Trade Creation or Trade Diversion in ASEAN and ASEAN+6 FTAs: Trade Indicators Approach

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Abstract

This paper makes use of two trade indicators, Revealed Comparative Advantage (RCA) and Regional Orientation (RO), to evaluate the economic impacts of the ASEAN Free Trade Area (The) and the Regional Comprehensive Economic Partnership (RCEP) on Vietnamese commodities at the Harmonized System (HS) 2-digit level. Several sectors in which Vietnam has revealed a comparative advantage, has benefited from the AFTA, and would continue to enjoy trade creation from the RCEP, are: Cereals (10), Salt, sulphur, earth, stone, plaster, lime and cement (25), Rubber (40), Knitted or crocheted fabric (60), etc. More importantly, the result provides a list of commodities in which Vietnam has a comparative advantage and only experiences trade creation when participating in the RCEP. These are: Milling products, malt, starches, inulin, wheat gluten (11), Vegetable plaiting materials, vegetable products not elsewhere specified (14), Wood and articles of wood, wood charcoal (44), etc. Findings also show commodities in which Vietnam has a comparative advantage; but are not well positioned in the RCEP market yet, e.g. Cereal, flour, starch, milk preparations and products (19) and Manmade staple fibres (55). If sufficient investment decisions and marketing strategies are applied to these commodities, they will well penetrate the RCEP market and bring trade creation and welfare improvement to Vietnam. Public and private investment should consider the above-mentioned commodities as targets to leapfrog the benefits of RCEP.

Keywords*:* Regional trade agreement; ASEAN; RCEP; impact assessment; trade indicators.

1. Introduction

We are living in a world of economic integration. Economic integration generally refers to a staged process through which a group of countries gradually coordinate or merge their economic policies over time. The objective of economic integration is to lower trade barriers and other economic obstacles between countries, thereby expanding markets and trade, lowering prices, and improving the competitiveness of trade partners through lower costs and economies of scale. For some economic integration arrangements, the ultimate goal is a single market in which there is a free flow of goods, services, capital and labor, and harmonization of economic and monetary policies. In other cases, member countries design the arrangement to be a free trade area, a customs union, or a common market, with no intentions to integrate further. Integration can be either political or economic, and the distinction between the two often blurs.

A free trade area is one of the most popular forms of economic integration, which involves eliminating barriers to intra-group trade while allowing each country to maintain its own nationally determined barriers to trade with non-members. A free trade area may apply to all goods or to only a specific list of goods.

East Asia used to be relatively slow in the worldwide boom of regionalism. By the year 2000, only two FTAs had been successfully concluded in extended East Asia: Australia – New Zealand Closer Economic Relations (CER) and the ASEAN Free Trade Area (AFTA). However, since then, the area has become one of the most active regions in FTA networking. By the beginning of 2013, according to data from the Asian Development Bank,[1] the number of FTAs participated in by countries in the region has reached 179, including those under negotiation. For Vietnam, there are two important FTAs in the region that are the most significant to us: the existing AFTA and the hopefully upcoming RCEP. Evaluating impacts of these FTAs to the Vietnam economy is very important.

There are several methods to assess impacts of FTA: trade indicators, partial equilibrium simulation, general equilibrium simulation, and econometrics analysis… This paper adopts the simplest method, using trade indicators to assess the well-established impacts of the AFTA and RCEP on Vietnam at the sectoral level. The purpose of the research is to identify commodities/sectors that Vietnam should pay attention to when negotiating and participating in RCEP. The paper includes 6 sections. Section 2 describes the FTA proliferation in the region. Section 3 brings about theoretical impacts of the FTA. Section 4 introduces the method to evaluate the FTA by using trade indicators. Section 5 provides results of the impact assessment of the AFTA and RCEP on Vietnam. Section 6 discusses policy implications and concludes the paper.

2. FTA proliferation in East Asia[2]

In East Asia, there is a delay in FTA connections among China, Japan, and South Korea due to long lasting political and historical reasons. ASEAN has taken advantage of this and has made a tremendous effort to stay in the driver's seat of East Asian economic integration (Kimura, 2010, 45). The ASEAN Free Trade Area (AFTA) came into force in January 1993. ASEAN now seeks deeper economic integration under the initiative of the ASEAN Economic

Community (AEC). The AEC Blueprint (Blueprint), which was adopted by ASEAN leaders in November 2007, defines the goal of economic integration as the free movement of goods, services, investment, and skilled labor, and the freer flow of capital among member countries by 2015.[3] According to the Blueprint, the AEC economic integration will create "(a) a single market and production base, (b) a highly competitive economic region, (c) a region of equitable economic development, and (d) a region fully integrated into the global economy."[4]

However, an integrated ASEAN still has a smaller nominal gross national product (GNP) than either the European Union (EU) or the North American Free Trade Agreement (NAFTA) does. Hence, ASEAN has to be outward looking and readily accept proposals for FTAs from major and rising economic powers. As set in Pillar 4 in the AEC Blueprint, the development of FTA networks with ASEAN's Dialogue Partners has been an integral part in the AEC design. As a result, ASEAN is currently engaged in ASEAN+1 agreements with Australia–New Zealand, China, India, Japan, South Korea, and the EU, making ASEAN a de facto FTA hub. Moreover, ASEAN is taking further steps to establish a Regional Comprehensive Economic Partnership (RCEP), which was formerly called "ASEAN++ FTA" and will bring larger advantages for ASEAN countries. The following section will provide an overview of the existing ASEAN+1 FTAs and basic facts of the RCEP initiative.

The five ASEAN+1 FTAs were signed in different time periods. By the time the ASEAN leaders adopted the AEC Blueprint (2007), ASEAN had signed FTAs with China (trade in goods and services) and Korea (trade in goods). In 2008, the ASEAN –Japan Comprehensive Economic Partnership (AJCEP) agreement was signed. The ASEAN – Australia-New Zealand FTA (AANZFTA), covering trade in goods, services and investment was agreed to in February 2009, followed by the ASEAN – India FTA (AIFTA; trade in goods) in August 2009. With this, ASEAN "completed" the ASEAN+1 FTAs with the six FTA Partners, which covered all the East Asia Summit members as of 2009. Importantly, each of these ASEAN+1 FTAs differs in terms of way of negotiation and economic coverage.

The completion of the ASEAN+1 FTAs is one of the most significant achievements in ASEAN's external economic policy since 2007. However, they still face several fundamental challenges. The coexistence of five ASEAN+1 FTAs, as well as many separate bilateral FTAs of ASEAN's members and partners, gives rise to a concern over the emergence of a complicated trading system, or the spaghetti/noodle bowl effect, which may reduce trade by raising trade costs. Recognition of such concern by East Asian countries has resulted in the discussions over establishing a region–wide FTA. The ASEAN Members, China, Japan, Korea, India, Australia, and New Zealand (ASEAN+6 countries) have agreed to launch negotiations for a region–wide FTA under the name of the Regional Comprehensive Economic Partnership (RCEP).

