

The Export Performance of Vietnam: Some Evidence Based on US Imports

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The Export Performance of Vietnam: Some Evidence Based on US Imports

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Abstract

This paper examines the export performance of Vietnam based on US imports.. The empirical analysis of the paper is based on US imports from Vietnam at the two- and ten-digit levels for the 1994-2011 period. The paper examines the composition of exports from Vietnam, the degree of concentration of exports, and the extent of export similarity with selected comparator countries. Based on the Global Trade Analysis Project (GTAP), the paper also explores the welfare effects of further trade liberalizations on Vietnam and other countries.

JEL Code: F1

Keywords: Concentration, export similarity, general equilibrium analysis.

I. Introduction

Vietnam, like China, is a prototype of labour-abundant emerging country which has been experiencing rapid economic growth based on an outward-looking trade policy regime. Since the adoption of *DoiMoi* in 1986, Vietnam has been closely following the export-led growth model of China. Vietnam joined the World Trade Organization (WTO) in 2007 and signed several bilateral and regional trade agreements. In 2010, the annual growth of exports from Vietnam averaged 15%. In the same year, Vietnam was the 39th largest exporting country in the world.

The main objectives of this paper are: 1) to examine the export performance of Vietnam based on US imports and 2) to explore the effects of elimination of tariffs on Vietnam and other countries/regions.

This paper uses the US annual import data from 1994-2011 at the HS two- and 10-digit level, available from the US Census Bureau. The paper presents some trade statistics on Vietnam's exports to the United States at two- and ten-digit levels. It then reports the Export Similarity Index (ESI) and concentration index of Vietnam in the US market for the 1994-2011 period. The paper also uses the Global Trade Analysis Project (GTAP) model and data, version 8, to explore the likely effects of further trade liberalizations with special reference to the apparel sector.

The paper is organized as follows. The second section presents a review of the literature while section III reports some basic statistics on US imports from Vietnam. The fourth section reports the main empirical findings based on the disaggregated data at the HS10-digit level. The fifth section reports the findings from a general equilibrium analysis based on the GTAP model. The final section makes some concluding remarks.

II. A Review of the Literature

Since Vietnam, like China and India, is a labour-abundant country, traditional theory predicts that multilateral, regional, and bilateral trade liberalizations will increase exports of labour-intensive products from Vietnam. Specifically, in the context of US-Vietnam trade Hecksher-Ohlin model would predict that trade liberalization would augment the comparative advantage of Vietnam in labour-intensive products.

In recent years however, several researchers have observed growing sophistication and diversification of exports from labour-abundant countries such as China and India, especially China (Rodrick 2006 and Schott, 2003). It appears that increasing sophistication and diversification of exports from labour-

abundant countries cannot be explained by the standard Ricardian and Heckscher-Ohlin models of trade. Recent trade theories emphasize that countries export differentiated products from the same industry; for example, the quality ladder model of Grossman and Helpman (1991) and the Krugman model (1979) which is based on Dixit-Stiglitz (1977) preferences. The Krugman model, incorporating the “love-of-variety” focusses on horizontally differentiated products.

Trade theory based on firm heterogeneity emphasizes the fact that both exporting and non-exporting firms coexist in the same industry and that characteristics differ substantially across firms with significant implications for quality, productivity, and efficiency. According to the quality sorting version more productive firms have superior export performance because they export high quality products at higher prices. The efficiency sorting version emphasizes the fact that more productive firms become more successful exporters because they have lower marginal costs and charge lower prices. Bernard *et al.* (2007) extends the efficiency sorting model by concentrating on differences in the extent of horizontal product differentiation across sectors and countries. Their model predict that labour-abundant countries would export more varieties of labour-intensive products while capital-abundant countries would export more varieties of capital-intensive products.

In recent years, the trade performance of Vietnam has drawn the attention of several researchers. Chaponniere and Cling (2009) have examined the nature of export-led growth of Vietnam and have argued that China’s export basket differs from Vietnam’s. Vanzetti and Huong (2011) have explored the welfare effects of various free trade agreements involving Vietnam based on an applied general equilibrium framework. Their study found that unilateral trade liberalization would substantially benefit Vietnam.

This paper contributes to the literature in several ways. First, it uses highly disaggregated trade data at the 10-digit HS code. Second, it compares the export basket of Vietnam with respect to the USA with that of selected emerging countries including China and India. Finally, it uses the latest version of the Global Trade Analysis Project (GTAP) model to examine the effects of several trade liberalization scenarios on Vietnam and selected emerging countries.

