,990.2 million, making the United States the seventh largest investor in Vietnam. In fact, that the U.S.-Vietnam Bilateral Trade Agreement has been implemented for nearly 15 years alongside with Vietnam's WTO membership. And, the U.S. awarding PNTR status to Vietnam has benefited not only Vietnamese enterprises but also FDI firms including U.S. companies in the country. Cumulative foreign direct investment by U.S. companies in Vietnam is quite low in comparison with their real potentiality.

Regarding Vietnam's investment environment, international investors have voiced concerns that the investment climate has deteriorated. Problems include corruption and a weak legal infrastructure, financial instability, inadequate training and education systems, and conflicting and detrimental bureaucratic decision-making. Investors have called for immediate reforms and the development of sound economic policies in order for Vietnam to continue to attract good-quality foreign investment.

Case Study of the Coca-Cola Vietnam

About The Coca-Cola Company

The Coca-Cola Company (NYSE: KO) is the world's largest beverage company, refreshing consumers with more than 500 sparkling and still brands. Led by Coca-Cola, the world's most valuable brand, the Company's portfolio features 15 billion dollar brands including Diet Coke, Fanta, Sprite, Coca-Cola Zero, vitamin water, PowerAde, Minute Maid, Simply, Georgia and Del Valle. Globally, it is the No.1 provider of sparkling beverages, ready-to-drink coffees, and juices and juice drinks. Through the world's largest beverage distribution system, consumers in more than 200 countries enjoy its beverages at a rate of 1.8 billion servings a day. With an enduring commitment to building sustainable communities, the Company is focused on initiatives that reduce environmental footprint, support active, healthy living, create a safe, inclusive work environment for our associates, and enhance the economic development of the communities where it operates. Together with its bottling partners, its rank is among the world's top 10 private employers with more than 700,000 system employees.

About The Coca-Cola Vietnam System

[13] AmCham Vietnam, U.S. Investment in Vietnam, accessed on November 3rd, 2015, website: http://www.amchamvietnam.com/1595/u-s-investment-in-vietnam/.

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Coca-Cola is one of the most well-known international brands in Vietnam. The Coca-Cola system in Vietnam employs approximately 2,000 people, of which 99% are local hires, at its three plants in Ho Chi Minh City, Da Nang and Hanoi. Coca-Cola's brands in Vietnam include Coca-Cola, Coke Light, Sprite, Fanta, Real Leaf, Minute Maid Nutriboost, Minute Maid Teppy, Schweppes, Samurai and Dasani. The Coca-Cola Vietnam system puts sustainability goals at the heart of its business by providing safe and healthy workplaces for its employees and prioritizes providing employees with opportunities for training and development. Sustainability programs are driven by clear goals of energy saving, water-use efficiency and water replenishment. The system continues to help build sustainable communities wherever it operates.

New Infrastructure, Jobs, Partnerships, Brand Building, Sustainability Programs Underline Vietnam Commitment

The Coca-Cola Company, in 2012, announced a new system investment of USD 300 million over the following three years in Vietnam to further capture growth opportunities in one of the world's major emerging consumer markets. The stepped-up investment, commencing in 2013, has brought to USD 500 million the total investment that The Coca-Cola Company and its bottling partners have committed to Vietnam from 2010 through 2015.

Vietnam is an important growth market in the Asia Pacific. Vietnam's economy has maintained healthy growth in recent years and this new financial commitment is more than an

investment in Coca-Cola's expansion in Vietnam. The Coca-Cola Company continued investments in Vietnam underscore its commitment to building new infrastructure to support strong and sustainable growth, applying world-class marketing practices, creating new jobs, developing local talent, developing stronger partnerships with local customers and investing heavily in the thousands of communities across Vietnam. Through investments completed during the last three years, the Coca-Cola Vietnam system has increased local manufacturing and distribution capacity with new filling lines and the installation of new cold-drink coolers with local customers, helping local businesses boost beverage sales. The Company's most popular beverages in Vietnam include sparkling brands Coca-Cola, Coke Light, Fanta and Sprite, and still brands Minute Maid Teppy, Minute Maid Nutriboost, Samurai, Real Leaf and Dasani.

The system also directly created 500 new jobs locally in Vietnam, with 99 percent of its total labor force filled by local Vietnamese employees. These direct jobs then generated an estimated additional 5,000 job opportunities in supporting industries. Coca-Cola also has continued to invest heavily in building sustainable communities in Vietnam with approximately USD 1.5 million dedicated to local projects since 2010. These projects have included watershed conservation in partnership with the World Wildlife Fund (WWF), specific disaster relief programs in conjunction with Red Cross Vietnam and Coca-Cola's "Clean Water for Community" initiative alongside UN-Habitat and CEFACOM, which has provided 10,000 Vietnam residents with access to clean water in 2012 alone.[14]

Case Study of Intel Vietnam

Intel is a global corporation and it has incredible opportunities everywhere. Set up since 1997, Intel Semiconductor Ltd., the sales and marketing office in Ho Chi Minh City, develops and deploys sound strategies to provide world-class sales and marketing support at the OEM, developer and end-user levels.

In July 2010, Intel Vietnam began using the latest Intel chipset technologies to produce chipsets that will help support the growth of mobile computing. In fact, Intel Vietnam started the use of the latest FCBGA (Flip Chip Ball Grid Array) binding technology for mobile processors. This facility is the first investment of its kind in the semiconductor industry in Vietnam.

As the first major foreign investor in high technology in Vietnam, the new facility supports Intel's digital ASEAN (d-ASEAN) program. The program works to develop a stronger digital workforce, integrate technology into education and government, and make technology more accessible for business and consumers within Southeast Asia.

[14] Adopted from http://www.coca-colacompany.com/press-center/press-releases/coca-cola-announces-us-300-million-investment-for-strong-and-sustainable-growth-in-vietnam/, accessed on Nov. 5th, 2015.

Source: Internet, 2015 (this is for educational purpose only, copyright belongs to copyright owner).

Intel announced the opening of a massive USD 1 billion chip testing and assembly facility in Vietnam, the biggest such facility for Intel anywhere in the world. This is one of the world's largest chip makers. The factory has a total area of 46,000 square meters, about the size of five and a half football fields. Chip testing and assembly factories are where chips are sent to be tested for defects and then placed inside protective packaging.

Assembly and test is a critical final step in the end-to-end manufacturing of Intel's silicon products. Intel estimates several thousand jobs would be created by the new facility in Vietnam.

The factory is located in the Saigon Hi-tech Park, District 9, in Ho Chi Minh City. This is Intel's biggest project in Vietnam since it opened its first office in Ho Chi Minh City in 1997.

The chip assembly plant does most of its work on chipsets for laptops and mobile devices. According to Intel, it was attracted to Vietnam by its skilled, vibrant workforce, as well as the support Intel has received over the past four years from the Vietnam government, the Saigon Hi-tech Park and suppliers. The project was first announced in 2006, and construction began in March, 2007.[15]

[15] Adopted from http://www.intel.com/content/www/us/en/jobs/locations/vietnam/sites/ho-chi-minh-city.html and http://www.computerworld.com/article/2513814/it-management/intel-opens--1-billion-chip-factory-in-vietnam.html, accessed on November 5th, 2015.

Case Study of Ford Vietnam

As the second-largest automobile company in the world, Ford Motor Company represents a USD 164 billion multinational business empire. Known primarily as a manufacturer of automobiles, Ford also operates Ford Credit, which generates more than USD 3 billion in income, and owns The Hertz Corporation, the largest automobile rental company in the world. The company manufactures vehicles under the names Ford, Lincoln, Mercury, Jaguar, Volvo, Land Rover, and Aston Martin. Ford also maintains controlling interest in Mazda Motor Corporation. Ford's financial stability was shaken in early years of the new millennium as a result of slowing sales, quality issues, and a debacle involving Firestone tires.[16]

Source: Internet, 2015 (this is for educational purpose only, copyright belongs to copyright owner).

Ford Vietnam was established in 1995, and is a joint venture between Ford Motor Company (75%) and Song Cong Diesel Company (25%) with the total investment to date of more than USD 120 million.

[16] Adopted from http://www.referenceforbusiness.com/history2/69/Ford-Motor-Company.html., accessed on November 10th, 2015.