The Regional Comprehensive Economic Partnership (RCEP) is a FTA negotiation that has been developed among 16 countries: the 10 members of ASEAN and the 6 countries with which ASEAN has existing FTAs – Aus-

tralia, China, India, Japan, South Korea, and New Zealand. When completed, the agreement will comprise 16 countries, which represent over 45% of the world population (3,435 million in 2013) and contribute about a third of the world's GDP (US$21.3 trillion, in 2013), and make up almost 30% of world exports (WEF, 2014, 33).

Since the 1997–1998 East Asian Financial Crisis, proposals for ASEAN–centred regional economic integration have included a 2001 proposal to establish an ASEAN+3 (China, Japan and the Republic of Korea) East Asia Free Trade Area (EAFTA) and Japan's 2006 proposal to establish an ASEAN+6 Comprehensive Economic Partnership in East Asia (CEPEA), which would include Australia, India and New Zealand. A Joint Expert Group for the EAFTA viability study was formed based on the decision reached during the ASEAN+3 economy ministers' meeting in 2004 and on the approval of the ASEAN+3 summit meeting. Meanwhile, another joint research with the participation of the experts from ASEAN+6 was started with the proposal made by Japan, almost at the same time as when the 2nd EAFTA's joint research was being carried out. Results of the 2nd EAFTA's joint research and CEPEA's joint research were reported almost around the same time in August 2009. At the Fourth East Asia Summit in October 2009, officials were tasked to consider the recommendations of both the EAFTA and CEPEA studies. In November 2011 ASEAN ended the debate by proposing its own model for an ASEAN–centred regional FTA – the Regional Comprehensive Economic Partnership (Australia, Department of Foreign Affairs and Trade, 2012).

In November 2012, RCEP negotiations were launched in Phnom Penh. *The 1st round* of RCEP negotiations was held on 9–13 May 2013 in Bandar Seri Begawan, Brunei. The round focused on developing a clear framework for negotiations on goods, services and investment in line with the agreed Guiding Principles (ASEAN, n.d.).[5] The meeting established a Working Group on Trade in Goods, a Working Group on Trade in Services and a Working Group on Investment. Delegates also held an initial exchange of views on other issues listed in the Guiding Principles. Australia hosted *the 2nd round* of RCEP negotiations on 23–27 September 2013 in Brisbane. The meeting agreed to establish two new sub–Working Groups on ROOs and customs procedures and trade facilitation to commence work at the third round. Discussions also took place on competition policy, intellectual property, economic and technical cooperation, dispute settlement and other issues in line with the agreed RCEP Guiding Principles.

Malaysia hosted *the 3rd round* on 20–24 January 2014 in Kuala Lumpur. The participating countries agreed to establish four new working groups on economic and technical cooperation, competition, intellectual property and dispute settlement. China hosted *the 4th round* of negotiations of the RCEP – a round characterized by deepening discussions across negotiating groups and a sharpened focus on the RCEP's scope and levels of ambition for market access. Singapore hosted *the 5th round*, in which new negotiating groups on legal and institutional issues, sanitary and phyto–sanitary measures, and standards, technical regulations and conformity assessment procedures, met for the first

time. Negotiations on goods, services, investment, economic and technical cooperation, intellectual property, ROOs, customs procedures and trade facilitation continued to intensify as officials sought to narrow differences.

The *6th* round of the RCEP Trade Negotiation Committee (TNC) and related meetings took place December 1-5, 2014 in New Delhi, India. The *7th* round of RCEP meetings took place in Bangkok February 9-13, 2015. An expert group on electronic commerce met during this round. The Asian Trade Centre (based in Singapore) submitted a proposal regarding an e-Commerce chapter and gave a presentation on the paper. The *8th* round of the RCEP talks took place in Kyoto, Japan on June 5-13. The *9th* round of the RCEP negotiations took place in Nay Pyi Taw, Myanmar, on 1-7 August 2015. This round saw Lead Negotiators made an intensive, but ultimately unsuccessful, effort to agree on the modalities for initial offers for tariff elimination for trade in goods. In services, negotiators began discussing the submitted initial offers for scheduling services commitments, and among other things agreed to submit requests before the next round. Preliminary discussions on the forward work plan for the newly established Sub-Working Groups on Financial Services and Telecommunications took place. Negotiations continued in Intellectual Property, Competition, Economic and Technical Cooperation and Legal and Institutional Issues. The first formal meeting of the Working Group on Electronic Commerce was held at this round. New Zealand hosted an informal and voluntary experts' seminar on government procurement. The 3rd RCEP Ministerial Meeting was held in Kuala Lumpur on 24 August 2015. Significant progress was made on trade in goods, with Ministers able to reach a final decision on the modality for initial tariff offers. Substantive market access negotiations are expected to occur in all areas at the next round. Ministers also recognised that the RCEP negotiations should be extended with remaining issues to be resolved in 2016.

Recognizing the ASEAN Framework for the RCEP, the objective of launching RCEP negotiations is to achieve a modern, comprehensive, high quality and mutually beneficial economic partnership agreement that will cover trade in goods, trade in services, investment, economic and technical cooperation, intellectual property, competition, dispute settlement and other issues among the ASEAN Member States and ASEAN's FTA Partners. The RCEP will broaden and deepen current engagement that has already been achieved through the existing ASEAN+1 FTAs. Compatibility with WTO trade rules on goods and services is also a principle for RCEP negotiations.

As a broad-based, region-wide FTA to be formed by 16 East Asian countries, the RCEP is highly expected to help mitigate the harmful noodle bowl effects. However, the construction of the RCEP may be difficult because of differences in patterns of tariff elimination and ROOs adopted ASEAN+1 agreements. Under tariff elimination, the RCEP is expected to minimize the variation among the five ASEAN+1 FTAs and commit to eliminating more than 90–95 per cent of tariff lines. That commits all member countries to make substantial efforts. Moreover, the RCEP tariff elimination time period has to be consistent with that found in current ASEAN+1 FTAs. If tariff elimination

for the RCEP takes a much longer time than the current ASEAN+1 FTAs, most users in participating countries would not be able to enjoy the fruits of the RCEP until its completion. Regarding ROOs, there is substantial commonality in ROOs across ATIGA and ASEAN+1 FTAs covered (except AIFTA) although considerable variation still exists. The ideal scenario that would provide an enabling environment for the value chain in East Asia is harmonization of the ROOs of the ASEAN+1 FTAs. Therefore, harmonization of ROOs of the ASEAN+1 FTAs could be set as one of the ultimate goals of the RCEP construction and negotiation process. The direction of harmonization should be towards highly liberal ROOs and minimum costs of ROO compliance (Medalla, 2011, 26).