III. Basic Statistics

Table 1 reports some basic statistics on trade involving the United States and Vietnam. Several points can be highlighted from Table 1. First, US imports from Vietnam increased substantially from US \$ 50.6 million in 1994 to about US \$17.5 billion in 2011. In contrast, US exports to Vietnam increased from US \$172.7 million in 1994 to US \$ 4.3 billion in 2011. Second, it is easily evident that the United States has a substantial trade deficit with respect to Vietnam: the deficit sharply increased from US \$101.9 million in 1997 to US \$13.2 billion in 2011. Finally, the share of Vietnam in total US imports rose from only 0.008% in 1994 to 0.82% in 2011.

Table 2, presents the top ten export items from Vietnam to the United States at the two-digit HS codes for 1994 and 2011. It can be easily observed from Panel A, Table 2 that in 1994, Vietnam’s exports to the United States were dominated by primary products and labour-intensive products. In 2011, the top three export items from Vietnam to the United States were apparel articles knitted (HS code 61),

apparel articles non-knitted (HS code 62), and footwear (HS code 64). Panel B, Table 2 reveals that Vietnam's export basket has become more sophisticated in 2011 , compared to 1994, as reflected in the presence of two categories: electrical machinery (HS code 85) and nuclear reactors (HS code 84).

Given the importance of labour-intensive products (HS codes 61,62, and 64) and the emergence of sophisticated products (HS code 85) in Vietnam's export basket, it is useful to examine the evolution of Vietnam's comparative advantage in these product groups, as measured by " Revealed Comparative Advantage (RCA)." The RCA for ith product group is defined as:

$(X_{vi}/X_{wi}) / (X_v / X_w)$ where X_{vi} = Export of ith product group to the USA, X_{wi} = Export of all countries of the ith product group to the USA, X_v = Export of all product groups from Vietnam to the USA and X_w = Export of all product groups from all countries to the USA. An RCA which is greater than one for a product group suggests that Vietnam has a comparative advantage in that product group in the USA. On the other hand, an RCA of less than one suggests that Vietnam has a comparative disadvantage in that product group. Table 3 displays the values of RCA for selected product groups of Vietnam during the 1994-2012 period. It is evident that for knitted apparel (HS 61), the RCA shows an upward trend and since 2002, the RCA has been substantially greater than one. For non-knitted apparel (HS 62) the RCA is greater than one for most of the years; however, in recent years, the RCA for HS 62, has been lower than that for HS 61. For footwear (HS 64), the RCA has been substantially greater than one for most years. Table 3 also reveals that the RCA for electrical machinery and related products (HS 85) the RCA is less than one suggesting that Vietnam has not yet acquired a comparative advantage in this product group. However, the RCA for HS 85 shows an upward trend.

Table 1. US Trade with Vietnam: 1994- April 2012

Year	Exports	Percent of Total	Imports	Percent of Total	Trade Balance
1994	172,725	0.034	50,563	0.008	122,162
1995	252,533	0.043	198,923	0.027	53,610
1996	616,426	0.099	331,755	0.042	284,671
1997	286,594	0.042	388,461	0.045	-101,867
1998	274,065	0.040	554,090	0.061	-280,026
1999	291,513	0.042	608,342	0.059	-316,829
2000	367,615	0.047	821,437	0.067	-453,822
2001	460,276	0.063	1,052,859	0.092	-592,583
2002	580,197	0.084	2,394,703	0.206	-1,814,506
2003	1,323,782	0.183	4,554,838	0.362	-3,231,056
2004	1,105,471	0.136	5,275,293	0.359	-4,169,823
2005	1,193,152	0.132	6,631,159	0.396	-5,438,007
2006	1,100,284	0.107	8,566,664	0.462	-7,466,380
2007	1,903,057	0.166	10,632,820	0.543	-8,729,762
2008	2,789,449	0.217	12,901,098	0.613	-10,111,649
2009	3,097,194	0.293	12,287,816	0.788	-9,190,622
2010	3,708,895	0.290	14,867,779	0.777	-11,158,884
2011	4,309,034	0.291	17,487,187	0.792	-13,178,153
2012 through April	1,390,982	0.273	6,114,653	0.824	-4,723,671

Source: US Department of Commerce

Notes: Exports, imports, and trade balances are in thousands of US dollars.