Ford Vietnam headquarters in Hanoi with an office in Ho Chi Minh City and an assembly plant located in Hai Duong province-55 km East from Hanoi, with the capacity of 14,000 vehicles per year. By 2014, Ford Vietnam has a network of 25 authorized dealers across cities and provinces in Vietnam.

Ford Vietnam is the first automotive manufacturer in Vietnam receiving ISO 9001, ISO 14001 and QS9000 accreditation, ISO/TS16949-2002. From the 7th position when it started business in 2007, Ford Vietnam now ranks 3rd in the Vietnam automobile market with the market share of 7.4% in 2013 and 8.7% in the first nine months of 2014. In 2013, Ford recorded the year-to-year growth rate of 70%.

5. AN ANALYSIS OF VIETNAM'S TRADE RELATION WITH THE UNITED STATES

After the end of the U.S. embargo in 1994, most of Vietnam's exports to the United States were items that either received duty-free treatment (zero tariffs) or had identical tariffs of MFN and non-MFN countries (Manyin, 2002). For the first few years following the end of the U.S. embargo, trade between the two nations grew slowly, principally because of Vietnam's lack of NTR. As of 2000, the United States only absorbed 5% of total Vietnam's exports. However, the momentum and direction generated by the entry into force of the U.S.–Vietnam Bilateral Trade Agreement in 2001 transformed the bilateral commercial relationship between the United States and Vietnam. Following the granting of conditional NTR in December 2001, trade flows between the United States and Vietnam grew quickly. Merchandise trade nearly doubled between 2001 and 2002, regardless of which nation's figures one uses. Bilateral trade jumped again in 2007, following the United States granting PNTR status to Vietnam. Total trade declined slightly in 2009 as U.S. imports from Vietnam slid 4.7% because of the economic recession, but has rebounded since 2010. Since the USBTA, bilateral trade has increased over thirty five-fold from over USD 1 billion in 2001 to around USD 35 billion in 2014 transforming Vietnam into the 27^{th}-45^{th} largest trading partner for the United States. Vietnam is the second-largest source of U.S. clothing imports (after China), and a major source for footwear, furniture, and electrical machinery. And, the United States has become the largest export market of Vietnam (see Table 2 below).

Table 2. Growth in Bilateral Merchandise Trade between the United States and Vietnam

(In millions of U.S. dollars)

Year	U.S. Trade Data		Vietnamese Data	
	Exports to Vietnam	Imports from Vietnam	Exports to United States	Imports from United States
1994	173	50	NA	NA
1995	253	199	170	130
1996	616	319	204	246
1997	278	388	287	252
1998	274	553	469	325
1999	291	609	504	323
2000	368	822	733	363
2001	460.4	1,053.2	1,065.3	410.8
2002	580	2,395	2,453	458
2003	1,324	4,555	3,939	1,143
2004	1,163	5,276	5,025	1,134
2005	1,192	6,630	5,924	863
2006	1,100	8,566	7,845	987
2007	1,903	10,633	10,105	1,701
2008	2,790	12,901	11,869	2,635
2009	3,108	12,290	11,356	3,009
2010	3,710	14,868	14,238	3,767
2011	4,341	17,485	16,928	4,529
2012	4,623	20,266	19,668	4,827
2013	5,013	24,649	23,869	5,232
2014	5,734.4	30,588.5	28,655.6	6,284.3

Source: U.S. data from International Trade Commission (ITC); Vietnamese data from General Statistics Office of Vietnam and Vietnam Customs.[17]

Notes: U.S. data valued at F.A.S. and customs value; Vietnam data valued at F.O.B. and C.I.F.

The following part analyses top 10 Vietnam's exports to and imports from the United States. The rapid growth in Vietnam's exports of two types of products-clothing and catfish-quickly made their sources of trade tension between the two nations. However, other commodities that contribute more to U.S.-Vietnam trade flows could also become touch points for trouble in bilateral trade relations. According to U.S. trade statistics, the top U.S. imports from Vietnam in 2013, besides clothing and fish, were (in order) footwear; furniture and bedding; electrical machinery; machinery and mechanical appliances; spices, coffee, and tea; articles of leather; and articles of iron and steel. The top U.S. exports to Vietnam included (in order) machinery and mechanical appliances; electrical machinery; oil seeds; cotton; meat; residuals and waste from food industries; iron and steel; edible fruit and nuts; wood and

[17] Adopted from Michael F. Martin, 2014. U.S.-Vietnam Economic and Trade Relations: Issues for the 113th Congress, p. 2.

articles of wood; and plastic and plastic articles. The juxtaposition of these two lists reveals product categories that may warrant watching, as well as a connection between some of the top trade commodities (see Table 3 below).

Table 3. Top 10 Vietnam's Imports from and Exports to the United States

(According to U.S. trade statistics for 2013; USD millions)

Top 10 Imports from the United States		Top 10 Exports to the United States	
Product	**Value**	**Product**	**Value**
Electrical machinery and equipment and parts thereof; sound recorders and reproducers, television image and sound recorders and reproducers, and parts and accessories of such articles	611.438	Articles of apparel and clothing accessories, knitted or crocheted	4,723.098
Oil seeds and oleaginous fruits; miscellaneous grains, seeds and fruits; industrial or medicinal plants; straw and fodder	555.643	Articles of apparel and clothing accessories, not knitted or crocheted	3,338.890
Nuclear reactors, boilers, machinery and mechanical appliances; parts thereof	426.062	Footwear, gaiters and the like; parts of such articles	2,927.903
Cotton, including yarns and woven fabrics thereof	402.516	Furniture; bedding, mattresses, mattress supports, cushions and similar stuffed furnishings; lamps and lighting fittings, not elsewhere specified or included; illuminated sign illuminated nameplates and the like; prefabricated buildings	2,633.474
Edible fruit and nuts; peel of citrus fruit or melons	309.407	Nuclear reactors, boilers, machinery and mechanical appliances; parts thereof	2,053.850
Residues and waste from the food industries; prepared animal feed	265.170	Electrical machinery and equipment and parts thereof; sound recorders and reproducers, television image and sound recorders and reproducers, and parts and accessories of such articles	1,957.048
Dairy produce; birds' eggs; natural honey; edible products of animal origin NESOI	217.645	Fish and crustaceans, molluscs and other aquatic invertebrates	938.657
Wood and articles of wood; wood charcoal	211.104	Articles of leather; saddlery and harness; travel goods, handbags and similar containers; articles of animal gut (other than silkworm gut)	752.268
Plastics and articles thereof	201.933	Coffee, tea, maté and spices	662.140
Iron or steel	185.528	Mineral fuels, mineral oils and products of their distillation; bituminous substances; mineral waxes	526.105

Source: U.S. International Trade Commission.[18]

[18] Adopted from Michael F. Martin, 2014. U.S.-Vietnam Economic and Trade Relations: Issues for the 113th Congress, p. 18.

Overall, the author's review of U.S. investment in Vietnam and bilateral between the two nations in Section 4 and Section 5 above suggests that the USBTA may have possible impacts on inducing direct investment of U.S. firms into Vietnam and expanding both Vietnam's exports to and imports from the United States. This will be examined by using gravity model and the Hausman-Taylor estimation in the next section of this research.

6. SPECIFICATION THE GRAVITY MODEL AND DECRIPTING THE DATASET

6.1. The Specification of Gravity Models

The gravity model in international economics, similar to other gravity models in social science, can be employed to predict bilateral trade or FDI flows based on the sizes of the economy (often using the Gross Domestic Product (GDP) measurements, GDP per capita, Gross National Product (GNP), and GNP per capita), and the distance between two trade/FDI partners. The model was first used by Tinbergen in 1962.[19] It was given the name "gravity model" for its analogy with the Newton Law of universal gravitation which also takes into consideration the distance and physical size between two objects. The basic theoretical model for trade/FDI flows between two countries i and j takes the following formula:

$$\mathbf{F_{ij} = G(M_iM_j)/D_{ij}\ (1)}$$

In which:

- F_{ij} is the bilateral trade/FDI flow between country i and country j
- M_i is the economic mass of country i (often using GDP, GNP measurements)
- M_j is the economic mass of country j (often using GDP, GNP measurements)
- D_{ij} is the distance between country i and country j, and
- G is a constant.

