

***EX-POST* ASSESSMENT OF THE IMPACT OF FIVE EXISTING FREE TRADE AGREEMENTS ON VIETNAM**

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Short title: Assessing Free Trade Agreements of Vietnam.

Abstract:

This paper provides the models for estimating the impact on the Vietnamese economy of five existing Free Trade Agreements. We use multiplier analysis based on a modified Input-Output (I-O) Model. We also use the Comparative Advantage and Competition Model as a complementary tool to investigate the benefits and disadvantages of these Free trade Agreements. The data used is from officially published Input-Output Table, Social Accounting Matrix and import & export trade data. As a result, we supply valuable data and recommendations for government and entrepreneurs in Viet Nam.

1. Introduction

1.1. Summary

In this paper, we do an *ex-post* assessment of the impact of five Free Trade Agreements (FTAs) on Vietnam's economy. We focus on the Vietnam's FTAs with five dialogue partners: Australia and New Zealand, China, India, Japan and Korea. The corresponding FTAs are the ASEAN-Australia-New Zealand Free Trade Agreement (AANZFTA), the ASEAN-India Comprehensive Economic Cooperation Agreement (ASEAN-India CECA), the ASEAN-Republic of Korea Comprehensive Economic Cooperation Agreement (AKFTA), the ASEAN-Japan Comprehensive Economic Partnership (AJCEP), and the ASEAN-People's Republic of China Comprehensive Economic Agreement (ACFTA). In addition, we need to consider the impact of Vietnam's most important agreement, the ASEAN Free Trade Area (ASEAN FTA), These agreements all came into effect on January 2010, except the ASEAN FTA and the AJCEP which came into effect in December 1995 and December 2008, respectively (Pham, 2018)

We find that export flows to these trading partners have had a significant impact on the Vietnamese economy. The Manufacturing, and the Agriculture forestry, and fishing industries have increased significantly. All the FTAs have provided important markets for exported goods, especially the ACFTA and AKFTA.

We also find that import flows from these six FTAs have had a significant impact on the Vietnamese economy. Among the six partners, China and Korea were the major sources of Vietnam's imports. Three kinds of imports have increased rapidly: Agriculture, forestry and fishing; Mining; and Manufacturing.

Multiplier analysis shows that the five trading blocs have had an overall negative effect on the Vietnamese economy, particularly on employment. The effects of the ACFTA and AKFTA are particularly large and have an upward trend. The effects of the AJCEP, AANZFTA and ASEAN-India CECA are improving.

Comparative advantage analysis also shows that the ACFTA and AKFTA were competitive economies, while the AJCEP and AANZFTA were complementary economies. Vietnam has a comparative advantage in rice, apparel, furniture and footwear for these FTAs.

1.2. Methods and data

To estimate the *ex-post* impact of an FTA on import and export flows for Vietnam, we have used multiplier analysis based on a modified Input-Output (I-O) Model (Pham, 2018). The model relies on inter-industry data to determine how changes in one industry will impact others. In addition, the model also estimates the share of each industry's purchases that are supplied by domestic and foreign firms. Based on this data, multipliers are calculated and used to estimate economic impacts. The method looks at changes in net trade flows, that is, the difference between export and import flows for each FTA. Our approach the economic effects of FTAs on international trade is suitable for developing countries with transitional economies, in which the strategies of export promotion and import substitution are increasingly important.

We have also used trade indicators to examine whether pairs of economies are complementary or competitive. The five trade indices described in the thesis will be analysed for this purpose (Pham, 2018)

The trade data used consists of the Extended I-O Table 2007 and the Extended I-O Table 2011. The Extended I-O Table in 2007 and 2011 were compiled by the author based on the official

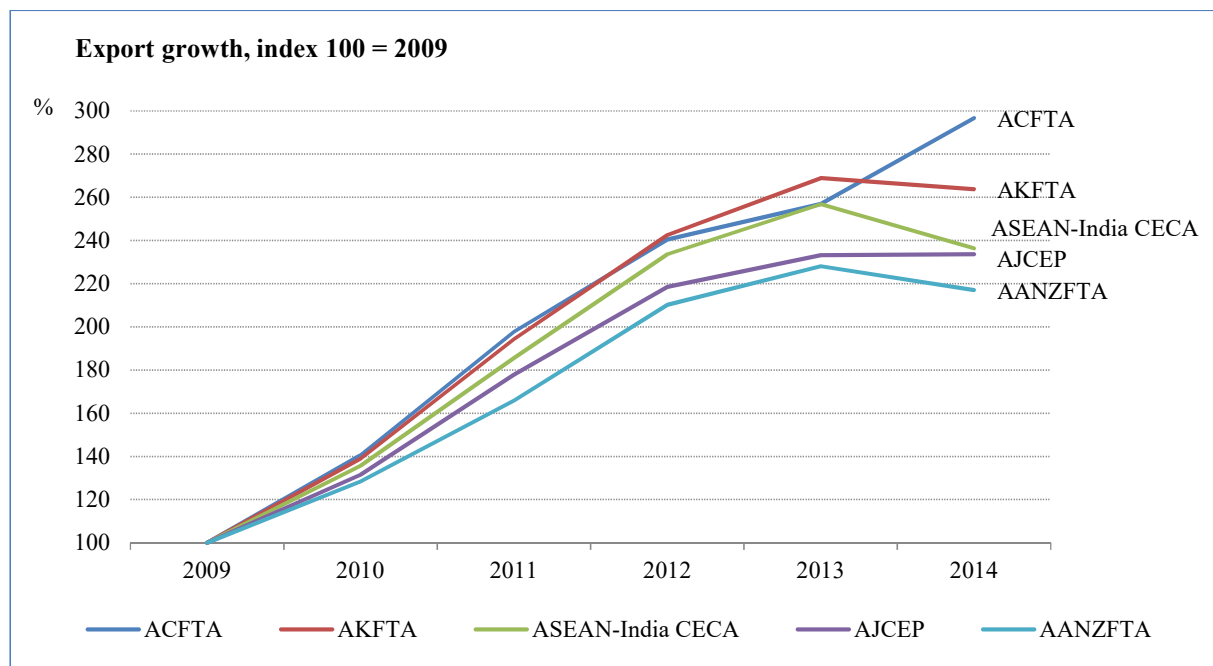
published data from the General Statistics Office (GSO) (2011), Central Institute for Economic Management (CIEM) (2015) in Vietnam and International Trade Center (ITC) (2015). These were the most readily available tables giving before-and-after data around the critical year of 2010.

2. Vietnam’s exports to and imports from the five trading groups

In this section, we analyse export and import flows with the five trading partners. We display the data as radar charts on a log scale, to prevent outliers from complicating the diagrams.