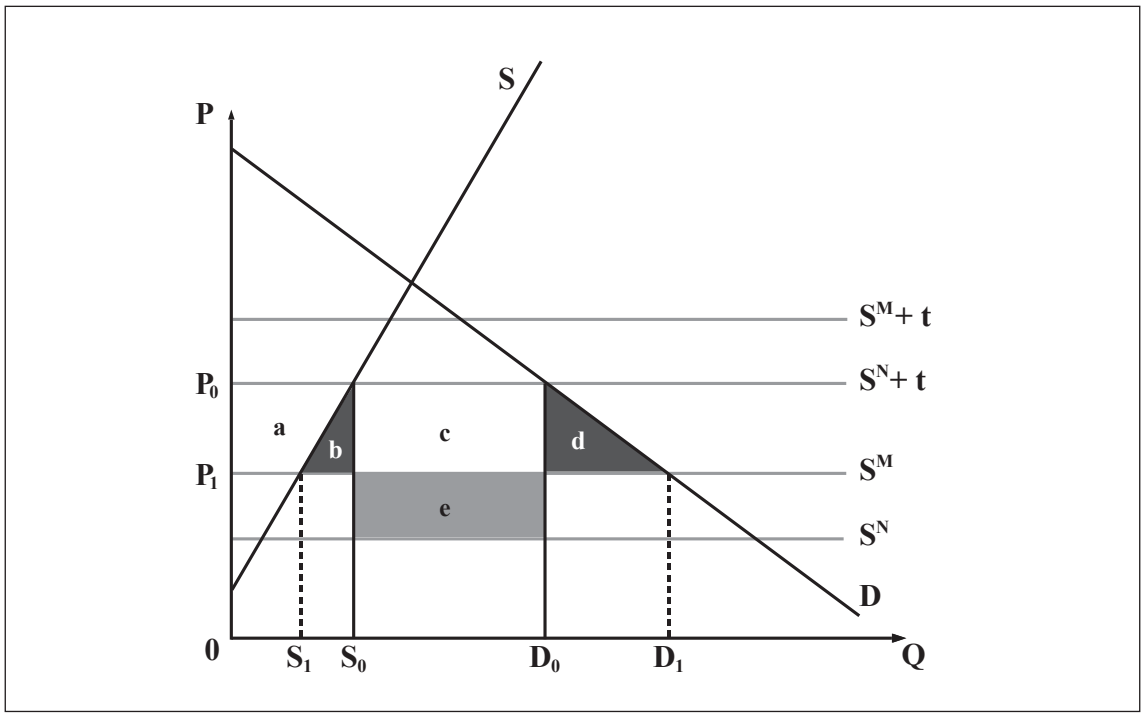
3. Theoretical impacts of an FTA

The formal analysis of the economic impacts of integration began with the work of Jacob Viner in the 1950s (Viner, 1950). To understand the effect of economic integration on members, non-members and the world economy, we have to make use of the concepts of trade creation and trade diversion developed by Viner (1950). The welfare effects of economic integration are ambiguous and vary case by case because economic integration is simultaneously a move toward freer trade (with members) and a policy of protection (against non-members). The trade-liberalization element of integration is called *trade creation*. Integration reduces or eliminates protectionist measures among members and allows them to specialize and trade according to comparative advantage and to exploit potential economies of scale. Meanwhile, the trade-discrimination and protectionist element of integration is called *trade diversion*. This refers to the diversion of trade from non-members to members caused by the built-in discrimination feature of economic integration. If trade creation exceeds trade diversion, economic integration increases member countries' welfare. If trade diversion dominates trade creation, members' welfare falls because of economic integration.

Figure 1 demonstrates welfare effects upon forming or participating, for example, a free trade area, from the perspective of a small country. D and S represent the considered country's domestic demand for and supply of good X, respectively. S^M denotes the supply of exports of good X from other countries that would be members of the free trade area, S^N denotes the supply of exports of good X from countries that would be non-members. Before integration, imports of good X from all countries are subject to a tariff of t per unit. With the tariff, $S^M + t$ and $S^N + t$ represent the effective supply curves for imports from the two possible sources. In this case, it is assumed that non-members supply the good X at a lower price than do members. Graphically, this is reflected by the fact that S^N lies below S^M, or equivalently, $S^N + t$ lies below $S^M + t$. Initially, the price of good X in the domestic market of this small country is P_0, at which residents of the country consume D_0 units of good X, S_0 are produced domestically and $(D_0 - S_0)$ are imported from countries that would be non-members if the free trade area is created.

After formation of a free trade area, the effective supply curves are S^M (because imports from member countries no longer are subject to the tariff) and $S^N + t$ (because imports from non-members remain subject to the tariff). The

Figure 1: Welfare effects of a free trade area in Good X – A small country case



new equilibrium of the domestic market of this small country is at price P_1. At this price, D_1 units of good *X* are consumed domestically, domestic producers supply S_1 units of good *X*, and $(D_1 - S_1)$ are imported, but now from member countries.

Domestic consumer surplus rises by area $(a + b + c + d)$, while domestic producer surplus falls by area *a*. The government no longer collects any tariff revenue, since all imports now come from member countries of the free trade area without tariff. The total tariff revenue that belongs to the government before integration is represented by area $(c + e)$. Area *c*, which previously went to government as a part of tariff revenue, now goes to consumers in the form of a reduced price for good *X*. Area *b* is a net gain from increased efficiency, the units of *X* between S_0 and S_1 previously were produced domestically at relatively high costs (represented by the height of the domestic supply curve *S*) but now are imported at lower costs (represented by the height of S^M). This efficiency gain captures one part of economic integration's trade creation effect. Area *d* denotes the other trade creation effect. As the free trade area makes lower cost imports available, consumption increases from D_0 to D_1. For each additional unit of consumption, the value to consumers (represented by the height of the demand curve *D*) exceeds the opportunity costs of production (represented by the height of S^M). The total trade creation effect of the free trade area equals the sum of triangle *b* and *d*.

Area *e* in Figure 1 illustrates the trade diversion effect of economic integration. Before integration, all imports came from non-member countries, the low-cost producers of good *X*. After integration, all imports come from higher-cost member country producers. The switch from low-cost to high-cost sources of imports represents trade diversion. Area *e* was a portion of the tariff revenue going to the domestic government before integration and it becomes a deadweight loss after integration. Each unit of imports between S_0 and D_0 now is being produced at an opportunity cost represented by the height of S^M rather than the lower opportunity cost given by the height of S^N.

The overall effect of the free trade area on the small member country's welfare can be determined by comparing the trade creation and trade diversion effects. If trade creation dominates, formation of a free trade area enhances welfare; if trade diversion exceeds trade creation, national welfare decreases. Economists estimate the overall impact of integration by calculating the effects represented by areas *a, b, c, d* and *e* in Figure 1 for each good traded.

Note that there will be no trade diversion effect if member countries include the low-cost producers of good *X*. And in this situation, integration will unambiguously increase welfare (to see this, switch the labels of S^M and S^N to each other, and of $S^M + t$ and $S^N + t$ to each other in Figure 1). Note also that if the tariff is low enough to make the tariff–inclusive price of imports from non-member countries still lower than the price of tariff–free imports from member countries, the free trade area will have no trade creation or trade diversion effects – because no trade will occur with member countries even if the group does form.