The model has also been used in international relations to evaluate the impact of treaties or alliances on trade, FDI flows, and it has been used to test the effectiveness of trade agreements and organizations such as the North American Free Trade Agreement (NAFTA) or the World Trade Organization as well.

In the original gravity model, two opposing forces that determine the trade and FDI flows between two countries are based on the levels of their economics (usually measured by GDP, GNP, $GDP_{per\ capita}$, $GNP_{per\ capita}$ or "Economic space" calculated by the sum of GDPs of two countries, etc.) and the distance between them. For further development, many other variables can be added in the model such as:

- Exchange rate regime

[19] Jan Tinbergen (12nd April 1903 – 9th June 1994) was a Dutch economist. He was awarded the first Bank of Sweden Prize in Economic Sciences in Memory of Alfred in 1969, which he shared with Ragnar Frisch for having developed and applied dynamic models for the analysis of economic process, retrieved from website: http://en.wikipedia.org/wiki/Jan_Tinbergen, accessed on November 3rd, 2015.

- Cultural differences: colonial history, language diversity (number of languages used) and literacy rates (%)
- Institution, uncertainty (conflict intensity, terrorism, and crisis), various bottlenecks (aggregated indicators that reflect the macroeconomic, political stability, governance effectiveness, etc.)
- Preference schemes (Generalized System of Preferences (GSP), Preferential Trade Agreements (PTAs))
- Market access, openness (tariff line at average level (%), ratio measured by (Exports + Imports)/GDP), WTO, FTA, etc.)
- Index of country similarity in size, Economic size similarity, Differences in relative endowments ($[\ln(GDP/Pop_{it}) - \ln(GDP/Pop_{jt})]$ or $[\ln(GDP_{\text{per capita it}}) - \ln(GDP_{\text{per capita jt}})]$).[20]

The gravity model has been used comprehensively in many empirical studies in international economics (e.g., Poyhonen 1963; Linnemann 1966; Anderson 1979; Bergstrand 1985; Bayoumi and Eichengreen 1995; Deardorff 1998; Mauro 2000; Aderson and van Wincoop 2003; Rose 2004; Subramanian and Wei 2007; Tomz et al. 2007; Urata and Okabe 2007; Helpman et al. 2008; Eicher and Henn 2011; Pham 2011, Medvedev 2012, etc.). As mentioned above, the author uses the Hausman-Taylor (1981) estimator for its superior than fixed-effects and random-effects estimation. The Hausman-Taylor (1981) estimator is basically a hybrid of the fixed-effects and the random-effects models and takes the following formula:

$$\mathbf{y_{it} = \beta_1 x'_{1it} + \beta_2 x'_{2it} + \alpha_1 z'_{1i} + \alpha_2 z'_{2i} + \varepsilon_{it} + u_i \quad (2)}$$

In which, y_{it} reflects the dependent variable for country i in period/time/year t; x'_{1it} denotes variables that are time varying and uncorrelated with the error term in the random-effects model (u_i); x'_{2it} refers to a set of variables that are time varying and correlated with u_i; z'_{1i} represents the time invariant variables that are uncorrelated with u_i; z'_{2i} describes the time invariant variables that are correlated with u_i; β_i and α_i are the vectors of coefficients associated with the covariates; and ε_{it} is the random error. Accordingly, one of the main assumptions of the Hausman-Taylor (1981) estimator is that the explanatory variables that are correlated with u_i can be identified.

Concerning the variables in the equation (2), the author uses the FDI flow (implemented capital) from country partner j at year t to Vietnam and the real Vietnam's exports to and imports from country partner j at year t as the dependent variables for y_{it} (the variables are labeled FDI_{jt}, EX_{jt} and IM_{jt} respectively). Apart from the impact of trade liberalization on FDI inflows into Vietnam and on the country's exports and imports, the author is interested in the impact of the USBTA.

[20] International Trade Central-UNCTAD/WTO, Market Analysis Section, "Trade Sim (second version), a gravity model for the calculation of trade potentials for developing countries and economies in transition", Explanatory notes, 2003, p.1.

For x'_{1it} (*variables that are time varying and uncorrelated with* u_i), the author constructs a set of dummy variables. Particularly, the impact of the WTO on Vietnam's FDI inward is taken in forms of the $Bothin_{VNjt}$ and $Onein_{VNjt}$ dummies. $Bothin_{VNjt}$ dummy takes the value of 1 if both Vietnam and country partner j are WTO members at year t and otherwise. $Onein_{VNjt}$ dummy takes the value of 1 if country partner j is a WTO member at year t and otherwise. Other dummies, the *AFTA*, *USBTA*, *ACFTA*, *AKFTA*, *JVEPA*, *AJCEP* and the *AANZFTA*, are added to capture the probable affects of bilateral/regional trade agreements on Vietnam's FDI inward. The author relies on the fact that the FTAs and the WTO involve different degrees of liberalization, and hence define them in order to isolate the impact of each, and purge them of any "contamination" from each other.[21] Each dummy takes the value of 1 if Vietnam and country partner j have signed/joined the bilateral/regional trade agreement at year t and otherwise. Five more variables *that are time varying and uncorrelated with* u_i are added. The author employs the $RER_{CURj/VNDt}$, the $ins_{VNt}*ins_{jt}$, *SIMSIZE*, CRI_j^{1997}, and CRI_j^{2008} variables.

Firstly, the $RER_{CURj/VNDt}$ designates the real exchange rate between VND and currency of country j at year t. An increase/decrease of real exchange rate means the devaluation/overvaluation of VND may affect to FDI flows, and the country's exports and imports. Specifically, an increase of the real exchange rate (the devaluation of VND) may attract FDI inflows, expand the country's exports, and descend the country's imports and vice versa. The real exchange rate is calculated by the following formula:

$$\mathbf{RER_{VNDt/CURj} = e_{VNDt/CURj*}(CPI_{VNt}/CPI_{jt})} \quad \mathbf{(3)}$$

In which:

- $\mathbf{RER_{VNDt/CURj}}$ is the Real Exchange Rate between VND and Currency of country j at year t
- $\mathbf{e_{VNDt/CURj}}$ is the Nominal Exchange Rate between VND and Currency of country j at year t (this expresses the number of VND used to exchange with 1 currency unit of country j at year t)
- $\mathbf{CPI_{VNt}}$ is the Consumer Price Index of Vietnam at year t
- $\mathbf{CPI_{jt}}$ is the Consumer Price Index of country j at year t

Secondly, the $ins_{VNt}*ins_{jt}$ is an institutional variable. In which, ins_{VNt} and ins_{jt} are the values of the governance indicators of Vietnam and country partner j respectively at year t. Each of them will be taken from the average of five indicators: (1) the Political Stability and Absence of Violence/Terrorism; (2) Government Effectiveness; (3) Regulatory Quality; (4) Rule of Law; and (5) Control of Corruption indicators, which is provided by the World Bank.

[21] AFTA: ASEAN Free Trade Area; USBTA: The US-Vietnam Bilateral Trade Agreement; ACFTA: ASEAN China Free Trade Area; AKFTA: ASEAN Korea Free Trade Agreement; JVEPA: Japan Vietnam Economic Partnership Agreement; AJCEP: ASEAN-Japan Comprehensive Economic Partnership Agreement; and AANZFTA: ASEAN-Australia-New Zealand Free Trade Agreement.

Percentile rank among all countries ranges from 0 to 100. The higher the figure means the better the governance. The institutional variable in this study reveals the interaction in governance between Vietnam and country partners. It reveals that better governance may facilitate the FDI inward and increase the foreign trade flows.

Thirdly, SIMSIZE is the *index of country similarity in size* that takes the value in the phase (-∞, -0.69). In case of perfect dissimilarity (GDP_{VN} has a huge difference with the GDP_j at year t), then $Ln[1- (GDP_{VNt}/(GDP_{VNt} + GDP_{jt}))^2 - (GDP_{jt}/(GDP_{VNt} + GDP_{jt}))^2] \approx$ ln (near Zero) = - ∞. In case of perfect similarity (GDP_{VN} has a very small difference with the GDP_j at year t, or $GDP_{VNt} \cong GDP_{jt}$), then $Ln[1- (GDP_{VNt}/(GDP_{VNt} + GDP_{jt}))^2 - (GDP_{jt}/(GDP_{VNt} + GDP_{jt}))^2] \approx$ ln (0.5) = -0.69. The *index of country similarity in size* should have positive impact on foreign trade, especially on exports.