2.1. Vietnam’s export growth to the five partners after the FTAs

Figure 1: Vietnam’s exports growth to the five trading groups before and after FTAs

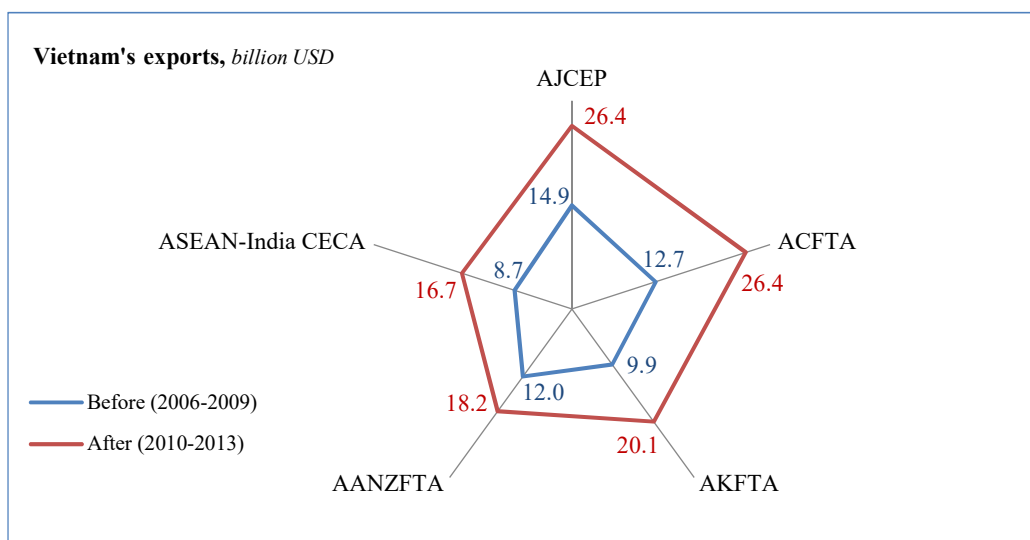


Source data: Trade Map, General Statistics Office of Vietnam and Central Institute for Economic Management of Vietnam

Note: The year 2009 is used as the base year (equal to 100). Vietnam export growth in the four years following the enforcement of the FTAs is given.

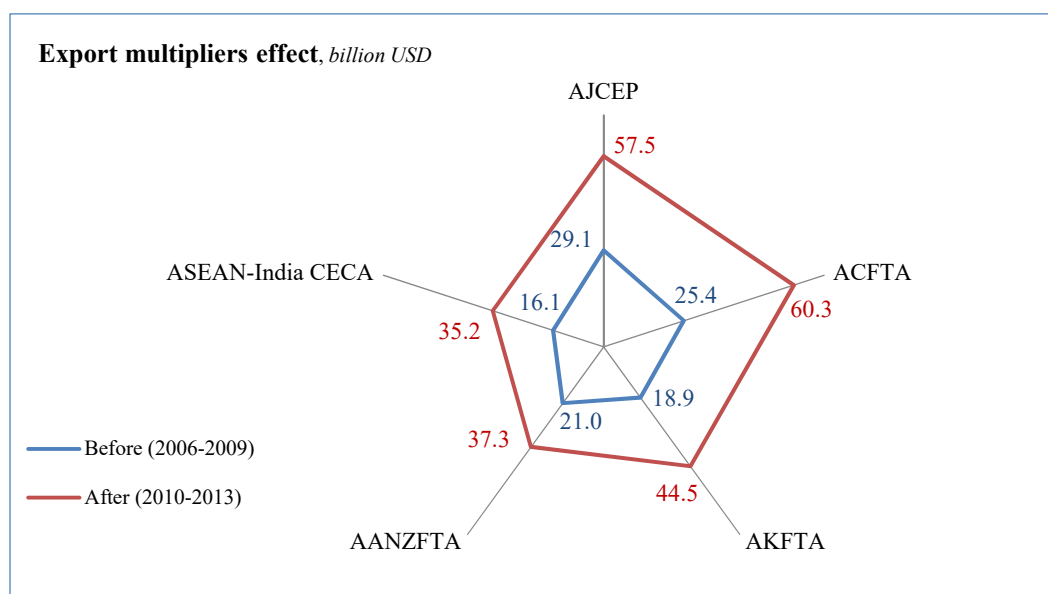
Figure 1 illustrates that exports from Vietnam to the five partners more than doubled during the first four years after the FTAs. The strongest growth was due to the ACFTA, AKFTA and ASEAN-India CECA, which almost tripled.

Figure 2a: Vietnam's exports to the five trading groups before and after FTAs



Source data: Trade Map

Figure 2b: Multiplier effects of Vietnam's exports to the five trading partners before and after FTAs

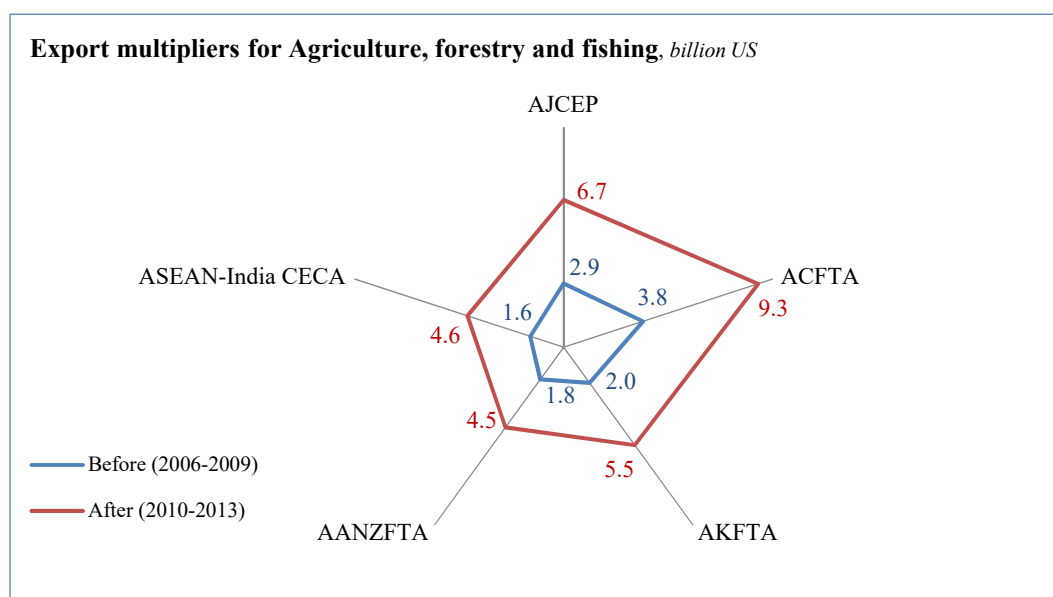


Source data: Trade Map, General Statistics Office of Vietnam and Central Institute for Economic Management of Vietnam

Figure 2a shows a substantial increase in the value of Vietnam's exports to the five trading groups under consideration. The annual average value of Vietnam's exports observed from 2006 to 2009 (before the FTAs) and from 2010 to 2013 (after the FTAs) nearly doubled (58.2 to 107.6 billion USD). Compare this with the total export multipliers in Figure 2b, which shows an increase of more than double the amount (110.5 to 234.8 billion USD). For example,

although the direct effects of Vietnam's exports to such as AJCEP and ACFTA were similar (26.4 billion USD), the total effect (direct and indirect effects) of Vietnam's exports to AJCEP and ACFTA were different (57.5 and 60.3 billion USD). This means that economy benefit of ACFTA due to exports is greater than of the AJCEP. Therefore, Figure 2a and 2b show that exports to the five RTAs had positive impact on the Vietnamese economy. Particularly, there was a particularly large positive effect of exports to the AKFTA.