4. FTA impact assessment by trade indicators

It is not an exaggeration to say that policy making in connection with free trade agreements (FTAs) should start and end with impact assessment (ADB, 2008, 109–134). Conducting solid economic studies of FTA impact assessment is important for participating countries, because they need to draw up the necessary adjustment policies to alleviate possible negative effects and maximize possible benefits from FTAs. There are various kinds of impact evaluation methods, which are usually complementary to each other. Some methods focus on effects at the macroeconomic level, while others focus on industry-level impacts. Some are simple indicators constructed from trade data or information obtainable at the customs office, while others are based on sophisticated econometric models. In general, impact evaluation can be divided into two broad categories: ex-ante and ex-post evaluation of an FTA.

At the initial stages of creating an FTA, an assessment of the potential costs and benefits of the prospective FTA (an ex-ante evaluation of the FTA) is a prerequisite for shaping the FTA's objectives, informing consultations with public and private stakeholders, and formulating effective negotiating strategies. This paper makes use of trade indicators to draw specific inferences about the potential effects of joining an FTA. A trade indicator is an index or a ratio used to describe and assess the state of trade flows and trade patterns of a particular economy (Mikic and Gilbert, 2007). These indicators are easily constructed with a country's trade statistics, which are readily available from na-

tional statistical offices or international sources.

This paper employs the two trade indicators – revealed comparative advantage (RCA) and regional orientation (RO).

4.1. Revealed comparative advantage (RCA)

International trade theory states that gains from trade come from specialization in a country's comparative advantage (i.e., sectors in which a country produces relatively more efficiently than in other sectors). The RCA index, introduced by Balassa (1965), can be used to discover the products in which a country has a comparative advantage. It is defined as the ratio of a country's share of the commodity in the country's total exports to the share of world exports of the commodity in total world exports. A country is said to have a revealed comparative advantage if the value of the index exceeds one and a revealed comparative disadvantage if the index's value is below one. The larger the difference between countries' RCA indices, the more suitable they are as FTA partners. The formula for the RCA index is:

$$RCA_{cg} = (X_{cg} / X_c) / (X_{Wg} / X_W)$$

where

X_{cg} = exports of good g by country c;

X_c = total exports of country c;

X_{Wg} = world exports of good g;

X_W = total world exports.

Measures of RCA have been used to help assess a country's export potential. An RCA greater than unity suggests a revealed comparative advantage and less than unity suggests a revealed comparative disadvantage.

4.2. Regional orientation (RO)

The regional orientation (RO) index tells us whether a country's exports of a product are more oriented towards a particular region than to other destinations. It is defined as the ratio of two shares. The numerator is the share of the country's exports of the product to the region of interest in the country's total exports to the region. The denominator is the share of the country's exports of the product to other countries in the country's total exports to other countries. If the index has a value greater than 1, this implies that the country has a regional bias in exports of the product. Conversely, if the index is less than 1, then the country has no regional bias. The formula for the regional orientation index is:

$$RO_{cgr} = [X_{cgr} / X_{cr}] / [X_{cg-r} / X_{c-r}]$$

where

X_{cgr} = exports of good g by country c to region r;

X_{cr} = total exports of country c to region r;

X_{cg-r} = exports of good g by country c to countries outside region;

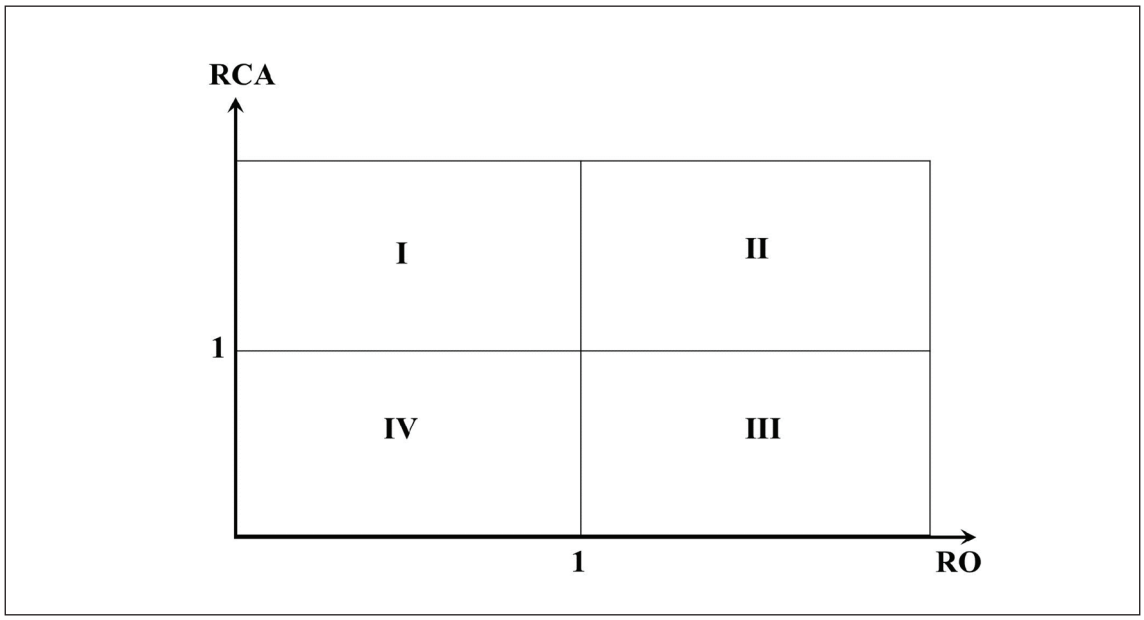
X_{c-r} = total exports of good g to countries outside region r.

4.3. RCA, RO and impact assessment

For each sector, the two indexes are combined in order to discover effects on the sector (trade creation, trade diversion, etc.) after an FTA. The matrix of combination between the two indexes is presented in Figure 2. Each commodity sector will be in one of four quadrants with different interpretation of the FTA effects as follows:

- *High potential welfare improvement - Quadrant I (RCA>1 and RO<1):* If a country's

Figure 2: Matrix based on RCA and RO indexes



RCA index is more than 1 and its RO index is less than 1, there may be two possible ways of interpretation. (i) For a signed and implementing FTA (like the AFTA – ASEAN Free trade agreement), it is the case that the participating country can not utilize the FTA in order to direct its exports to the region even if it has comparative advantage. This situation may reflect the weakness of the FTA in the sense of promoting intra-regional trade. (ii) For a proposed FTA (like RCEP), this category is the collection of commodities that the country enjoys the comparative advantage of but have not been exported much to the region. The proposed FTA may change the situation so that the country's exports can be more regionally oriented by providing the country with more preferential treatment.

- *Trade creation - Quadrant II (RCA>1 and RO>1):* If a country's RCA index is more than 1 and its RO index is more than 1, then an FTA between the country and the region should continuously encourage the country's export to the region. This country may enjoy the trade creation meaning the expansion of its exports to the FTA member countries.

- *Trade diversion - Quadrant III (RCA<1 and RO>1):* If a country's RCA index is less than 1 and its RO index is more than 1, then an FTA between the country and the region may cause trade diversion. This country may replace non-member countries as the source of the region's imports.