Table 2. Panel A. Top 10 Export Items from Vietnam to United States, 1994

Products	Values
09 Coffee, Tea, Mate & Spices	31193.5
03 Fish, Crustaceans & Aquatic Invertebrates	5801.9
10 Cereals	4506.3
62 Apparel Articles And Accessories, Not Knit Etc.	2456.2
15 Animal Or Vegetable Fats, Oils Etc. & Waxes	1407.7
27 Mineral Fuel, Oil Etc.; BituminSubst; Mineral Wax	1104.9
42 Leather Art; SaddleryEtc; Handbags Etc; Gut Art	489.6
08 Edible Fruit & Nuts; Citrus Fruit Or Melon Peel	426.1
98 Special Classification Provisions, Nesoi	328.7

Note: Values are in thousands of dollars.

Panel B. Top 10 Export Items from Vietnam to United States, 2011

61 Apparel Articles And Accessories, Knit Or Crochet	3781987
62 Apparel Articles And Accessories, Not Knit Etc.	2773966
64 Footwear, Gaiters Etc. And Parts Thereof	2045871
94 Furniture; Bedding Etc; Lamps NesoiEtc; Prefab Bd	1845110
85 Electric Machinery Etc; Sound Equip; Tv Equip; Pts	997923.1
03 Fish, Crustaceans & Aquatic Invertebrates	793539.7
09 Coffee, Tea, Mate & Spices	629444.2
84 Nuclear Reactors, Boilers, Machinery Etc.; Parts	589253.3
27 Mineral Fuel, Oil Etc.; BituminSubst; Mineral Wax	433062
08 Edible Fruit & Nuts; Citrus Fruit Or Melon Peel	406073.7

Note: Values are in thousands of dollars.

Table 3. Revealed Comparative Advantage (RCA) : Selected Product Groups

YEAR	RCA61	RCA62	RCA64	RCA85
1994	0.12	1.5	0.1	0.04
1995	0.47	2.5	1.0	0.00
1996	0.57	2.1	7.4	0.01
1997	0.64	1.8	15.6	0.00
1998	0.54	1.3	13.7	0.01
1999	0.79	1.5	17.4	0.02
2000	0.96	1.4	12.5	0.01
2001	0.86	0.9	9.4	0.00
2002	7.62	6.9	7.1	0.02
2003	10.19	10.3	5.8	0.05
2004	9.56	11.2	8.0	0.08
2005	8.52	10.4	10.2	0.11
2006	8.46	10.1	10.8	0.20
2007	10.45	10.5	9.9	0.27
2008	12.26	10.7	10.1	0.32
2009	10.99	8.7	9.3	0.38
2010	11.28	9.2	10.0	0.40
2011	11.41	9.5	11.4	0.45
2012	13.06	9.1	12.1	0.60

Notes: RCA 61 refers to revealed comparative advantage in HS code 61 which includes knitted apparel articles; RCA 62 refers to revealed comparative advantage in HS code 62 which includes non-knitted apparel articles; RCA 64 refers to revealed comparative advantage in HS code 85 which includes electrical machinery.

The figures for 2012 are for the January 2012- May 2012 period.

IV. Product Varieties, export Concentration, and Export-Similarity

This section of the paper presents some findings based on disaggregated data at the 10-digit HS code level. Table 4 displays the number of product varieties exported by Vietnam to the United States during the 1994-2011 period. As shown in this table, the number of product varieties covering all product groups has increased from 222 in 1994 to 4049 in 2011. The number of varieties has increased substantially for typically labour-intensive groups such as HS 61, HS 62, and HS 64, consistent with Bernard *et al.* (2007). It is noteworthy that the number of varieties has also increased for a sophisticated product group, electrical machinery (HS 85).

Table 4 also shows the Herfindahl-Hirschman concentration index (HHI) for the 1994-2011 period. The HHI is defined as:

$$[(\sum S_i^2)^{1/2} - (1/n)^{1/2}] / [1 - (1/n)^{1/2}]$$

Where S_i = the share of i th product in total exports from Vietnam to the United States
 n = the number of products.

The HHI can range from 0 to 1, the latter implying the highest degree of concentration where by all exports are accounted for by only one export product. The closer the value of HHI to zero, the greater is the diversity of exports. Table 4 shows that HHI has declined from 0.53 in 1994 to 0.079 in 2011, suggesting increased diversification of Vietnam's exports to the United States.