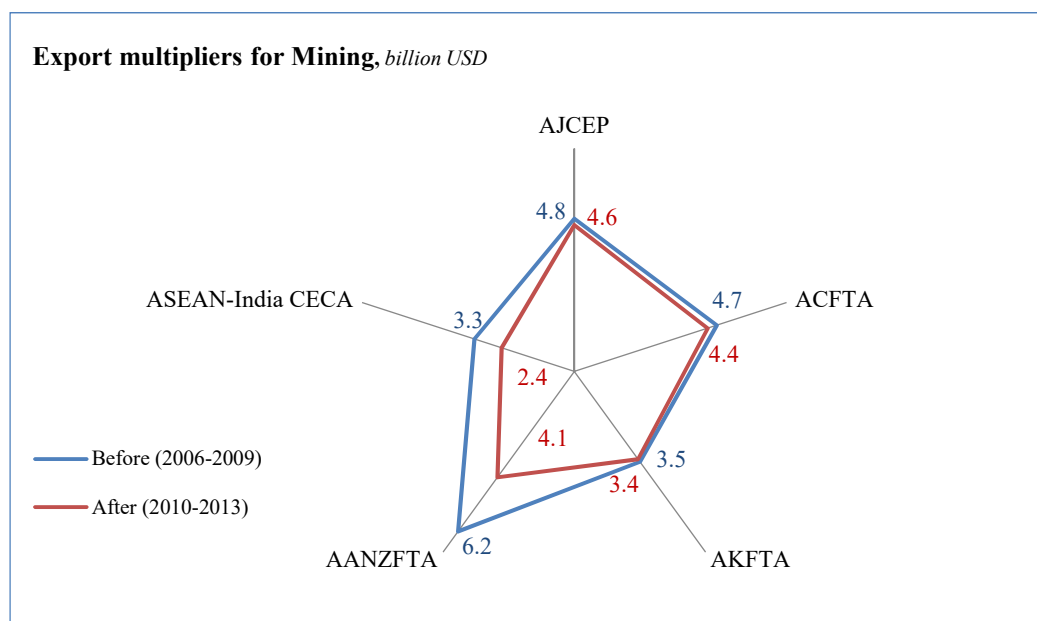
Figure 3: Multiplier effects for agriculture, forestry and fishing exports to the five partners before and after FTAs



Source data: Trade Map, General Statistics Office of Vietnam and Central Institute for Economic Management of Vietnam

Even before the entry in to force the FTAs, there was a significant increase in the value of Vietnam's exports of Agriculture, forestry and fishing products to the five trading partners (see Figure 3). Comparing the annual averages for 2006 to 2009 (before the FTA) and for 2010 to 2013 (after the FTA), we observe that the amount more than doubled (12.1 to 30.6 billion USD). However, the extent of increase from each FTA was not uniform. Vietnam's exports to India, Korea, and Australia/New Zealand increased 2.9, 2, and 1.5 times, respectively. Exports to China and Japan were larger in total, but only increased 1.33 and 1.25 times, respectively. We conclude that exports in this sector had a significant impact on the Vietnamese economy.

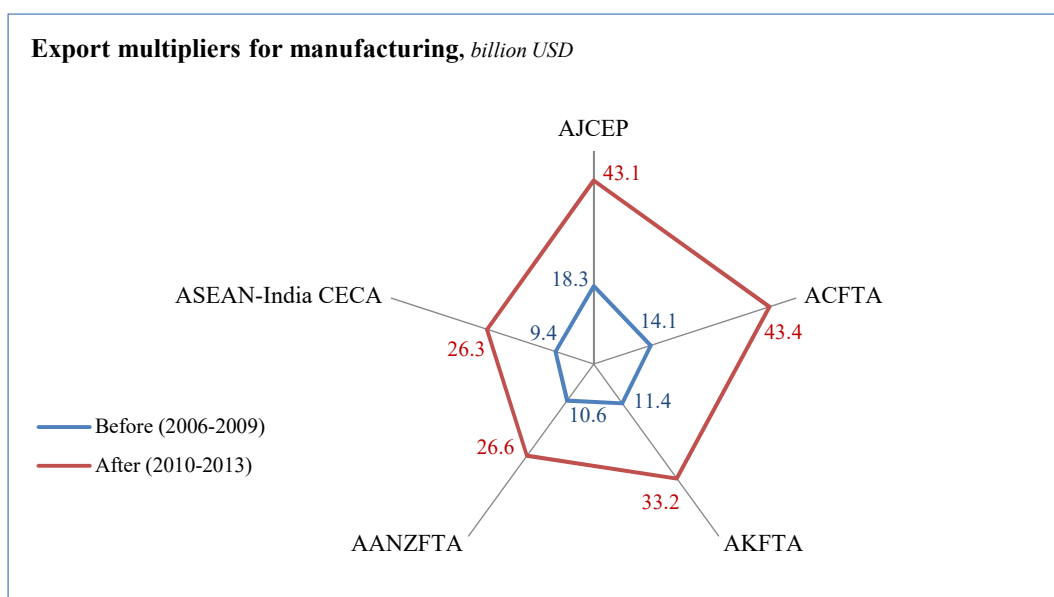
Figure 4: Multiplier effects of Vietnam’s Mining exports before and after the FTAs



Source data: Trade Map, General Statistics Office of Vietnam and Central Institute for Economic Management of Vietnam

Figure 4 shows that there was a decrease in the multiplier effects of Vietnam’s exports of Mining goods to the five trading partners. Comparing 2006 to 2009 with 2010 to 2013, there was a decrease of 12.7% or 5 billion USD. We conclude that mining exports to the five FTAs have not had a significant impact on the Vietnamese economy.

Figure 5: Multiplier effects of Vietnam’s Manufacturing before and after the FTAs



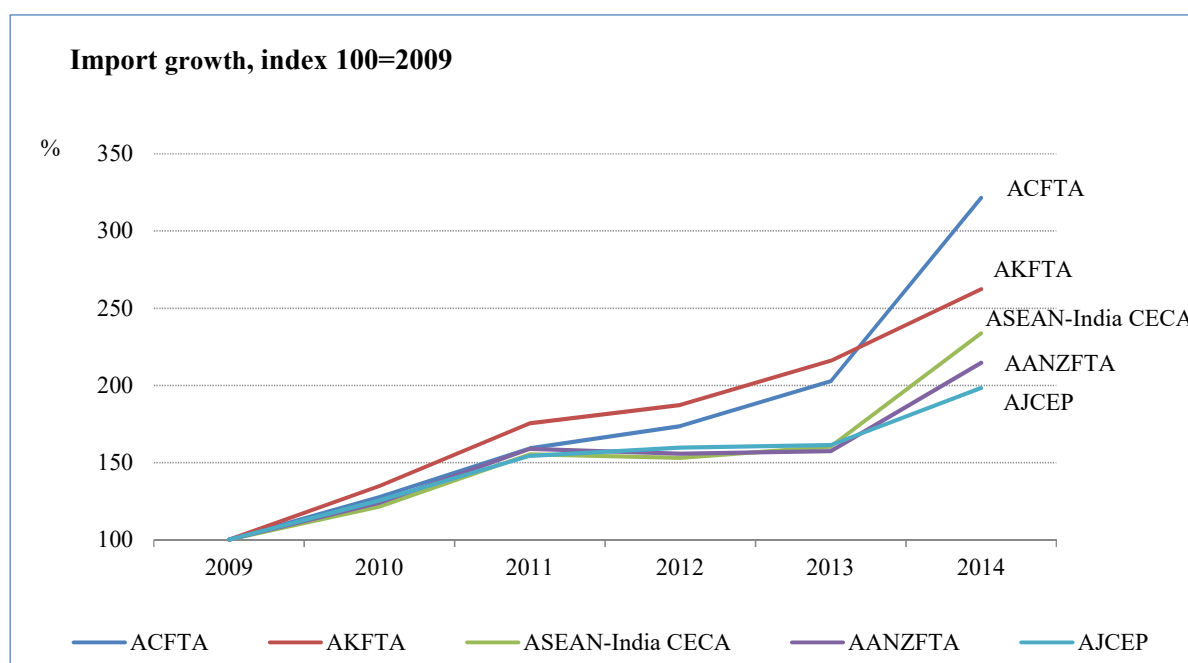
Source data: Trade Map, General Statistics Office of Vietnam and Central Institute for Economic Management of Vietnam

As can be seen from Figure 5, Vietnam’s exports of Manufactured goods grew by 112%, between the period before the FTAs and the period after the FTAs. China and Japan were the largest destinations in absolute terms, while Korea and India showed the most growth. We find that China, Japan and Korea were the most important markets for Vietnam’s manufacturing exports.