Fourthly, CRI_j^{1997} and CRI_j^{2008} dummy variables are used to separate the impact of FTAs, WTO and the relevant shocks of the 1997 and 2008 financial crises on the economic aspect. Each dummy will take the value of 1 if country j has suffered from the 1997 Asian financial crisis or the 2008 global financial and economic crisis respectively and otherwise.

For x'_{2it} (*variables that are time varying and correlated with* u_i), GDP of Vietnam, GDP of country partners, implemented FDI capital of country partners, and Vietnam's exports and imports are employed as it might be argued that the FDI flows are not only influenced by the total output (GDP) of two countries and by Vietnam's exports and imports, but also can have an influence on Vietnam's GDP and on exports and imports of the country. Higher GDP figures and export-import volumes are expected to be positively associated with the FDI flows. To avoid the endogenous issues such as the exits of bidirectional causality between the added variables and GDP in the gravity model, the author uses a one time period lag for the real Exports, real Imports, and Implemented FDI capital variables in the gravity equations.

For the z'_{1i} (*variables that are time invariant and uncorrelated with* u_i), the author employs standard gravity variables, the distance between two countries and whether they share land borders namely, the DIS_{VNj}, and the BOR_{VNj}. Wherein, the expected sign of DIS_{VNj} is negative being a proxy for transport and transaction costs. This will be adopted from the work of CEPII[22] using the weighted distance between Vietnam and country partners. The BOR_{VNj} dummy is included depending on whether Vietnam and country j share a land border or not-this is-highly expected to affect FDI flows in to the country and foreign trade flows.

For the final category of variables z'_{2i} (*variables that are time invariant and correlated with* u_i) has been omitted, as none of my variables fit this definition. The values of the quantitative variables such as the GDP, FDI, Exports, and Imports, are converted in constant

[22] Centre d'Etudes Prospectives et d'Informations Internationales (CEPII)-Institute for Research on the International Economy.

prices (2005 prices). All the variables, except the dummies, are in natural logarithm form in the gravity equation. My benchmark specification models take the following formulas:

$$\mathbf{LnFDI_{jt} = \beta_{10} + \beta_{11}LnDIS_{VNj} + \beta_{12}LnGDP_{VNt} + \beta_{13}LnGDP_{jt} + \beta_{14}LnEX_{jt-1} + \beta_{15}LnIM_{jt-1} + \beta_{16}LnRER_{CURj/VNDt} + \beta_{17}Ln(ins_{VNt}*ins_{jt}) + \gamma_{11}AFTA + \gamma_{12}USBTA + \gamma_{13}ACFTA + \gamma_{14}AKFTA + \gamma_{15}JVEPA + \gamma_{16}AJCEP + \gamma_{17}AANZFTA + \gamma_{18}Bothin_{VNjt} + \gamma_{19}Onein_{VNjt} + \gamma_{110}BOR_{VNj} + \varepsilon_{1VNj} \quad (4)}$$

$$\mathbf{LnEX_{jt} = \beta_{20} + \beta_{21}LnDIS_{VNj} + \beta_{22}LnGDP_{VNt} + \beta_{23}LnGDP_{jt} + \beta_{24}\, Ln[1-(GDP_{VNt}/(GDP_{VNt} + GDP_{jt}))^2 - (GDP_{jt}/(GDP_{VNt} + GDP_{jt}))^2] + \beta_{25}LnFDI_{jt-1} + \beta_{26}LnRER_{CURj/VNDt} + \gamma_{21}AFTA + \gamma_{22}USBTA + \gamma_{23}ACFTA + \gamma_{24}AKFTA + \gamma_{25}JVEPA + \gamma_{26}AJCEP + \gamma_{27}AANZFTA + \gamma_{28}Bothin_{VNjt} + \gamma_{29}Onein_{VNjt} + \gamma_{210}BOR_{VNj} + \gamma_{211}CRI_j^{1997} + \gamma_{212}CRI_j^{2008} + \varepsilon_{2VNj} \quad (5)}$$

$$\mathbf{LnIM_{jt} = \beta_{30} + \beta_{31}LnDIS_{VNj} + \beta_{32}LnGDP_{VNt} + \beta_{33}LnGDP_{jt} + \beta_{34}Ln[1-(GDP_{VNt}/(GDP_{VNt} + GDP_{jt}))^2 - (GDP_{jt}/(GDP_{VNt} + GDP_{jt}))^2] + \beta_{35}LnFDI_{jt-1} + \beta_{36}LnRER_{CURj/VNDt} + \gamma_{31}AFTA + \gamma_{32}USBTA + \gamma_{33}ACFTA + \gamma_{34}AKFTA + \gamma_{35}JVEPA + \gamma_{36}AJCEP + \gamma_{37}AANZFTA + \gamma_{38}Bothin_{VNjt} + \gamma_{39}Onein_{VNjt} + \gamma_{310}BOR_{VNj} + \gamma_{311}CRI_j^{1997} + \gamma_{312}CRI_j^{2008} + \varepsilon_{3VNj} \quad (6)}$$ [23]

[23] In which:

- FDI_{jt} is the amount of implemented FDI capital of country j at year t in Vietnam in USD (2005 price).
- FDI_{jt-1} is the amount of implemented FDI capital of country j at year t-1 in Vietnam in USD (2005 price).
- DIS_{VNj} is the weighted distance between Vietnam and country j in km (obtained from CEPII).
- GDP_{VNt} is the real GDP of Vietnam at year t in USD (2005 price).
- GDP_{jt} is the real GDP of country j at year t in USD (2005 price).
- EX_{jt} is the real Vietnam's exports to country j at year t in USD (2005 price).
- IM_{jt} is the real Vietnam's imports from country j at year t in USD (2005 price).
- EX_{jt-1} is the real Vietnam's exports to country j at year t-1 in USD (2005 price).
- IM_{jt-1} is the real Vietnam's imports from country j at year t-1 in USD (2005 price).
- $RER_{CURj/VNDt}$ is the real bilateral Exchange Rate between Vietnam Dong and currency of country j at year t.
- ins_{VNt} is the average value of government indicator of Vietnam at year t.
- ins_{jt} is the average value of government indicator of country j at year t.
- AFTA is a binary dummy variable which is unity after Vietnam and partners have joined/signed the ASEAN Free Trade Area at year t and otherwise.
- USBTA is a binary dummy variable which is unity after Vietnam and the USA have signed the Bilateral Trade Agreement at year t and otherwise.
- ACFTA is a binary dummy variable which is unity after Vietnam and partners have joined/signed the ASEAN-China Free Trade Area at year t and otherwise.
- AKFTA is a binary dummy variable which is unity after Vietnam and partners have joined/signed the ASEAN Korea Free Trade Agreement at year t and otherwise.
- JVEPA is a binary dummy variable which is unity after Vietnam and Japan have signed the Japan-Vietnam Economic Partnership Agreement at year t and otherwise.
- AJCEP is a binary dummy variable which is unity after Vietnam and partners have joined/signed ASEAN-Japan Comprehensive Economic Partnership Agreement and otherwise.
- AANZFTA is a binary dummy variable which is unity after Vietnam and partners have joined/signed the ASEAN-Australia-New Zealand Free Trade Agreement at year t and otherwise.
- $Bothin_{VNjt}$ is a binary dummy variable which is unity if both Vietnam and country j are WTO members at year t and otherwise.
- $Onein_{VNjt}$ is a binary dummy variable which is unity if country j is a WTO member at year t and otherwise.
- CRI_j^{1997}, and CRI_j^{2008} will take the value of 1 if the country partner j suffered from the 1997 Asian financial crisis and the 2008 global financial and economic crisis respectively and otherwise.
- BOR_{VNj} is a binary dummy which is unity if Vietnam and country j share the land border and otherwise.
- $\varepsilon_{1,2,3\ VNj}$ are random errors.