- *Possible potential welfare improvement - Quadrant IV (RCA<1 and RO<1):* If a country's RCA index is less than 1 and its RO index is less than 1, there may be two possible ways of interpretation. (i) For a signed and implementing FTA, there is no hope for the sectors

in this category because they cannot export to the region, even though the country may enjoy trade preferential treatment of the FTA. (ii) For a proposed FTA, there may be still a hope for the commodities in this category to move to quadrant III by investing more in the sectors and negotiating for preferential trade conditions through the FTA.

5. Impacts of AFTA and RCEP on Vietnam at sectoral level

In this paper, the RCA and RO indexes are computed for Vietnamese commodities at the 2-digit level of aggregation during the 4-year period from 2010 to 2013. All data used in this paper is taken from Trade Map.[6] Trade Map is an interactive online database on international trade statistics developed by the International Trade Centre UNCTAD/WTO (ITC). The yearly data in Trade Map for products at 2, 4, and 6-digit level of the Harmonized System are mainly based on UN Comtrade,[7] the world's largest database of trade statistics, maintained by the United Nations Statistics Division (UNSD). This data is complemented by national sources when the information is not available in UN Comtrade. The quarterly and monthly data comes from national and regional sources. Data is available also for countries that do not report their national trade statistics to UN Comtrade. The trade of these countries has been reconstructed on the basis of data reported by partner countries. These data are called mirror data.

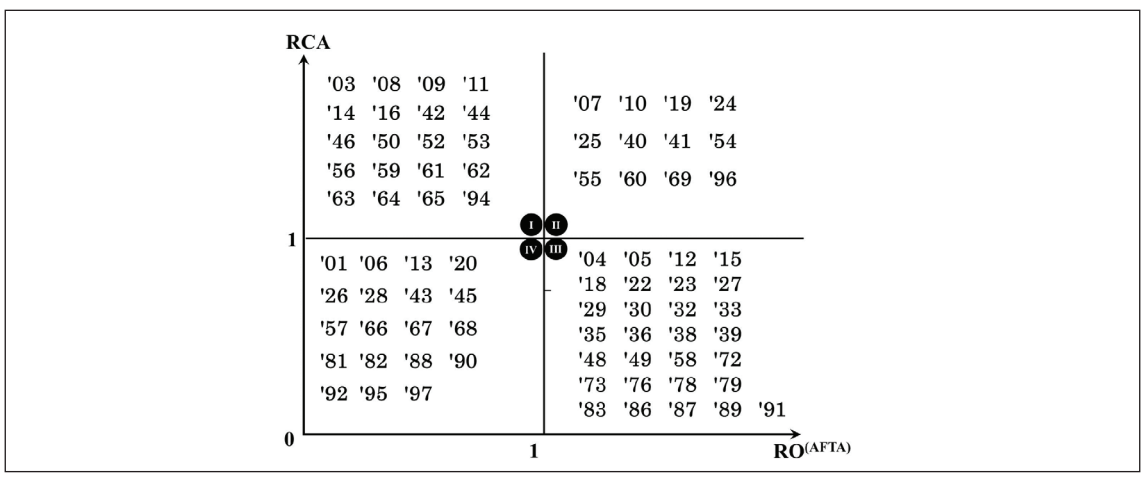
Table 1 reports the industry RCA and RO indexes at the 2-digit product (HS) level for Vietnam.

Based on the calculation result from Table 1, commodities are categorized into 4 quadrants. The matrix is presented in Figure 2. The matrix reflecting the combination between the RCA of Vietnam and the RO of Vietnam regarding the AFTA is shown in Figure 3.

Trade creation effect

As shown in Quadrant II of Figure 3, Vietnam has comparative advantage in some ASE-

Figure 3: Matrix of Vietnam's HS 2-digit commodities based on Vietnam's RCA and RO$^{(AFTA)}$ indexes



Source: Authors' calculation and compilation from Trade Map data

Table 1: RCA index, RO index in ASEAN and RO in RCEP of Vietnam for HS 2-digit commodity sectors