In recent years, competition among developing countries in exports involving labour-intensive products has drawn a great deal of attention. For instance, Chapponiere and Cling (2009) have examined whether and to what extent Vietnam competes with China in labour-intensive products. Competition among developing countries can be ascertained with the help of "Export Similarity Index (ESI)." Table 5 presents the Export-Similarity index (ESI) involving Vietnam and selected comparator countries. The ESI is defined as follows(Finger and Kreinin, 1979):

$$ESI = \sum \text{Min} \{S_{iv}, S_{ic}\}$$

Where S_{iv} is the share of the i th export item in Vietnam and S_{ic} is the share of the i th export item in a comparator country. The ESI can range from zero to unity, the latter implying a complete similarity of the export baskets of the two countries in the US market. The ESI values are computed at the ten-digit level Table 4 reveals that the ESI figures involving Vietnam and China are lower compared to ESI figures involving Vietnam and Indonesia. The figures suggest that China's export basket is different from Vietnam's basket (Chapponiere and Cling (2009). However, Table 5 also indicates that ESI involving Vietnam and China has steadily increased from 0.033 in 1994 to 0.228. Furthermore, for Vietnam, the ESI figures in recent years are higher with China than with Thailand. Table 5 also shows that the ESI involving Indonesia has increased substantially during the 1994-2011 period. Furthermore, the ESI figures with India and Mexico are lower compared to those with other countries including Bangladesh.

Table 4. Product Varieties and Concentration of Vietnam's Exports

Year	Number of All Product Varieties	Varieties HS 61	Varieties HS 62	Varieties HS 64	Varieties HS 85	HHI
1994	222	12	23	1	3	0.53
1995	444	31	72	40	4	0.666
1996	624	39	104	66	9	0.406
1997	776	64	131	79	10	0.276
1998	844	58	141	87	18	0.31
1999	992	77	160	93	17	0.247
2000	1180	101	194	119	21	0.223
2001	1305	149	218	122	15	0.226
2002	2189	270	388	145	39	0.137
2003	2638	323	451	169	68	0.117
2004	2746	306	435	181	100	0.108
2005	3002	312	480	189	142	0.118
2006	3300	327	511	200	184	0.138
2007	3587	379	522	211	199	0.108
2008	3637	388	507	200	216	0.114
2009	3603	367	511	200	230	0.094
2010	3779	383	508	204	254	0.087
2011	4049	395	519	232	281	0.079

Table 5. Export Similarity Index of Vietnam with Selected Countries

Year	China	Indonesia	Thailand	Bangladesh	India	Mexico
1994	0.033	0.066	0.107	0.097	0.065	0.033
1995	0.041	0.087	0.101	0.087	0.066	0.034
1996	0.069	0.173	0.115	0.11	0.089	0.088
1997	0.076	0.202	0.146	0.099	0.097	0.081
1998	0.07	0.169	0.137	0.085	0.098	0.064
1999	0.075	0.176	0.152	0.083	0.122	0.072
2000	0.082	0.173	0.166	0.098	0.111	0.076
2001	0.077	0.164	0.161	0.075	0.105	0.06
2002	0.138	0.318	0.228	0.321	0.177	0.094
2003	0.141	0.325	0.238	0.376	0.183	0.09
2004	0.152	0.334	0.213	0.363	0.184	0.089
2005	0.177	0.355	0.204	0.339	0.184	0.095
2006	0.189	0.368	0.203	0.307	0.173	0.1
2007	0.197	0.404	0.214	0.313	0.171	0.094
2008	0.204	0.394	0.223	0.301	0.164	0.1
2009	0.225	0.441	0.216	0.285	0.18	0.097
2010	0.228	0.433	0.199	0.287	0.159	0.106
2011	0.228	0.417	0.187	0.273	0.155	0.109