To sum up, we find that export flows to the trading partners show strong increases as a result of the FTAs in the Manufacturing, agriculture and fishing sector in particular. The results are similar with or without considering indirect multiplier effects.

2.2. Vietnam’s import growth from the five partners

Figure 6: Vietnam’s import growth rate from the five partners after the FTA

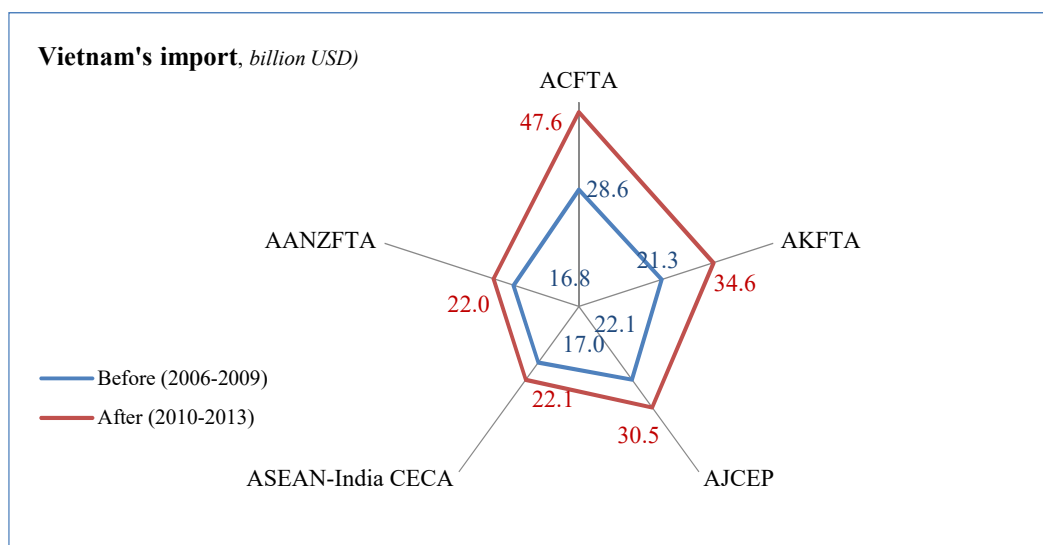


Source data: Trade Map, General Statistics Office of Vietnam and Central Institute for Economic Management of Vietnam

Note: The 2009 is used as the base year (equal to 100). Vietnam exports in the four years following the enforcement of FTA is given at 2010, 2011, 2013 and 2013.

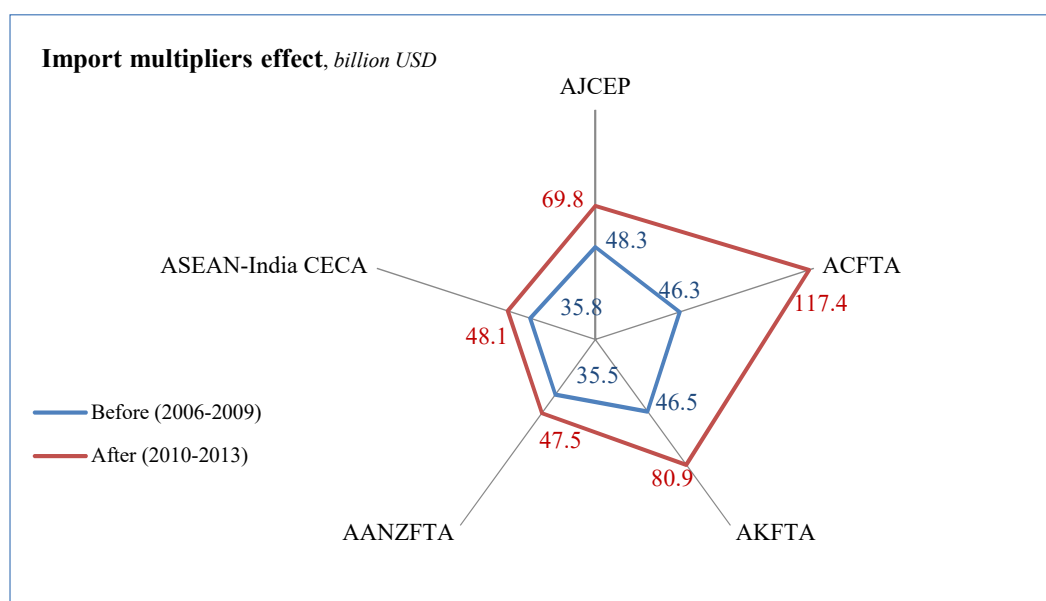
Figure 6 shows the upward trend of imports in the years following the introduction of these five FTAs on 1 January 2010. The AKFTA and ACFTA have had the fastest import growth rates. The AJCEP, AANZFTA and ASEAN-India CECA showed rapid growth in the first two years with a significant slowdown since 2012.

Figure 7: Vietnam's imports from the five trading groups before and after the FTAs



Source data: Trade Map

Figure 1: Multiplier effects of Vietnam's imports before and after the FTAs

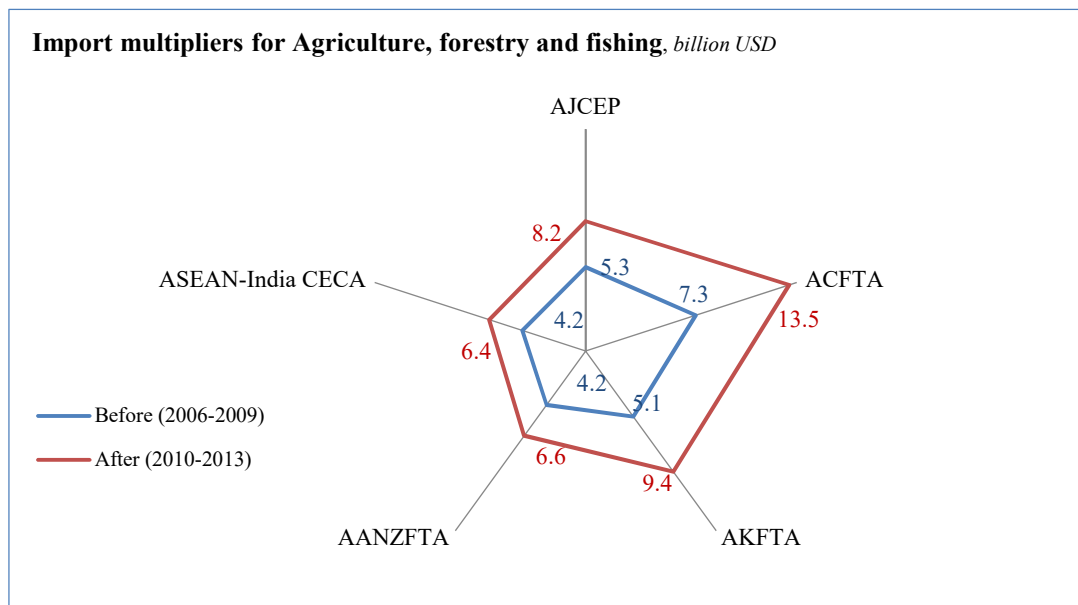


Source data: Trade Map, General Statistics Office of Vietnam and Central Institute for Economic Management of Vietnam

It can be seen in Figures 7 and 8 that there were significant increases in the value of Vietnam's imports from the five trading groups. The total value of Vietnam's imports from these partners averaged 51 billion USD per annum from 2006 to 2009 (before FTA), versus 105 billion USD from 2010 to 2013 (after FTA), slightly more than double. After including multiplier effects, the increase is from 151 to 212 billion USD. We find that a significant proportion of this change consists of import diversion, which has an overall negative impact on the Vietnamese economy.