HS	Description	VIETNAM's RCA				RO (VN-ASEAN)				RO (VN-RCEP)			
		2010	2011	2012	2013	2010	2011	2012	2013	2010	2011	2012	2013
'01	Live animals	0.03	0.02	0.03	0.03	0.01	0.25	0.55	0.37	0.62	0.89	0.81	1.04
'02	Meat and edible meat offal	0.08	0.09	0.09	0.05	0.70	0.98	0.93	1.01	0.17	0.18	0.19	0.25
'03	Fish, crustaceans, molluscs, aquatic invertebrates NES	10.42	9.60	8.05	6.79	0.28	0.34	0.34	0.39	0.65	0.63	0.70	0.83
'04	Dairy products, eggs, honey, edible animal product NES	0.28	0.33	0.36	0.32	2.21	0.91	2.81	1.50	0.52	0.27	0.87	0.59
'05	Products of animal origin, NES	0.36	0.39	0.32	0.29	2.03	1.95	0.96	1.10	5.73	2.84	5.35	4.44
'06	Live trees, plants, bulbs, roots, cut flowers etc	0.28	0.25	0.28	0.26	0.34	0.45	0.70	0.27	4.39	3.91	3.97	4.72
'07	Edible vegetables and certain roots and tubers	1.08	1.68	1.90	1.14	0.82	0.72	0.48	1.01	9.86	11.05	15.94	13.94
'08	Edible fruit, nuts, peel of citrus fruit, melons	3.56	3.68	3.50	2.92	0.37	0.30	0.33	0.33	0.75	0.79	0.95	0.92
'09	Coffee, tea, mate and spices	14.31	13.78	15.44	11.81	0.47	0.44	0.48	0.45	0.30	0.26	0.28	0.34
'10	Cereals	8.06	5.86	4.88	3.37	6.63	7.36	3.76	2.02	1.45	1.65	2.16	1.61
'11	Milling products, malt, starches, inulin, wheat gluten	5.67	5.97	7.39	5.76	0.65	0.77	0.98	0.90	17.86	11.49	14.59	21.99
'12	Oil seed, oleagic fruits, grain, seed, fruit, etc, NES	0.26	0.24	0.08	0.08	1.91	0.92	0.77	1.48	0.79	0.41	0.80	2.67
'13	Lac, gums, resins, vegetable saps and extracts NES	0.03	0.09	0.04	0.14	0.23	0.17	0.18	0.37	3.47	4.08	2.83	41.29
'14	Vegetable plaiting materials, vegetable products NES	2.14	2.01	2.99	3.07	0.36	0.34	0.23	0.21	5.17	3.90	11.06	12.02
'15	Animal, vegetable fats and oils, cleavage products, etc	0.26	0.36	0.47	0.36	4.15	3.98	4.52	5.72	4.56	4.62	5.25	6.94
'16	Meat, fish and seafood food preparations NES	5.05	4.90	4.11	4.54	0.21	0.32	0.31	0.28	0.91	0.83	0.95	0.84
'17	Sugars and sugar confectionery	0.55	1.03	0.46	0.97	1.91	0.78	1.85	1.14	2.78	7.94	3.24	9.39
'18	Cocoa and cocoa preparations	0.04	0.05	0.05	0.05	11.80	10.35	9.29	8.18	3.33	2.61	2.54	2.34
'19	Cereal, flour, starch, milk preparations and products	1.28	1.23	1.14	1.05	1.55	1.83	2.01	1.69	0.75	0.77	0.84	0.84
'20	Vegetable, fruit, nut, etc food preparations	0.79	0.66	0.51	0.66	0.24	0.28	0.30	0.28	0.40	0.58	0.55	0.57
'21	Miscellaneous edible preparations	0.44	0.60	0.64	1.01	2.27	2.58	3.41	3.08	1.99	2.04	2.50	2.20
'22	Beverages, spirits and vinegar	0.29	0.39	0.45	0.39	4.87	4.16	5.25	4.85	3.30	3.73	5.36	5.63
'23	Residues, wastes of food industry, animal fodder	0.49	0.55	0.62	0.61	4.85	7.75	5.84	4.53	6.77	7.76	10.91	13.31
'24	Tobacco and manufactured tobacco substitutes	1.25	1.05	1.00	1.01	2.86	3.21	3.66	4.68	1.21	1.35	1.75	2.87
'25	Salt, sulphur, earth, stone, plaster, lime and cement	1.17	1.90	2.31	2.97	1.01	1.44	2.49	2.82	2.65	1.07	0.83	0.99
'26	Ores, slag and ash	0.14	0.13	0.12	0.12	0.03	0.22	0.33	0.18	23.43	11.06	5.39	12.92
'27	Mineral fuels, oils, distillation products, etc	0.71	0.63	0.53	0.41	2.82	1.97	2.06	2.65	17.50	18.28	22.81	17.19
'28	Inorganic chemicals, precious metal compound, isotopes	0.20	0.25	0.31	0.48	0.21	0.31	0.23	0.22	2.22	1.39	2.96	3.55
'29	Organic chemicals	0.12	0.08	0.07	0.06	2.96	2.24	4.49	3.44	6.54	3.94	10.93	5.38
'30	Pharmaceutical products	0.02	0.03	0.03	0.03	3.37	2.62	2.66	3.56	1.56	1.63	1.08	1.22
'31	Fertilizers	0.58	1.16	1.16	0.87	36.68	12.27	15.79	16.10	13.36	4.18	9.20	7.28
'32	Tanning, dyeing extracts, tannins, derivatives, pigments etc	0.11	0.10	0.08	0.09	5.56	7.78	5.29	7.56	2.66	3.25	2.79	3.91
'33	Essential oils, perfumes, cosmetics, toiletries	0.19	0.25	0.29	0.31	3.34	2.94	3.10	2.74	3.68	3.68	4.77	5.60
'34	Soaps, lubricants, waxes, candles, modelling pastes	1.29	1.05	1.08	0.88	1.50	2.03	1.95	2.16	0.61	0.92	0.89	1.05
'35	Albuminoids, modified starches, glues, enzymes	0.59	0.60	0.48	0.40	1.31	1.58	1.54	1.83	8.70	6.93	6.83	7.61
'36	Explosives, pyrotechnics, matches, pyrophorics, etc	0.09	0.03	0.04	0.04	1.14	3.60	1.48	1.32	647.21	-	113.19	5.05
'37	Photographic or cinematographic goods	0.02	0.03	0.07	0.11	7.26	2.34	0.82	0.43	1.53	0.57	0.22	0.20
'38	Miscellaneous chemical products	0.32	0.37	0.39	0.36	2.46	2.61	2.86	3.93	3.07	3.82	3.62	4.13
'39	Plastics and articles thereof	0.58	0.57	0.61	0.58	1.36	1.70	1.81	1.80	1.46	1.31	1.64	1.91
'40	Rubber and articles thereof	3.62	3.19	2.62	2.24	0.63	0.61	1.38	1.60	2.93	2.80	3.01	3.31
'41	Raw hides and skins (other than furskins) and leather	1.70	1.46	1.27	1.10	2.79	2.64	2.02	1.78	3.06	2.34	1.67	1.29
'42	Articles of leather, animal gut, harness, travel goods	3.44	3.28	3.20	3.37	0.08	0.08	0.07	0.09	0.26	0.28	0.27	0.33
'43	Furskins and artificial fur, manufactures thereof	0.06	0.05	0.07	0.08	0.10	0.01	0.00	0.01	0.46	0.13	0.16	0.57
'44	Wood and articles of wood, wood charcoal	1.70	1.98	1.96	2.16	0.24	0.26	0.25	0.25	5.03	6.11	5.71	7.31
'45	Cork and articles of cork	0.02	0.02	0.02	0.01	0.00	0.00	0.53	0.10	-	6.61	-	-
'46	Manufactures of plaiting material, basketwork, etc.	14.22	11.78	10.39	10.35	0.11	0.12	0.10	0.13	0.28	0.28	0.30	0.35