V. Applied General Equilibrium Analysis.

This section presents the findings from the Global Trade Analysis Project (GTAP) model, Version, 8, a general equilibrium model of world trade which contains 129 regions and 57 sectors. To make empirical analyses manageable, 129 regions have been aggregated into 13 regions/countries including Vietnam and 57 sectors have been aggregated into 11 sectors. In exploring the effects of trade liberalization, this paper primarily relies on the Global Trade Analysis Project(GTAP) model and database, version 8, which is a standard static applied general equilibrium (AGE) model maintaining the assumptions of perfect competition and constant returns to scale. The latest GTAP database contains 129 regions/countries and 57 sectors with the benchmark data for the year 2007. The database contains two sets of “ Armingtonelasticities” : one is concerned with the substitution between domestic products and imports and the other with the substitution between imports from different regions. In order to make the empirical analysis of this paper manageable, 129 regions/countries have been aggregated into 13 regions/countries: 1) the USA); 2) the European Union ; 3) Vietnam 4) China; 5) India; 6) Indonesia; 7) Thailand; 8) Mexico; 9) East Asia comprising other East and South-East Asian countries; 10) Bangladesh; 11) Latin America; 12) Africa; and 13) Rest of the world(ROW) . In this paper, the 57 sectors in the GTAP database have been aggregated into 11 sectors: 1) Grains crops, 2) Meat & livestock; 3) Extraction, 4) processed food, 5) textiles; 6) apparel, 7) Light manufactures, 8) Heavy manufactures, 9) utility & construction, 10) transport & communications, and 11) other services. One limitation of the GTAP database needs to be mentioned here. The textile sector of the GTAP database lumps together all types of textile products such as yarn, cotton fabrics, man-made fabrics, and made-up textile products. Similarly, the apparel sector does not have separate data on men’s apparel, women’s apparel, apparel made from cotton fabrics, apparel made from man-made fabrics, apparel made from knitted fabrics, and apparel made from non-knitted fabrics.

Before presenting the main results, it is useful to report some basic statistics from the GTAP database. Table 6 presents the Self-Sufficiency Ratio (SSR) for different sectors in Vietnam and the selected countries/regions. The SSR is defined as follows:

$$SSR = P / (P + M - X)$$

Where P = domestic production, X = Exports, and M = Imports. The denominator can be designated as total availability.

It is evident from Table 6 that in Vietnam, the SSR is highest in apparel. Other sectors which have an SSR greater than one are extraction, grains, processed food, light manufactures, and transport & communications. Accordingly, it is expected that Vietnam would have a comparative advantage in apparel in the US market.

Table 7 presents some data on average tariff rates on Vietnam's products in selected countries. It is evident that tariff rates on grains, processed food, textiles, and apparel are higher than on other products. It can also be observed that the tariff rates on Vietnam's apparel are higher in the United States than in the European Union.

Given the importance of apparel exports for Vietnam, it is useful to focus on the destination of apparel exports from Vietnam. It is easily observed from Table 8 that the importance of United States market has sharply increased during the 1995-2009 period. In contrast, the shares of East Asia and the European Union have declined.

To evaluate the effects of further trade liberalizations on Vietnam and the selected countries, the paper considers three policy experiments: 1) Elimination of tariffs on apparel by all countries, including the United States, 2) Elimination of tariffs on apparel only by the United States, and 3) elimination of all tariffs on all products by all countries. The welfare effect is measured by "Equivalent Variation (EV)¹." The results of policy experiment 1 are shown in Table 9. It is evident that Vietnam will gain more compared to several emerging countries such as Indonesia, Thailand, India, Bangladesh, and Mexico. Table 10 shows the effects of policy experiment 2 whereby the United States eliminates tariffs on apparel. It can be observed that Vietnam's gains will exceed those of Indonesia, Thailand, India, Pakistan, Bangladesh, and Mexico.

Table 11 reports the welfare gains under policy experiment 3. The results show that under this scenario too, Vietnam will gain considerably.

¹ For details on the concept of equivalent variation, see Francois and Reinhart (1997), Chapter 3.

Table 6. Self-Sufficiency Ratio: Vietnam and Selected Countries/Regions, 2007.

Sectors	1Vietnam	2 Indonesia	3 Thailand	4 china	5 EastAsia	6 India	7 Bangladesh	8 Mexico
1 GrainsCrops	1.27	0.956	1.14	0.963	0.777	1.01	0.899	0.949
2 MeatLstk	0.889	0.977	1.09	0.989	0.822	1.01	0.988	0.916
3 Extraction	2.23	1.46	0.389	0.713	0.291	0.418	0.929	1.56
4 ProcFood	1.07	1.13	1.33	1.01	0.911	0.982	0.803	0.992
5 textile	0.543	1.09	1.19	1.18	1.06	1.21	1.08	0.729
6 apparel	5.38	4.88	1.47	1.82	0.836	2.1	12	1.18
7 LightMnfc	1.07	1.1	1.18	1.16	1.14	0.997	0.797	1.08
8 HeavyMnfc	0.411	0.895	1.08	0.997	1.13	0.886	0.459	0.969
9 Util_Cons	0.993	0.997	0.986	1	1	0.998	1	1
10 TransComm	1.02	0.986	1.09	1.02	1.07	1.02	0.987	1.01
11 OthServices	0.947	0.959	0.938	0.996	0.996	1.04	1.05	0.991

Source: Computed from the GTAP model, version 8.