Among the five partners, China and Korea were the largest sources of imports, accounting for 47.6 and 34.6 billion USD, respectively, per year average in 2010 to 2013. After including multiplier effects, the impact was even greater (an increase from 46.3 to 117.4 billion USD for the ACFTA, and an increase from 46.5 to 80.9 billion USD for the AKFTA).

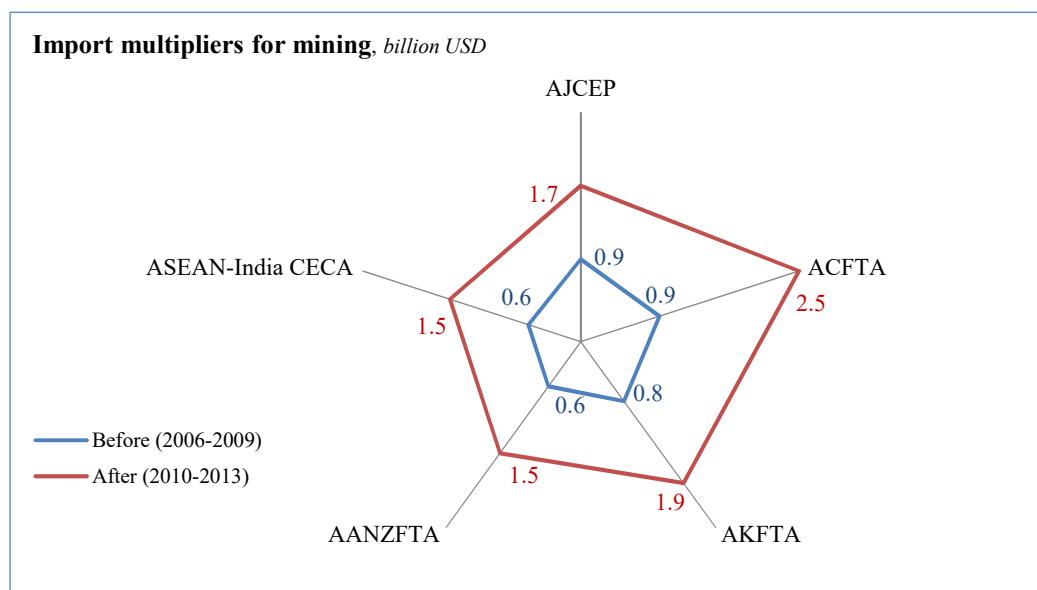
Figure 2: Multiplier effects of Vietnam’s Agriculture, forestry and fishing imports



Source data: Trade Map, General Statistics Office of Vietnam and Central Institute for Economic Management of Vietnam

Figure 9 shows a rapid increase in the value of Vietnam’s imports of Agriculture, forestry and fishing products from the five trading partners. The total value of these imports averaged 26.1 billion USD per annum from 2006 to 2009 (before FTA), versus 44.1 billion USD from 2010 to 2013 (after FTA), slightly less than double. China and Korea were the largest sources of these imports.

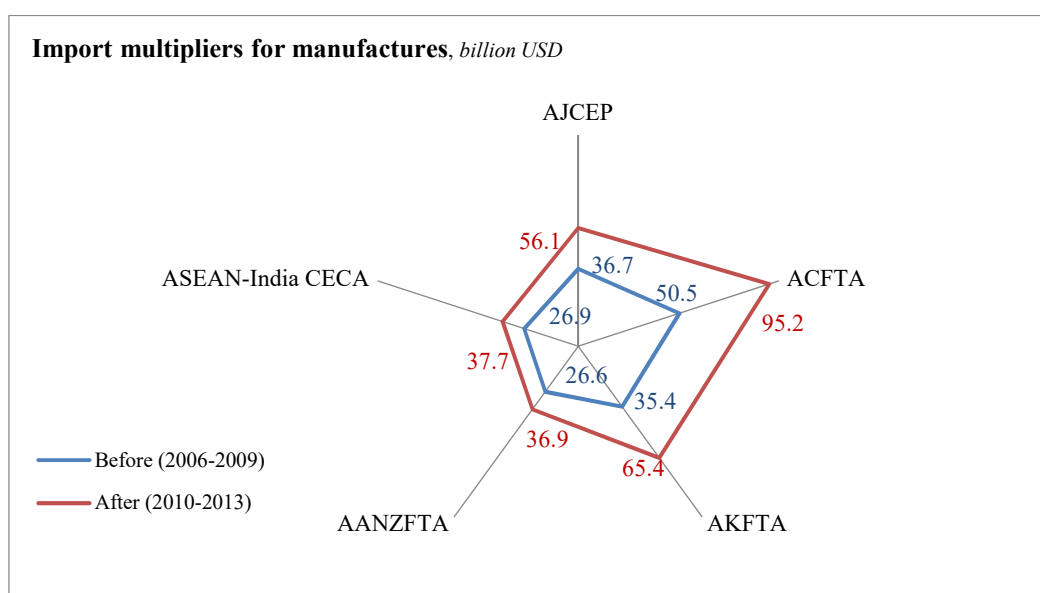
Figure 10: Multiplier effects of Vietnam's Mining imports



Source data: Trade Map, General Statistics Office of Vietnam and Central Institute for Economic Management of Vietnam

Figure 10 shows a significant increase in the value of Vietnam's imports of minerals from the five trading groups. The total value of these imports averaged 5 billion USD per annum from 2006 to 2009 (before FTA), versus 11 billion USD from 2010 to 2013 (after FTA), slightly more than double. All five partners played a significant role in these imports.

Figure 11: Imports Manufactures from the five trading groups before and after FTA



Source data: Trade Map

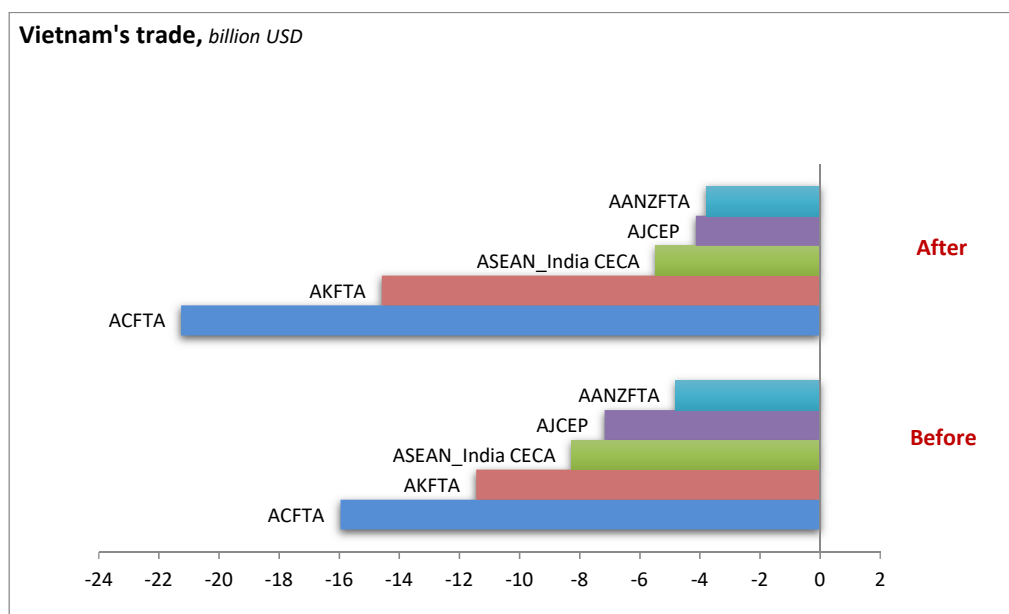
As is illustrated by Figure 11, there was a significant increase in Manufacturing imports from the five trading groups. The total value of these imports averaged 176 billion USD per annum from 2006 to 2009 (before FTA), versus 291 billion USD from 2010 to 2013 (after FTA). ACFTA and AKFTA were the largest sources of imports.