6.2. Decrypting the Dataset

For the dataset, the empirical analysis presented in this research is based on a panel data of country pairs set in the period from 1995 to 2011 which involves 17 Vietnam's major/stable FDI and trade partners including: Australia, Belgium, Canada, China, France, Germany, Hong Kong, Japan, Malaysia, the Netherlands, the Philippines, Singapore, the Republic of Korea, Taiwan, Thailand, the United Kingdom (UK), and the United States. 17 FDI and trade partners listed above amount to around 80% of Vietnam's FDI sources, and foreign trade values. The data is obtained from different reliable sources such as Vietnam's authorities (e.g., the General Statistics Office (GSO), the Ministry of Industry and Trade (MOIT), the Ministry of Planning and Investment (MPI)), and international organizations (e.g., the Asian Development Bank (ADB), the International Monetary Fund (IMF), the United Nations Statistics Division (UNSD), the World Bank (WB), the World Trade Organization (WTO)). In regards to the special case of Taipei China (Taiwan), the figures are collected from ADB and the World Economic Outlooks October 2012, available on Knoema's website. The detailed description of those resources of the data is listed in Appendix 1.

7. AN ANALYSIS OF THE EMPIRICAL ESTIMATION RESULTS

7.1. An Analysis on the Impact of the USBTA on FDI inflows into Vietnam

Table 4. The Gravity Model Estimations of the $LnFDI_{jt}$ Equation

Explanatory variables	Dependent variable: $LnFDI_{jt}$				
	(FDI-1)	(FDI-2)	(FDI-3)	(FDI-4)	(FDI-5)
Time varying exogenous					
$LnRER_{CURj/VNDt}$	-	0.0753551	-	-	0.0605428
$Ln(ins_{VNt}*ins_{jt})$	-	2.225503*	-	-	2.316686**
FTA	-	-	0.0501712	-	-
AFTA	-	-	-	-0.81477***	-0.4948234
USBTA	-	-	-	**0.5503159**	**0.5060926**
ACFTA	-	-	-	0.4050078	0.3706749
AKFTA	-	-	-	0.8583061**	0.8203441**
JVEPA	-	-	-	0.3947027	0.2439291
AJCEP	-	-	-	0.1826161	0.4056076
AANZFTA	-	-	-	-0.945124**	-0.9352514**
$Bothin_{VNjt}$	1.316866*	1.203153**	1.362397*	1.076479**	1.066118**
$Onein_{VNjt}$	0.70540 ***	0.693822***	0.73860***	0.6367677	0.7305899***
Time varying endogenous					
$LnGDP_{VNt}$	-1.607289*	-2.210821*	-1.572192*	-1.350076*	-2.038916*
$LnGDP_{jt}$	1.532595*	1.429185*	1.374662*	1.220402*	0.9642687**
$LnEX_{jt-1}$	-	0.1501034	-	-	0.1351719
$LnIM_{jt-1}$	-	0.1526851	-	-	0.1812063
Time invariant exogenous					
$LnDIS_{VNj}$	-2.320106*	-2.490305*	-2.138411*	-2.04556*	-1.947559**
BOR_{VNj}	-2.74641***	-1.629444	-2.4761***	-2.509634***	-0.937514
Constant	34.1975*	28.6521**	36.07285*	34.21456*	31.64125**

*Notes: *, **, and *** indicate significance at the levels of 1%, 5%, and 10% respectively.*

The empirical estimation results of the $LnFDI_{jt}$ gravity equation are summarized and reported in Table 4 above using the econometrical software-Stata 11 and the Hausman-Taylor (1981) estimator. The inclusion of 5 equations (from FDI-1 to FDI-5) is to observe the interaction between the USBTA and other factors that could have impact on FDI inflows into Vietnam. Regarding the impact of the USBTA on FDI inflows into Vietnam, the author is interested in the coefficient γ_{12} of the FDI-5 gravity equation for its including all possible interactive factors that may effect to FDI flows.

The results reported in Table 4 above indicate that a large share of the variation in the FDI flows to Vietnam recently could be explained by a considerable number of factors, namely, GDP, Distance, FTA, and accession to the WTO. In which, the coefficient of the USBTA dummy variable is insignificant in the estimation results of the FDI-5 gravity equation suggesting that the signing of the USBTA has not induced FDI inflows into Vietnam as predicted. The estimated result is also contrast with the conclusion of Parker et al. (2002) that "the BTA has had a significant, positive impact on overall FDI, and particularly U.S.-related FDI, into Vietnam". This could be explained by the following argument:

Firstly, U.S. investors are waiting for the real actions from Hanoi before making the business decisions. Following the signing of the Agreement, Clinton Administration officials and business representatives were careful not to argue that the USBTA will significantly boost U.S. exports and investment to Vietnam in short term. Rather, they stressed that U.S. exporters and investors will benefit most in the medium and long-term, as Vietnam continues market-oriented reforms, becomes more developed and integrated to global economy, and as Vietnam phases in more and more of the USBTA's requirements. Moreover, exports to and investment in Vietnam are expected to increase as Hanoi and other members of the Association of Southeast Asian Nations (ASEAN)-a 10 country, 630-million person market-follow through on commitments to reduce trade barriers by 2006. Ultimately, U.S. trade and investment opportunities in the future will depend on i) Hanoi's implementation of the USBTA; ii) Vietnam progress on moving toward a more market-oriented economy; and iii) Vietnam's rate of economic growth (Manyin, 2002, p. 6).

Secondly, despite the fact that Vietnam has struggled to recapture the supercharged growth rates it once enjoyed-and countries like Indonesia and the Philippines are increasingly seen as more attractive for investors-it is still a prime market that U.S. companies are seeking to expand in. However, significant slowdown in gross domestic product growth in Vietnam over the past few years, as well as other signs of macroeconomic instability, including a series of currency devaluations and a sharp rise in non-performing loans in the Vietnamese banking system might be factors that U.S. investors must think about.

Thirdly, a recent survey conducted by the American Chamber of Commerce in Singapore (AmCham Singapore) and the U.S. Chamber of Commerce, which was reported

earlier by The Wall Street Journal did indicate that many U.S. businesses in Vietnam remain skeptical about efforts to stamp out corruption there, with 77% of those polled perceiving bribes and kickbacks as a concern. Analysts have widely argued that Vietnam needs to pursue more aggressive economic overhauls, including steps to privatize state companies, if it wants to start attracting new rounds of big foreign investment from The United States.

Overall, problems including corruption and a weak legal infrastructure, financial instability, inadequate training and education systems, and conflicting and detrimental bureaucratic decision-making might be factors preventing U.S. investors pour their capital in Vietnam.

7.2. An Analysis on the Impact of the USBTA on Vietnam's Exports

Table 5. The Gravity Model Estimations of the $LnEX_{jt}$ Equation

Explanatory variables	Dependent variable: $LnEX_{jt}$				
	EX-1	**EX-2**	**EX-3**	**EX-4**	**EX-5**
Time varying exogenous					
LnSIMSIZE	-	1.93597**	-	-	0.9184781
$LnRER_{CURj/VNDt}$	-	0.1174159	-	-	0.1054633
FTA	-	-	0.0688519	-	-
AFTA	-	-	-	-0.1758372	-0.0270398
USBTA	-	-	-	**1.504769***	**1.446955***
ACFTA	-	-	-	0.0170654	0.0018743
AKFTA	-	-	-	0.1027675	0.1159645
JVEPA	-	-	-	-0.0340665	-0.0085332
AJCEP	-	-	-	-0.0390555	-0.1056205
AANZFTA	-	-	-	-0.1349732	-0.1098954
$Bothin_{VNjt}$	-0.564724*	-0.6303389*	-0.6168741*	-0.4275806	-0.3626161
$Onein_{VNjt}$	-0.5234174*	-0.566592*	-0.5690903*	-0.4421496**	-0.439374**
CRI_j^{1997}	-	-	-	0.220075*	0.2543705*
CRI_j^{2008}	-	-	-	-0.0420042	-0.0999105
Time varying endogenous					
$LnGDP_{VNt}$	2.224816*	0.6519799	2.14669*	2.211013*	1.469922**
$LnGDP_{jt}$	0.7679879*	2.406568*	0.8635006*	0.8293187*	1.543947**
$LnFDI_{jt-1}$	-	0.0597087**	-	-	0.0601236**
Time invariant exogenous					
$LnDIS_{VNj}$	-0.82521*	-1.035409*	-0.9386249*	-1.013851*	-1.04677*
BOR_{VNj}	-	-0.6978363	-0.7547305	-0.6832711	-0.5885475
Constant	-47.66166*	-49.50799*	-47.33826*	-47.54587*	-48.43155*

*Notes: *, **, and *** indicate significance at the levels of 1%, 5%, and 10% respectively.*

The estimated results of the $LnEX_{jt}$ gravity equation are presented in Table 5 above. The inclusion of 5 equations is to observe the interaction between the USBTA and other factors

that may have an impact on Vietnam's exports. The author respects the results of the equation EX-5. The results of the equation EX-5 reported in Table 5 indicate that a large share of the variation of Vietnam's exports recently could be explained by a considerable number of factors, namely, GDP, distance, FTA, FDI, 1997 Asian financial crisis and the WTO accession. In view of that, the coefficient of the *USBTA* dummy is significant at the level of 1% suggesting that the *USBTA* has had a strong and positive impact on Vietnam's exports. This is quite consistent with the theoretical impact of a FTA on its participants through "market expansion effect" within the "dynamic effects". It is undeniable that a FTA could present the culmination of trade integration. The USBTA has helped to increase Vietnam's exports about 325% [= EXP (1.446955) – 1]. This strongly supports the descriptive analysis of the trade relations between Vietnam and the United States in section 4 above.