Table 7. Import Duty (%) on Vietnam's Products in Selected Countries,2007

Sector	Indonesia	Thailand	China	East Asia	India	USA	EU
1 GrainsCrops	6.94	32.7	2.34	47.8	67	0.148	0.548
2 MeatLstk	0	5.24	3.94	4.06	0	1.15	3.27
3 Extraction	0.033	0.253	1.9	0.639	11.2	0.002	0.671
4 ProcFood	11.3	14.6	6.16	8.41	38.4	2.01	7.9
5 textile	1.88	6.28	6.28	4.58	15	11.7	7.46
6 apparel	3.43	26.3	10.6	8.63	15	12.8	8.92
7 LightMnfc	2.17	14	4.84	2.84	14	3.72	4.58
8 HeavyMnfc	2.4	3.49	9.41	1.16	15.6	1.7	0.587

Table 8. Destination of Vietnam's Apparel Exports: 1995-2009

Year	East Asia	USA	EU	Other Regions	Total
1995	0.468	0.022	0.465	0.045	1
1996	0.47	0.023	0.461	0.046	1
1997	0.423	0.022	0.495	0.06	1
1998	0.369	0.024	0.539	0.068	1
1999	0.368	0.027	0.544	0.061	1
2000	0.428	0.03	0.483	0.059	1
2001	0.421	0.029	0.479	0.071	1
2002	0.26	0.357	0.332	0.051	1
2003	0.2	0.551	0.203	0.046	1
2004	0.178	0.563	0.213	0.046	1
2005	0.194	0.527	0.219	0.06	1
2006	0.18	0.506	0.245	0.069	1
2007	0.141	0.578	0.209	0.072	1
2008	0.137	0.545	0.233	0.085	1
2009	0.159	0.54	0.231	0.07	1

Source: GTAP database, version 8.

Table 9. Welfare Effects of Removal of Tariffs on Apparel by All Countries

Country	EV(US\$Millions)	
Vietnam	724.12	
Indonesia	239.41	
Thailand	281.08	
China	9983.78	
EastAsia	565.71	
India	705.91	
Bangladesh	24.18	
USA	-1337.47	
Mexico	277.18	
LatinAmer	98.67	
EU	-56.65	
Africa	377.64	
Rest of World	1092.75	

Table 10. Welfare Effects of Removal of Tariffs on Apparel by United States

Country	EV (US\$ Millions)	
Vietnam	395.58	
Indonesia	161.4	
Thailand	117.62	
China	3771.13	
EastAsia	485.59	
India	239.26	
Bangladesh	198.76	
USA	-1187.27	
Mexico	-125.69	
Latin America	24.62	
EU	417.29	
Africa	2.76	
Rest of World	398.45	

Table 11. Welfare Effects of Removal of Tariffs on All products by All Countries

Country	EV(US\$ Millions)	
Vietnam	2994.15	
Indonesia	699.64	
Thailand	2605.85	
China	68709.08	
EastAsia	37071.53	
India	11997.86	
Bangladesh	-46.74	
USA	10049.57	
Mexico	-237.31	
Latin America	1853.45	
EU	12311.19	
Africa	4419.64	
Rest of World	11872.82	

Source: Simulation from GTAP model

VI. Concluding Remarks

Following an outward looking trade policy, Vietnam has managed to achieve rapid growth rates of exports and GDP. Trade involving Vietnam and the United States has risen substantially during 1994-2011. During this period, Vietnam's exports to the United States have become more sophisticated. Furthermore, more than 50% of Vietnam's apparel products are now destined to the US market.

The empirical findings show that Vietnam's exports to the US market have become more diversified. The data also reveal that the Export-Similarity Index of Vietnam involving China and Indonesia in the US market has increased in recent years.

The general equilibrium analyses show that further trade liberalizations will substantially benefit Vietnam.

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