To sum up, the import flows from these FTAs have had a net negative impact on Vietnam's economy, especially Manufacturing imports. The import multiplier analysis shows a persistent and worsening impact on Vietnam, especially from the ACFTA and AKFTA.

3. Other multipliers

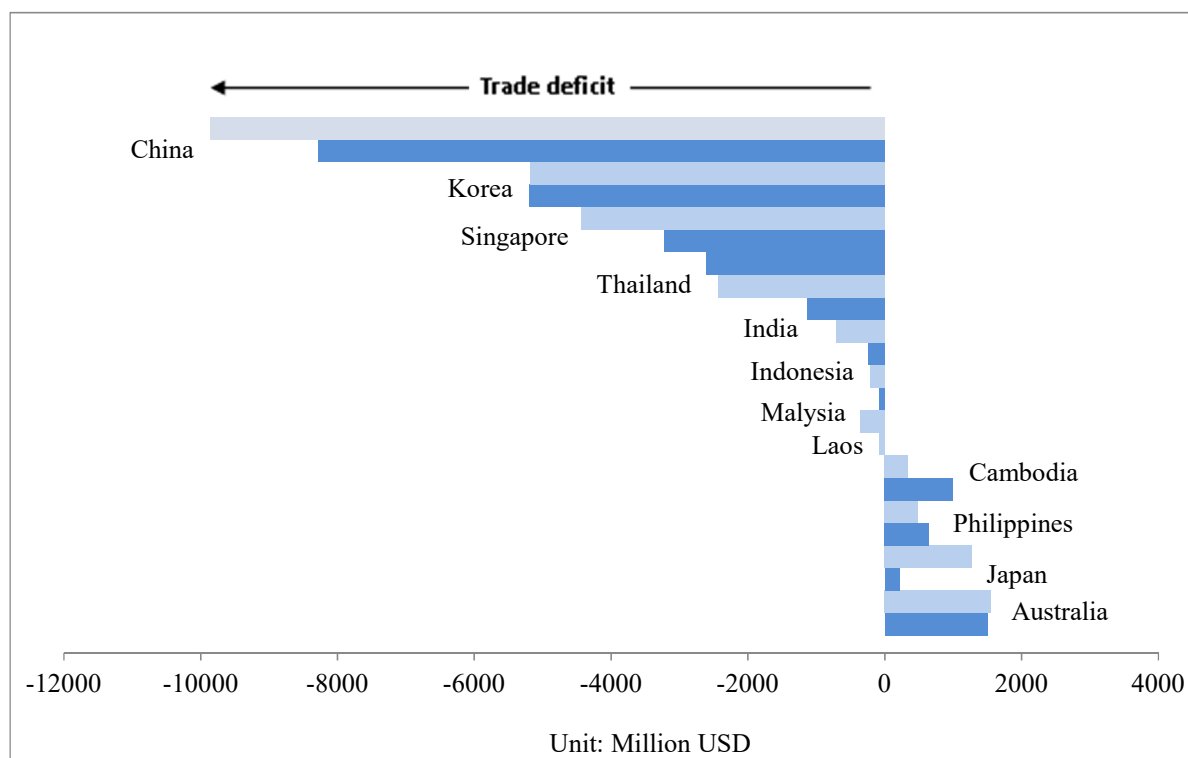
Before considering the other multipliers, it is important to analyse Vietnam's international trade balance and the changes in Vietnam's trade deficit with the five trading groups before and after the FTAs.

Figure 12: Vietnam's trade to the five trading groups before and after the FTA



Source data: Trade Map

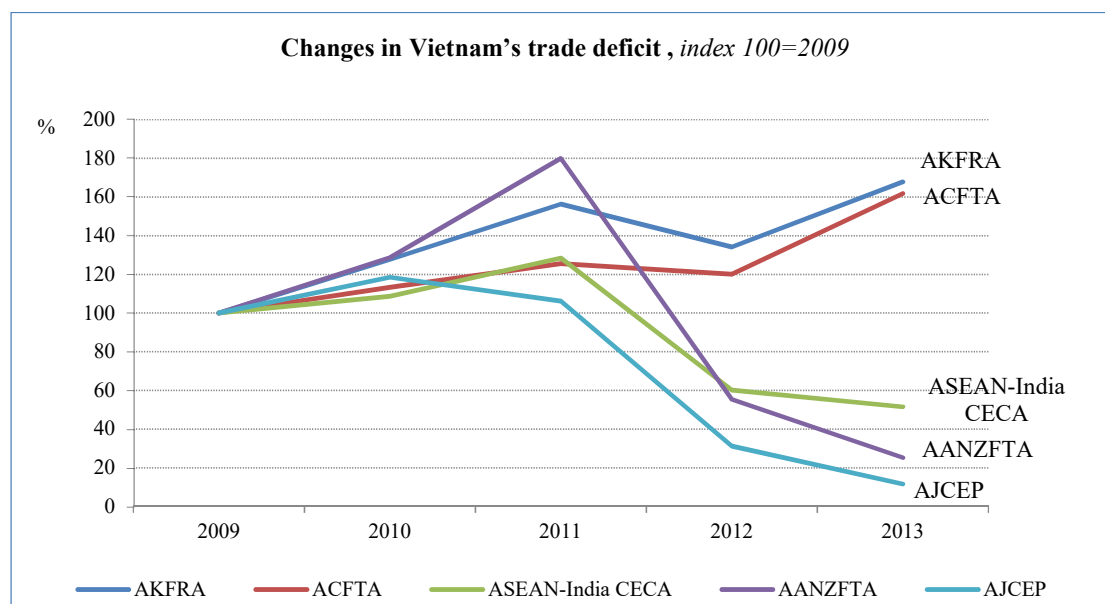
Figure 13: Trade surplus and deficit by country



Source data: Trade Map

Note: there are two colors in the table: dark blue which is based on Vietnamese data and light blue is based on data from the other trading partners.