'47	Pulp of wood, fibrous cellulosic material, waste etc	0.04	0.00	0.06	0.10	0.17	5.49	1.31	0.70	14.85	8.44	13.78	250.68
'48	Paper and paperboard, articles of pulp, paper and board	0.47	0.42	0.44	0.40	1.48	1.83	2.01	2.17	1.31	1.18	1.28	1.39
'49	Printed books, newspapers, pictures etc	0.03	0.04	0.06	0.05	2.46	3.75	2.71	2.58	1.01	1.47	2.61	2.45
'50	Silk	2.81	3.11	2.70	2.95	0.92	0.98	0.62	0.97	6.86	4.38	3.49	6.14
'51	Wool, animal hair, horsehair yarn and fabric thereof	0.09	0.11	0.06	0.03	0.28	0.12	0.25	1.18	10.38	4.48	7.33	12.04
'52	Cotton	2.42	2.07	1.97	2.29	0.69	0.81	0.61	0.47	7.42	10.70	14.05	14.53
'53	Vegetable textile fibres NES, paper yarn, woven fabric	1.95	1.92	1.60	1.15	0.11	0.38	0.59	0.42	13.11	20.75	24.40	22.95
'54	Manmade filaments	2.51	2.68	2.38	2.17	1.93	1.60	1.70	1.87	0.74	0.81	0.94	1.19
'55	Manmade staple fibres	2.94	2.93	2.69	2.06	1.25	1.24	0.91	1.09	0.95	0.81	0.65	0.70
'56	Wadding, felt, nonwovens, yarns, twine, cordage, etc	1.28	1.24	1.23	1.17	0.93	0.92	0.81	0.95	1.74	1.80	1.62	1.91
'57	Carpets and other textile floor coverings	0.32	0.26	0.27	0.27	0.13	0.15	0.13	0.14	34.28	14.31	43.28	37.62
'58	Special woven or tufted fabric, lace, tapestry etc	0.58	0.51	0.64	0.58	1.48	2.41	1.95	2.28	1.15	1.52	1.55	1.73
'59	Impregnated, coated or laminated textile fabric	2.69	2.99	2.59	2.52	1.01	0.73	0.66	0.93	1.00	0.95	0.96	0.83
'60	Knitted or crocheted fabric	1.23	1.29	1.18	1.15	10.10	8.70	6.87	10.61	3.78	2.92	2.01	3.19
'61	Articles of apparel, accessories, knit or crochet	5.71	5.30	4.97	4.79	0.03	0.03	0.03	0.04	0.15	0.19	0.20	0.29
'62	Articles of apparel, accessories, not knit or crochet	6.46	6.55	6.15	5.95	0.03	0.04	0.04	0.04	0.27	0.37	0.44	0.57
'63	Other made textile articles, sets, worn clothing etc	3.50	2.79	2.53	2.64	0.30	0.22	0.22	0.28	0.80	0.95	0.89	0.99
'64	Footwear, gaiters and the like, parts thereof	11.30	11.06	10.31	9.69	0.11	0.14	0.14	0.16	0.16	0.18	0.20	0.24
'65	Headgear and parts thereof	5.21	4.75	4.13	3.68	0.05	0.04	0.04	0.04	0.24	0.25	0.30	0.42
'66	Umbrellas, walking-sticks, seat-sticks, whips, etc	0.31	0.34	0.39	0.38	0.06	0.05	0.27	0.25	0.13	0.47	1.22	1.33
'67	Bird skin, feathers, artificial flowers, human hair	0.70	0.74	0.49	0.55	0.02	0.02	0.10	0.70	3.03	4.20	3.39	4.07
'68	Stone, plaster, cement, asbestos, mica, etc articles	0.82	0.78	0.75	0.76	0.54	0.50	0.59	0.72	0.48	0.45	0.55	0.61
'69	Ceramic products	1.68	1.49	1.48	1.29	1.22	1.68	1.93	1.95	0.77	0.97	1.15	1.21
'70	Glass and glassware	1.21	0.96	1.22	1.04	4.80	6.59	12.17	8.43	4.96	4.75	6.44	5.86
'71	Pearls, precious stones, metals, coins, etc	1.35	0.79	0.14	0.12	0.01	0.00	0.02	0.04	0.02	0.03	0.16	0.17
'72	Iron and steel	0.61	0.73	0.69	0.72	6.72	9.73	15.86	17.58	4.45	5.09	7.35	7.53
'73	Articles of iron or steel	0.70	0.71	0.72	0.71	1.52	1.21	1.12	1.19	0.82	0.68	0.65	0.83
'74	Copper and articles thereof	0.43	0.20	0.16	0.18	5.56	1.28	1.08	0.73	5.04	0.94	0.95	1.52
'75	Nickel and articles thereof	0.00	0.00	0.00	0.01	1.38	5.90	0.02	0.00	0.28	1.09	0.05	0.01
'76	Aluminium and articles thereof	0.18	0.22	0.26	0.30	1.66	2.01	1.90	2.45	3.67	3.08	3.41	3.60
'78	Lead and articles thereof	0.56	0.54	0.90	0.95	18.48	0.59	1.11	2.79	103.70	12.71	7.38	37.26
'79	Zinc and articles thereof	0.31	0.24	0.22	0.17	1.56	2.66	1.42	1.23	12.27	44.51	20.91	5.86
'80	Tin and articles thereof	0.88	1.20	0.70	0.85	4.48	6.34	2.19	3.52	10.47	3.62	4.03	7.82
'81	Other base metals, cermets, articles thereof	0.31	0.37	0.29	0.28	0.04	0.01	0.03	0.62	7.08	3.73	5.15	3.01
'82	Tools, implements, cutlery, etc of base metal	0.64	0.64	0.62	0.64	0.15	0.11	0.19	0.36	0.24	0.22	0.26	0.38
'83	Miscellaneous articles of base metal	0.47	0.48	0.45	0.42	2.03	2.56	2.62	2.47	1.21	1.36	1.26	1.29
'84	Machinery, nuclear reactors, boilers, etc	0.36	0.38	0.45	0.56	1.14	1.09	0.91	0.75	1.00	0.98	0.69	0.59
'85	Electrical, electronic equipment	0.75	1.12	1.64	1.98	1.00	0.91	0.97	1.06	1.74	0.95	0.79	0.79
'86	Railway, tramway locomotives, rolling stock, equipment	0.18	0.27	0.01	0.01	0.32	0.11	9.65	8.45	0.34	0.41	5.06	2.92
'87	Vehicles other than railway, tramway	0.14	0.14	0.16	0.17	2.51	2.34	2.51	2.87	3.05	2.45	2.67	3.06
'88	Aircraft, spacecraft, and parts thereof	0.03	0.03	0.03	0.03	0.05	0.02	0.07	0.03	0.25	0.11	0.06	0.06
'89	Ships, boats and other floating structures	0.61	0.76	1.03	0.77	1.36	2.51	1.00	2.22	0.67	1.21	1.64	3.33
'90	Optical, photo, technical, medical, etc apparatus	0.36	0.43	0.70	0.62	0.92	0.93	0.43	0.59	0.91	0.80	0.37	0.43
'91	Clocks and watches and parts thereof	0.10	0.09	0.06	0.08	3.54	1.10	0.50	1.34	1.70	0.68	0.78	0.84
'92	Musical instruments, parts and accessories	0.63	0.56	0.50	0.42	0.11	0.19	0.14	0.11	0.98	1.24	1.22	0.99
'94	Furniture, lighting, signs, prefabricated buildings	3.83	3.21	2.88	2.63	0.16	0.20	0.20	0.27	0.33	0.37	0.38	0.47
'95	Toys, games, sports requisites	0.78	0.74	0.77	0.77	0.14	0.13	0.12	0.12	0.59	0.47	0.54	0.60
'96	Miscellaneous manufactured articles	1.35	1.45	1.15	1.08	1.28	1.57	1.63	2.06	0.83	0.82	0.98	1.16
'97	Works of art, collectors pieces and antiques	0.01	0.01	0.01	0.00	0.29	0.47	0.48	0.44	0.39	0.22	0.31	0.40

Source: Authors' calculation from Trade Map data

AN–oriented exporting sectors, such as Edible vegetables and certain roots and tubers (07), Cereals (10), Knitted or crocheted fabric (60). These sectors have exploited their comparative advantage and enjoyed trade creation from South East Asian integration, which means their export has increased, thanks to both their advantage and the participation of Vietnam in the AFTA.

High potential welfare improvement

However, a higher number of sectors having comparative advantage have not been benefited from the AFTA. This is reflected by their RCA indexes being higher than 1, but their RO indexes corresponding the AFTA are lower than 1. Examples of sectors falling into this category include Fish, crustaceans, molluscs, aquatic invertebrates not elsewhere specified (03), Coffee, tea, mate and spices (09), Footwear, gaiters and the like, parts thereof (64) – these sectors have very high RCA indexes. Commodities in these sectors seem to be directed to non–ASEAN markets, rather than the regional market. Appearance of quite a number of sectors in Quadrant I somehow reflects the so–called weak economic integration of ASEAN.