7.3. An Analysis on the Impact of the USBTA on Vietnam's Imports

Table 6. The Gravity Model Estimations of the $LnIM_{jt}$ Equation

Explanatory variables	Dependent variable: $LnIM_{jt}$				
	IM-1	**IM-2**	**IM-3**	**IM-4**	**IM-5**
Time varying exogenous					
LnSIMSIZE	-	-0.3993434	-	-	0.0657589
$LnRER_{CURj/VNDt}$	-	0.1485851	-	-	0.1208685
FTA	-	-	0.2195104*	-	-
AFTA	-	-	-	-0.2050548	-0.097925
USBTA	-	-	-	**0.461896***	**0.4469156***
ACFTA	-	-	-	0.5107721*	0.4859765*
AKFTA	-	-	-	-0.0767694	-0.0804554
JVEPA	-	-	-	0.2577209	0.3145337
AJCEP	-	-	-	-0.1447753	-0.212482
AANZFTA	-	-	-	0.1269618	0.1671734
$Bothin_{VNjt}$	0.4918023*	0.479222*	0.5311835*	0.7351007*	0.7877818 *
$Onein_{VNjt}$	0.3021154**	0.2739412**	0.323587*	0.2548223***	0.250974***
CRI_j^{1997}	-	-	-	0.0948877	0.1239098**
CRI_j^{2008}	-	-	-	-0.2297479	-0.271356***
Time varying endogenous					
$LnGDP_{VNt}$	1.60222*	2.00896*	1.551853*	1.552042*	1.541878*
$LnGDP_{jt}$	1.102094*	0.6267316	0.9049076*	0.8665782*	0.8287191
$LnFDI_{jt-1}$	-	0.0495253*	-	-	0.0581889*
Time invariant exogenous					
$LnDIS_{VNj}$	-1.887858*	-1.895831*	-1.65984*	-1.627061*	-1.624041*
BOR_{VNj}	-	-0.4288211	-0.3801243	-0.5176104	-0.329246
Constant	-33.66979*	-33.56223*	-29.00875*	-28.20689*	-28.83678*

*Notes: *, **, and *** indicate significance at the levels of 1%, 5%, and 10% respectively.*

Correlation coefficients of variables in $LnIM_{jt}$ gravity equation are presented in Table 6 above. Many of them are statistically significant at the levels of 1% and 5% (or better). The author still respects the estimated results of the equation IM-5.

We now get to empirically analyze our concern about the impact of the USBTA on Vietnam's imports. The author finds evidence that demonstrates convincingly that the *USBTA* has increased Vietnam's imports by about 56.34% [= EXP (0.4469156) – 1]. This result is also sufficient for the descriptive analysis of the trade relations between Vietnam and the United States in section 4 above. In which, the USBTA has had a positive impact on Vietnam's imports from the United States.

8. CONCLUDING REMARKS AND RECOMMENDATIONS

Table 7. The Summary of the Gravity Model Estimation Results using the Hausman-Taylor (1981) Estimator

Explanatory variables	Dependent variables		
	$LnFDI_{jt}$	**$LnEX_{jt}$**	**$LnIM_{jt}$**
Time varying exogenous			
LnSIMSIZE	-	0.9184781	0.0657589
$LnRER_{CURj/VNDt}$	0.0605428	0.1054633	0.1208685
$Ln(ins_{VNt}*ins_{jt})$	2.316686**	-	-
AFTA	-0.4948234	-0.0270398	-0.097925
USBTA	**0.5060926**	**1.446955***	**0.4469156***
ACFTA	0.3706749	0.0018743	0.4859765*
AKFTA	0.8203441**	0.1159645	-0.0804554
JVEPA	0.2439291	-0.0085332	0.3145337
AJCEP	0.4056076	-0.1056205	-0.212482
AANZFTA	-0.9352514**	-0.1098954	0.1671734
$Bothin_{VNjt}$	1.066118**	-0.3626161	0.7877818 *
$Onein_{VNjt}$	0.7305899***	-0.439374**	0.250974***
CRI_j^{1997}	-	0.2543705*	0.1239098**
CRI_j^{2008}	-	-0.0999105	-0.271356***
Time varying endogenous			
$LnGDP_{VNt}$	-2.038916*	1.469922**	1.541878*
$LnGDP_{jt}$	0.9642687**	1.543947**	0.8287191
$LnEX_{jt-1}$	0.1351719	-	-
$LnIM_{jt-1}$	0.1812063	-	-
$LnFDI_{jt-1}$	-	0.0601236**	0.0581889*
Time invariant exogenous			
$LnDIS_{VNj}$	-1.947559**	-1.04677*	-1.624041*
BOR_{VNj}	-0.937514	-0.5885475	-0.329246
Constant	31.64125**	-48.43155*	-28.83678*

*Notes: *, **, and *** indicate significance at the levels of 1%, 5%, and 10% respectively.*

In 1995, the United States finally lifted its embargo on Vietnam, marking a new era for U.S.-Vietnam diplomatic normalization. Beyond memories about the bloody Vietnam War, since then the U.S.-Vietnam relations have been transforming from enmity to a "comprehensive partnership" through an array of cooperative efforts in the fields of security and trade.[24] In 2000, two countries signed the Bilateral Trade Agreement (USBTA), which served as a stepping-stone to Vietnam's accession to the World Trade Organization (WTO) in 2007. The USBTA gave Vietnam preferential access to the vast of the U.S. markets by reducing tariff rates on Vietnam's imports to the world largest economy, from an average of 40% to fewer than 4%, while Vietnam's membership in WTO expedited its economic integration into the global market.

Since entry into force of the U.S.-Vietnam bilateral trade agreement in 2001, trades between the two countries and U.S. investment in Vietnam have grown dramatically. U.S. exports to Vietnam include agricultural products, machinery, yarn/fabric, and vehicles. U.S. imports from Vietnam include apparel, footwear, furniture and bedding, agricultural products, seafood, and electrical machinery. U.S.-Vietnam bilateral trade has grown from USD 451 million in 1995 to nearly USD 35 billion in 2014. U.S. exports to Vietnam were worth USD 5.734 billion in 2014, and U.S. imports in 2014 were worth USD 30.588 billion. The U.S. has become the seventh largest overseas investor in Vietnam with total approved capital of over 10 USD billion. Now, the two countries, along with other 10 Asia-Pacific countries, are partners of the Trans-Pacific Partnership (TPP), which finished its negotiation in October 2015, with the goal of concluding a high-standard regional free trade agreement in the twenty first Century. The TPP will provide the United States, Vietnam, and ten other member states a level playing field to compete in markets that together account for almost 40 percent of global GDP.

Above all, over the past 15 years since the USBTA came into effect in 2001, U.S.-Vietnam diplomatic and economic relations have continued to improve. There has been a dramatic transformation in U.S.-Vietnam relations. The development in U.S.-Vietnam relations shows an emerging partnership. The estimation results in Table 7 above suggest that the USBTA is not "glamor" enough for U.S. investors meaning that it has not induced direct investment of the U.S. into Vietnam. However, the USBTA has strongly promoted Vietnam's exports to the vast U.S. markets and also increased the country's imports from this trade partner. This has made the U.S. the largest export market of Vietnam. What are the implications for Vietnam?