Figure 14: Changes in Vietnam's trade deficit to the five partners after the FTA



Trade data: Trade Map

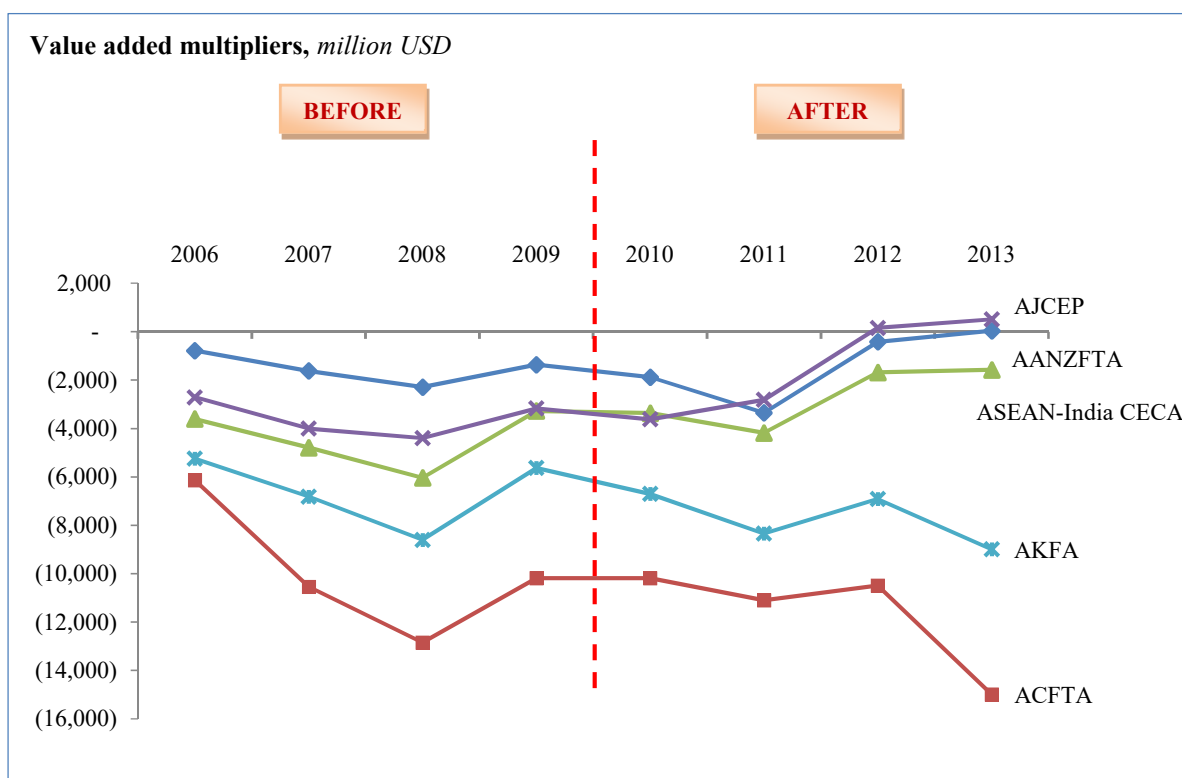
Note: The 2009 is used as the base year (equal to 100). Vietnam exports in the four years following the enforcement of the FTAs is given.

It is clear from Figures 12 and 13 that Vietnam has had an upward trend in its international trade deficit with the five trading partners, particularly China and Japan. Figure 14 also shows a large deficit with ASEAN partners Singapore and Thailand.

In conclusion, while Vietnam’s export flows to the five trading agreement have had overall positive impacts on the Vietnamese economy, particularly in the form of increased exports, but the import flow from these FTAs have had a negative impact on Vietnam’s economy. The result has been a persistent and worsening deficit for Vietnam, especially with the ACFTA and AKFTA.

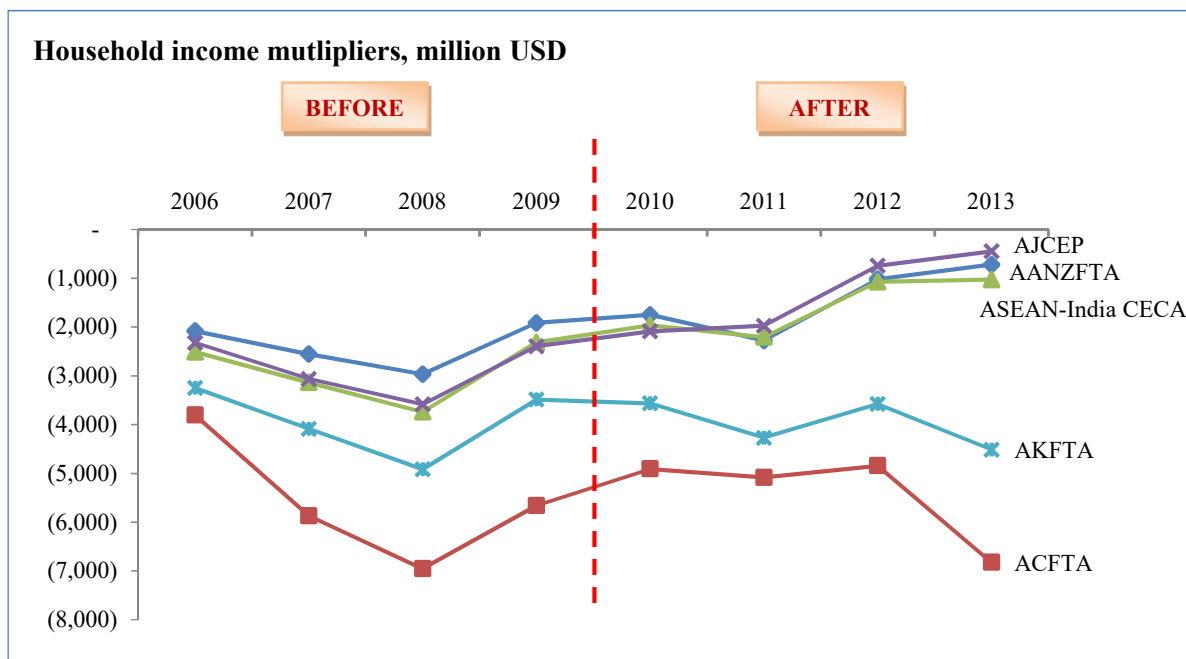
We now consider value-added, income and employment multipliers based on the Extended I-O Models for 2007 and 2011. The analysis in Figures 15,16, and 17 shows that the five FTAs have had significant negative effects on the Vietnamese economy, particularly on employment. The effects of the ACFTA and AKFTA are particularly large and have an upward trend. The effects of the AJCEP, AANZFTA and ASEAN-India CECA are improving.

Figure 15: Value Added Multipliers



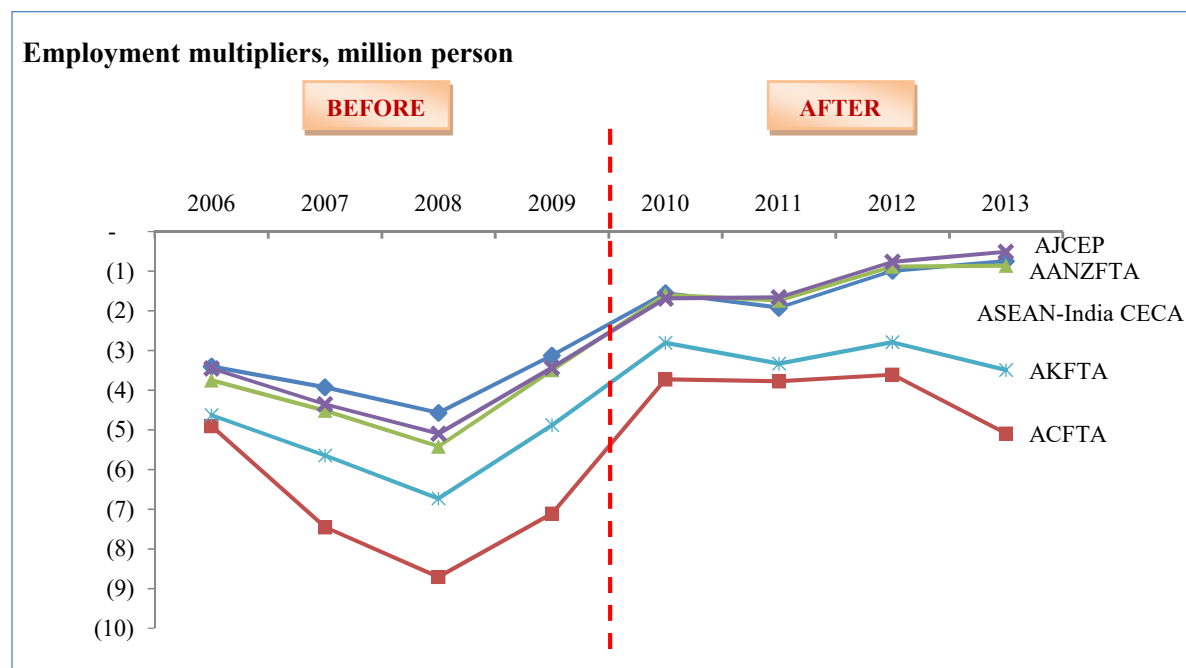
Source data: Trade Map, General Statistics Office and Central Institute for Economic Management of Vietnam