First, in order to attract more high-quality foreign investment projects from the United States and other FDI sources, Vietnam should have further immediate reforms and the

[24] See more on "The Dramatic Transformation in US-Vietnam Relations", accessed on November 14th, 2015, website: http://thediplomat.com/2015/07/the-dramatic-transformation-in-us-vietnam-relations/.

development of sound economic policies that focus on train a skillful labor force, perfect infrastructure, establish a dynamic and high-level local business community. Thus, improving the market mechanism in line with international standards is also very important. Improving the investment environment and market mechanism is a sustainable and long-term solution to entice MNCs from the world. The country will be more powerful, if it can master modern technology, which can produce high quality and internationally competitive products. This is necessary for the process of industrialization and modernization in Vietnam.

Secondly, an examination of recent trends in bilateral trade reveals that other product categories-such as footwear, furniture, and electrical machinery-could generate future tension between the United States and Vietnam. Other economic issues have had an indirect effect on bilateral relations, such as claims of poor working conditions in factories in Vietnam, Vietnam's designation as a "nonmarket economy," allegations of inadequate intellectual property rights (IPR) protection in Vietnam, and Vietnam's exchange rate policy.[25] For further development in foreign trade between the two nations, the authorities (e.g., MoIT) of Vietnam should inject more funding into trade promotions to increase sales and export turnover, build brand names of products and promote the image and prestige of the country abroad. Vietnamese enterprises and associations need to make a greater effort to improve the quality of products and develop their trademarks to exercise more control both over domestic and international markets. Prosperity in the diplomatic relations means both the U.S. and Vietnam has more opportunities.

In conclusion, there is no doubt that my investigations can contribute to the existing literature on the impact of the USBTA on FDI attraction, and export-import trading of a developing country in terms of testable implications from gravity models. Since, existing data is quite limited, evaluating the impacts of the USBTA on a specific industry, commodity, industrial policy of Vietnam, or on Vietnam's economic efficiency, competitiveness, the changing attitude of industrialists etc. merits further research to understand how this institution effects to its member countries.

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[25] See more on Michael F. Martin, 2014, U.S.-Vietnam Economic and Trade Relations: Issues for the 113th Congress.

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Appendix 1. Variables and Data Resources

Variables	Data Resources
$LnFDI_{jt}$, $LnFDI_{jt-1}$	Vietnam Ministry of Planning and Investment (MPI), Vietnam General Statistics Office
$LnEX_{jt}$, $LnEX_{jt-1}$	Vietnam Ministry of Industry and Trade, Vietnam General Statistics Office, ADB
$LnIM_{jt}$, $LnIM_{jt-1}$	Vietnam Ministry of Industry and Trade, Vietnam General Statistics Office, ADB
$LnDIS_{VNj}$	CEPII (the French Institute for Research on the International Economy)
$LnGDP_{VNt}$	United Nations Statistics Division, World Bank
$LnGDP_{jt}$	United Nations Statistics Division, World Bank
$LnRER_{CURj/VNDt}$	United Nations Statistics Division, World Bank, Asian Development Bank
$Ln(ins_{VNt*}ins_{jt})$	World Bank
AFTA	WTO's website page, Vietnam WTO central website page
USBTA	WTO's website page, Vietnam WTO central website page
ACFTA	WTO's website page, Vietnam WTO central website page
AKFTA	WTO's website page, Vietnam WTO central website page
JVEPA	WTO's website page, Vietnam WTO central website page, Japan Customs website page
AJCEP	WTO's website page
AANZFTA	WTO's website page, Vietnam WTO central website page
$Bothin_{VNjt}$	WTO's website page
$Onein_{VNjt}$	WTO's website page
CRI_j^{1997}	Laeven and Valencia (2008)
CRI_j^{2008}	Laeven and Valencia (2008); Rose and Spiegel (2012); etc.

Appendix 2. Summary the Statistics (Period: 1995-2011; Countries: 17; Observations: 289)

Variables	Observations	Mean	Standard Deviation	Min	Max
$LnFDI_{jt}$	289	18.0240	1.8452	10.6048	21.7692
$LnFDI_{jt-1}$	289	18.0012	1.8665	10.6048	21.7692
$LnEX_{jt}$	289	20.5201	1.1501	16.7017	23.5033
$LnEX_{jt-1}$	289	20.3200	1.2547	15.2265	23.4143
$LnIM_{jt}$	289	20.4010	1.4905	16.8974	23.8168
$LnIM_{jt-1}$	289	20.2259	1.5313	16.1206	23.7405
$LnDIS_{VNj}$	289	8.2815	0.9503	6.7140	9.5226
$LnGDP_{VNt}$	289	24.5363	0.3192	23.9940	25.0309
$LnGDP_{jt}$	289	27.2646	1.3901	24.9592	30.2141
LnSIMSIZE	289	-2.2820	1.1671	-5.1491	-0.7707
$LnRER_{CURj/VNDt}$	289	7.9673	2.1171	2.2857	10.3280
$Ln(ins_{VNt}*ins_{jt})$	289	8.0069	0.2793	7.0925	8.3058
AFTA	289	0.1522	0.3598	0	1
USBTA	289	0.0415	0.1998	0	1
ACFTA	289	0.1730	0.3789	0	1
AKFTA	289	0.0865	0.2815	0	1
JVEPA	289	0.0138	0.1170	0	1
AJCEP	289	0.0692	0.2542	0	1
AANZFTA	289	0.0519	0.2222	0	1
$Bothin_{VNjt}$	289	0.2941	0.4564	0	1
$Onein_{VNjt}$	289	0.6608	0.4742	0	1
BOR_{VNj}	289	0.0588	0.2357	0	1
CRI_j^{1997}	289	0.1522	0.3598	0	1
CRI_j^{2008}	289	0.2802	0.4499	0	1

Appendix 3. The Correlations Matrix ($LnFDI_{jt}$ Equation)

Correlations	$LnFDI_{jt}$	$LnDIS_{VNj}$	$LnGDP_{VNt}$	$LnGDP_{jt}$	$LnEX_{jt-1}$	$LnIM_{jt-1}$	$LnRER_{.}$	$Ln(inst.)$	$AFTA$	$USBTA$	$ACFTA$	$AKFTA$	$JVEPA$	$AJCEP$	$AANZFTA$	$Bothin_{VNjt}$	$Onein_{VNjt}$	BOR_{VNj}
$LnFDI_{jt}$	1.0000																	
$LnDIS_{VNj}$	-0.3075	1.0000																
$LnGDP_{VNt}$	-0.0011	0.0000	1.0000															
$LnGDP_{jt}$	0.0892	0.7167	0.1222	1.0000														
$LnEX_{jt-1}$	0.2891	-0.0508	0.7038	0.3524	1.0000													
$LnIM_{jt-1}$	0.5549	-0.4520	0.5456	0.0850	0.7457	1.0000												
$LnRER_{CURj/VNDt}$	-0.3371	0.5559	-0.0075	0.2002	-0.1097	-0.4422	1.0000											
$Ln(ins_{VNt}*ins_{jt})$	0.1416	0.5274	-0.0193	0.2696	-0.0438	-0.1348	0.4833	1.0000										
$AFTA$	-0.0406	-0.5228	0.2620	-0.4857	0.1205	0.2115	-0.1334	-0.4110	1.0000									
$USBTA$	0.1212	0.2723	0.1067	0.4320	0.3106	0.0759	0.1605	0.0770	-0.0882	1.0000								
$ACFTA$	0.0074	-0.5016	0.3311	-0.3207	0.2376	0.3497	-0.1325	-0.5551	0.8247	-0.0952	1.0000							
$AKFTA$	0.1222	-0.3172	0.3696	-0.2363	0.2221	0.3187	-0.2400	-0.2566	0.5548	-0.0640	0.5101	1.0000						
$JVEPA$	0.1403	-0.0034	0.1485	0.1679	0.2294	0.1975	-0.1772	0.0527	-0.0502	-0.0247	-0.0542	-0.0365	1.0000					
$AJCEP$	0.0891	-0.2707	0.3418	-0.1410	0.2734	0.2987	-0.1538	-0.2145	0.4916	-0.0568	0.4520	0.6921	0.4345	1.0000				
$AANZFTA$	-0.0302	-0.2049	0.2988	-0.1728	0.2125	0.2066	-0.0308	-0.1737	0.4219	-0.0487	0.3878	0.5939	-0.0277	0.6737	1.0000			
$Bothin_{VNjt}$	0.0654	0.0000	0.7753	0.1027	0.5334	0.4460	-0.0169	0.0146	0.1492	0.0560	0.2067	0.4767	0.1835	0.4224	0.3625	1.0000		
$Onein_{VNjt}$	-0.0852	0.0645	-0.6436	-0.0833	-0.4974	-0.4399	0.0669	0.0768	-0.1033	-0.0341	-0.1555	-0.4296	-0.1654	-0.3807	-0.3266	-0.9012	1.0000	
BOR_{VNj}	0.0016	-0.1373	-0.0000	0.1887	0.1752	0.2140	-0.0482	-0.5382	-0.1059	-0.0520	0.2744	-0.0769	-0.0296	-0.0682	-0.0585	0.0000	-0.1626	1.0000