Figure 16: Household Income Multipliers



Source data: Trade Map, General Statistics Office and Central Institute for Economic Management of Vietnam

Figure 17: Employment Multipliers



Source data: Trade Map, General Statistics Office and Central Institute for Economic Management of Vietnam

4. Trade indicators

In this section, we use the five trade indicators to examine whether pairs of economies are complementary or competitive. Again we focus on five dialogue partners: Australia and New Zealand, China, India, Japan, and Korea.

Table 1: Revealed symmetric comparative advantage – FTA

RSCA of Vietnam relative to:	AANZFTA		ACFTA		ASEAN_INDIA CECA		AJCEP		AKFTA	
	Before	After	Before	After	Before	After	Before	After	Before	After
Agriculture, forestry and fishing	0.47	0.33	0.71	0.66	0.53	0.40	0.73	0.62	0.67	0.57
Mining	0.18	(0.36)	0.69	0.37	0.45	(0.00)	0.64	0.18	0.57	0.11
Manufactures	(0.08)	0.03	(0.14)	(0.06)	(0.11)	(0.03)	(0.14)	(0.05)	(0.13)	(0.04)
Utilities	(0.97)	(1.00)	(0.95)	(1.00)	(0.99)	(1.00)	(0.96)	(1.00)	(0.97)	(1.00)

Source data: Trade Map

	RSCA > 0 and After > Before	→ comparative advantage and trend to increase
	RSCA > 0 and After ≤ Before	→ comparative advantage
	RSCA < 0	→ no comparative advantage

Table 2: Bilateral trade intensity index – FTA

TII between Vietnam and:	AANZFTA		ACFTA		ASEAN_INDIA CECA		AJCEP		AKFTA	
	Before	After	Before	After	Before	After	Before	After	Before	After
Agriculture, forestry and fishing	1.66	2.08	2.35	1.84	1.25	1.94	0.89	1.20	1.35	1.65
Mining	9.85	6.48	2.80	1.86	2.91	1.69	2.53	2.54	2.88	2.68
Manufactures	2.32	2.07	1.53	1.55	2.17	2.02	3.08	2.59	2.26	2.26
Utilities	-	-	-	-	-	-	-	-	-	-

Source data: Trade Map

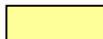
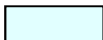

	TII After ≥ 1 and After > Before	→ bilateral trade flows larger than expected, trend to increase
	TII After ≥ 1 and After \leq Before	→ the important relative trading partner of VN
	TII After < 1	→ bilateral trade flows larger than expected
		→ bilateral trade flows smaller than expected

Table 3: Trade specialisation index – FTA

TSI between Vietnam and:	AANZFTA		ACFTA		ASEAN_INDIA CECA		AJCEP		AKFTA	
	Before	After	Before	After	Before	After	Before	After	Before	After
Agriculture, forestry and fishing	(0.33)	(0.25)	0.33	0.43	(0.34)	(0.12)	(0.11)	0.05	(0.13)	0.03
Mining	0.94	0.60	0.89	0.58	0.88	0.39	0.92	0.65	0.90	0.56
Manufactures	(0.46)	(0.17)	(0.60)	(0.40)	(0.50)	(0.18)	(0.35)	(0.14)	(0.53)	(0.34)
Utilities	(1.00)	(1.00)	(1.00)	(1.00)	(1.00)	-	(1.00)	(1.00)	(1.00)	(1.00)

Source data: Trade Map

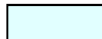

	TSI > 0.5 and After \leq Before	→ trade specialisation
	TSI < 0.5	→ no trade specialisation

Table 4: Intra–industry trade index – FTA

IIT between Vietnam and:	AANZFTA		ACFTA		ASEAN_INDIA CECA		AJCEP		AKFTA	
	Before	After	Before	After	Before	After	Before	After	Before	After
Agriculture, forestry and fishing	0.67	0.75	0.67	0.57	0.66	0.88	0.89	0.95	0.87	0.97
Mining	0.06	0.40	0.11	0.42	0.12	0.61	0.08	0.35	0.10	0.44
Manufactures	0.54	0.83	0.40	0.60	0.50	0.82	0.65	0.86	0.47	0.66
Utilities	-	-	-	-	-	-	-	-	-	-

Source data: Trade Map

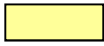
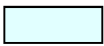
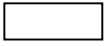
	IIT > 0.5 and After > Before	→ intra–industry trade and trend to increase
	IIT > 0.5 and After ≤ Before	→ intra–industry trade
	IIT < 0.5	→ no have intra–industry trade

Table 5: Trade complementarity index – FTA

TCI between Vietnam's exports and:	AANZFTA		ACFTA		ASEAN_INDIA CECA		AJCEP		AKFTA	
	Before	After	Before	After	Before	After	Before	After	Before	After
Agriculture, forestry and fishing	0.96	0.97	0.97	0.98	0.96	0.97	0.97	0.97	0.96	0.97
Mining	0.96	0.99	0.98	0.95	0.99	0.95	1.00	0.94	0.99	0.96
Manufactures	0.92	0.98	0.92	0.98	0.95	0.98	0.97	0.97	0.95	0.99
Utilities	-	-	-	-	-	-	-	-	-	-

Source data: Trade Map

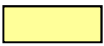
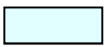
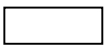
	After > Before	→ trade complementarity increase
	After ≤ Before	→ trade complementarity
	-	→ no trade complementarity

Table 1 describes the relationship between Vietnam's exports and the partners' exports to other countries, while Tables 2, 3, 4, and 5 describe the relationship between Vietnam's exports with each trading partner. Thus, the RSCA in Table 1 provides the best indicator of the impact of the FTAs on trade from Vietnam. The remaining indexes (TII, TSI, IIT and TCI) give secondary information. We conclude from this data that the Australia/New Zealand was complementary with Vietnam, while the other partners are all competitive economies, particularly India, China and Korea.

We note also from Table 1 that Vietnam has an advantage in the Agriculture, forestry and fishing sectors, with a smaller advantage in Mining. Vietnam has a significant competitive advantage in Manufacturing compared to Australia/New Zealand, but little advantage compared to the other DPs. This reflects the complementarity of these two economies.

5. Conclusion

Some claims are made that Free Trade Agreements with select trading partner will always benefit Vietnam. This may be true in the long term, but our data indicates an overall negative effect on the Vietnamese economy in the period 2011-2013, particularly for employment. The effects of the ACFTA and AKFTA are particularly large and have an upward trend. The effects of the AJCEP and AANZFTA are improving.

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