Appendix 4. The Correlations Matrix ($LnEX_{jt}$ Equation)

Correlations	$LnEX_{jt}$	$LnDIS_{VNj}$	$LnGDP_{VNt}$	$LnGDP_{jt}$	*LnSIMSIZE*	$LnFDI_{jt-1}$	*LnRER.*	*AFTA*	*USBTA*	*ACFTA*	*AKFTA*	*JVEPA*	*AANZFTA*	*AJCEP*	$Bothin_{VNjt}$	$Onein_{VNjt}$	BOR_{VNj}	CRI_j^{1997}	CRI_j^{2008}
$LnEX_{jt}$	1.0000																		
$LnDIS_{VNj}$	-0.0305	1.0000																	
$LnGDP_{VNt}$	0.6960	0.0000	1.0000																
$LnGDP_{jt}$	0.3856	0.7167	0.1222	1.0000															
LnSIMSIZE	-0.2470	-0.6897	0.1053	-0.9694	1.0000														
$LnFDI_{jt-1}$	0.2791	-0.3043	-0.0198	0.0796	-0.0907	1.0000													
$LnRER_{CURj/VNDt}$	-0.1146	0.5559	-0.0075	0.2002	-0.1986	-0.3356	1.0000												
AFTA	0.1001	-0.5228	0.2620	-0.4857	0.4967	-0.0528	-0.1334	1.0000											
USBTA	0.3528	0.2723	0.1067	0.4320	-0.4428	0.1266	0.1605	-0.0882	1.0000										
ACFTA	0.2341	-0.5016	0.3311	-0.3207	0.3551	-0.0092	-0.1325	0.8247	-0.0952	1.0000									
AKFTA	0.2267	-0.3172	0.3696	-0.2363	0.2976	0.0848	-0.2400	0.5548	-0.0640	0.5101	1.0000								
JVEPA	0.2415	-0.0034	0.1485	0.1679	-0.1371	0.1278	-0.1772	-0.0502	-0.0247	-0.0542	-0.0365	1.0000							
AJCEP	0.2705	-0.2707	0.3418	-0.1410	0.1919	0.1022	-0.1538	0.4916	-0.0568	0.4520	0.6921	0.4345	1.0000						
AANZFTA	0.1908	-0.2049	0.2988	-0.1728	0.2254	-0.0069	-0.0308	0.4219	-0.0487	0.3878	0.5939	-0.0277	0.6737	1.0000					
$Bothin_{VNjt}$	0.5445	0.0000	0.7753	0.1027	0.0750	0.0131	-0.0169	0.1492	0.0560	0.2067	0.4767	0.1835	0.4224	0.3625	1.0000				
$Onein_{VNjt}$	-0.5090	0.0645	-0.6436	-0.0833	-0.0714	-0.0280	0.0669	-0.1033	-0.0341	-0.1555	-0.4296	-0.1654	-0.3807	-0.3266	-0.9012	1.0000			
BOR_{VNj}	0.1917	-0.1373	-0.0000	0.1887	-0.1817	-0.0238	-0.0482	-0.1059	-0.0520	0.2744	-0.0769	-0.0296	-0.0682	-0.0585	0.0000	-0.1626	1.0000		
CRI_j^{1997}	-0.1295	-0.2290	-0.3896	-0.1494	0.0513	0.1062	-0.1931	-0.1796	-0.0399	-0.1938	-0.1304	-0.0502	-0.1156	-0.0992	-0.2736	0.1408	0.0578	1.0000	
CRI_j^{2008}	0.5497	-0.0170	0.7560	0.1143	0.0587	0.0640	-0.0288	0.1430	0.0632	0.2034	0.4657	0.1898	0.4369	0.3749	0.9668	-0.8712	0.0077	-0.2645	1.0000

Appendix 5. The Correlations Matrix ($LnIM_{jt}$ Equation)

Correlations	$LnIM_{jt}$	$LnDIS_{VNj}$	$LnGDP_{VNt}$	$LnGDP_{jt}$	*LnSIMSIZE*	$LnFDI_{jt-1}$	*LnRER.*	*AFTA*	*USBTA*	*ACFTA*	*AKFTA*	*JVEPA*	*AANZFTA*	*AJCEP*	$Bothin_{VNjt}$	$Onein_{VNjt}$	BOR_{VNj}	CRI_j^{1997}	CRI_j^{2008}
$LnIM_{jt}$	1.0000																		
$LnDIS_{VNj}$	-0.4608	1.0000																	
$LnGDP_{VNt}$	0.5236	0.0000	1.0000																
$LnGDP_{jt}$	0.0912	0.7167	0.1222	1.0000															
LnSIMSIZE	0.0175	-0.6897	0.1053	-0.9694	1.0000														
$LnFDI_{jt-1}$	0.5548	-0.3043	-0.0198	0.0796	-0.0907	1.0000													
$LnRER_{CURj/VNDt}$	-0.4544	0.5559	-0.0075	0.2002	-0.1986	-0.3356	1.0000												
AFTA	0.2139	-0.5228	0.2620	-0.4857	0.4967	-0.0528	-0.1334	1.0000											
USBTA	0.0809	0.2723	0.1067	0.4320	-0.4428	0.1266	0.1605	-0.0882	1.0000										
ACFTA	0.3644	-0.5016	0.3311	-0.3207	0.3551	-0.0092	-0.1325	0.8247	-0.0952	1.0000									
AKFTA	0.3167	-0.3172	0.3696	-0.2363	0.2976	0.0848	-0.2400	0.5548	-0.0640	0.5101	1.0000								
JVEPA	0.1966	-0.0034	0.1485	0.1679	-0.1371	0.1278	-0.1772	-0.0502	-0.0247	-0.0542	-0.0365	1.0000							
AJCEP	0.2877	-0.2707	0.3418	-0.1410	0.1919	0.1022	-0.1538	0.4916	-0.0568	0.4520	0.6921	0.4345	1.0000						
AANZFTA	0.1992	-0.2049	0.2988	-0.1728	0.2254	-0.0069	-0.0308	0.4219	-0.0487	0.3878	0.5939	-0.0277	0.6737	1.0000					
$Bothin_{VNjt}$	0.4356	0.0000	0.7753	0.1027	0.0750	0.0131	-0.0169	0.1492	0.0560	0.2067	0.4767	0.1835	0.4224	0.3625	1.0000				
$Onein_{VNjt}$	-0.4381	0.0645	-0.6436	-0.0833	-0.0714	-0.0280	0.0669	-0.1033	-0.0341	-0.1555	-0.4296	-0.1654	-0.3807	-0.3266	-0.9012	1.0000			
BOR_{VNj}	0.2395	-0.1373	-0.0000	0.1887	-0.1817	-0.0238	-0.0482	-0.1059	-0.0520	0.2744	-0.0769	-0.0296	-0.0682	-0.0585	0.0000	-0.1626	1.0000		
CRI_j^{1997}	-0.0394	-0.2290	-0.3896	-0.1494	0.0513	0.1062	-0.1931	-0.1796	-0.0399	-0.1938	-0.1304	-0.0502	-0.1156	-0.0992	-0.2736	0.1408	0.0578	1.0000	
CRI_j^{2008}	0.4553	-0.0170	0.7560	0.1143	0.0587	0.0640	-0.0288	0.1430	0.0632	0.2034	0.4657	0.1898	0.4369	0.3749	0.9668	-0.8712	0.0077	-0.2645	1.0000