Trade diversion effect

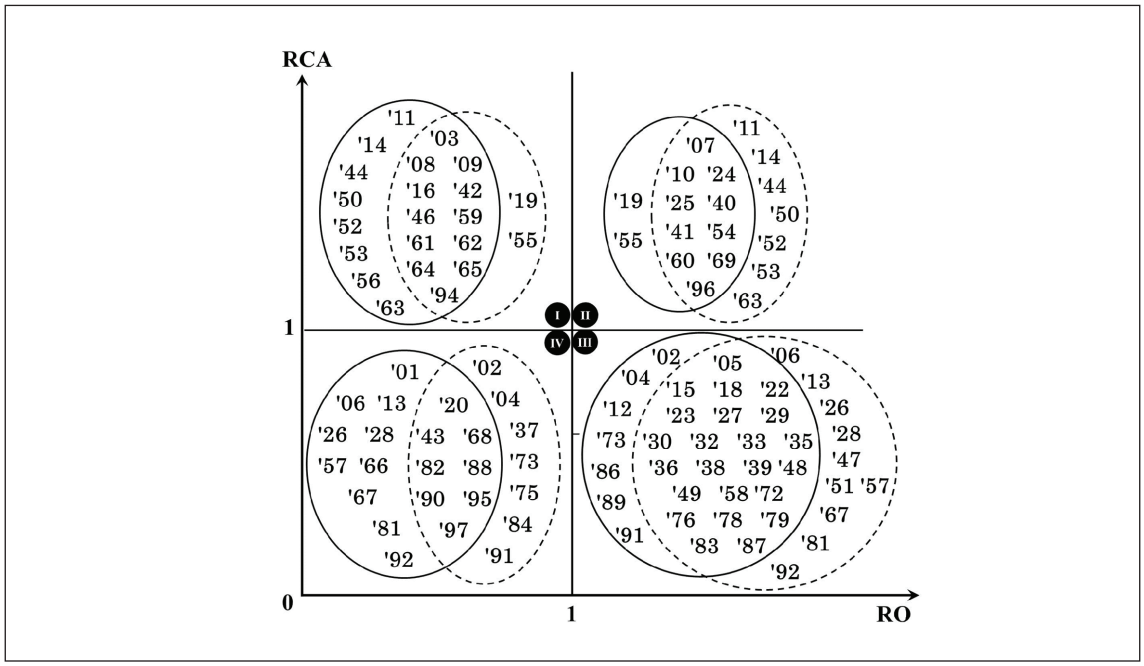
It is noticeable that Quadrant III has the highest density of commodity sectors among the four quadrants, which reflects the benefit of trade diversion brought by the regional integration to Vietnamese commodities. Even these sectors have not had comparative advantage; their export is still directed to the South East Asian market, replacing commodities from non–ASEAN exporting countries, thanks to favorable treatment from the AFTA

Figure 4 illustrates the matrix of Vietnam's HS 2-digit commodities based on the calculation of Vietnam's RCA index and RO index regarding the RCEP, in comparison with those calculated for the AFTA. In each quadrant of the matrix, the *solid circle represents the calculation result for the AFTA and the dash circle represents the result calculated for the RCEP*. Figure 4 demonstrates that the RCEP seems to be a better economic integration framework since indexes of several sectors are improved in a RCEP scenario, compared to those calculated in an AFTA scenario. Quadrant II and III could be seen as better positions in the matrix, compared to Quadrant I and IV, respectively. The numbers of sectors in "better positions" (Quadrant II and III) in the RCEP scenario are higher than those in the AFTA, while there are fewer sectors in "worse positions" (Quadrant I and IV) in the RCEP scenario than those in the AFTA. It implies that Vietnam may enjoy larger trade creation and trade diversion effects from the RCEP than that from the AFTA. The RCEP is a larger market, thus Vietnam could promote exports more by utilizing its advantage and preferential treatments from a more comprehensive FTA. Also, more commodities exported from Vietnam to RCEP member countries would replace those exported from non-RCEP countries.

Dynamic impacts

For the sectors that have reveal comparative advantage (RCA>1), quite a few will move from Quadrant I to Quadrant II, along with the switch from an AFTA to a RCEP scenario, which means that these sectors have not yet exported their commodities to ASEAN countries much ($RO^{AFTA}<1$) but might direct their exports to RCEP countries ($RO^{RCEP}>1$). It seems that

Figure 4: Matrix of Vietnam's HS 2-digit commodities based on Vietnam's RCA and RO indexes – A comparison between AFTA and RCEP



Source: Authors' calculation and compilation from Trade Map data.

the six FTA partners of ASEAN are potential markets for commodities in which Vietnam has comparative advantage. Examples of the case include Milling products, malt, starches, inulin, wheat gluten (11), Vegetable plaiting materials, vegetable products not elsewhere specified (14), Vegetable textile fibres not elsewhere specified, paper yarn, woven fabric (53), etc. That also means a larger number of Vietnamese sectors might be able to utilize the treatment from RCEP when the agreement is concluded by enjoying trade creation. These sectors should be notified and signaled the status of RCEP negotiations to make them ready for gaining the most from the RCEP.

For the sectors that have revealed comparative disadvantage (RCA<1), several sectors that could be considered as "no hope" sectors in the AFTA may have a hope in the RCEP proposal. These sectors will move from Quadrant IV to Quadrant III, along with the switch from an AFTA to a RCEP scenario. Sectors, like Live trees, plants, bulbs, roots, cut flowers etc (06), Lac, gums, resins, vegetable saps and extracts not elsewhere specified (13), Carpets and other textile floor coverings (57), may enjoy a trade diversion effect from the RCEP, even though neither are efficient sectors nor AFTA-oriented exports. It is likely that the RCEP provides a freer trade condition and more preferential treatment so that Vietnam's exported commodities may be more regionally oriented even though they have not had a comparative advantage yet. In order to get more benefits from

regional economic integration, Vietnam may want to consider the sectors in Quadrant III for further investment to upgrade their competitiveness.

6. Policy implications and conclusion remarks

The study has analyzed impacts of the AFTA and the RCEP on Vietnam. However, one notices that the AFTA has already existed for more than 20 years, while the RCEP is being negotiated. Therefore, policy analysis should focus on impacts of the RCEP only. The analysis has pointed out lists of commodities with which Vietnam experiences *trade creation* when participating in the RCEP only (not together with the AFTA), that is 11, 14, 44, 50 52, 53, 63. These commodities are the ones in which Vietnam already has comparative advantage. Successful negotiation of the RCEP will realize this trade creation effect. Commodities such as 19 (Cereal, flour, starch, milk preparations and products) and 55 (Manmade staple fibres) are the ones in which Vietnam has comparative advantage; however they are not well positioned in the RCEP market yet. If sufficient investment decisions and marketing strategies are applied to these commodities, they will well penetrate the RCEP market and bring *trade creation* and welfare improvement to Vietnam.

Public and private investment should consider the above-mentioned commodities as targets to leapfrog the benefits of RCEP. Of course the development of these commodity related industries is subject to multiple important trade commitments that are already or about to be in place, such as TPP, EVFTA, AEC,… Therefore firms operating in these commodity related industries should pay considerable attention to the negotiations of the RCEP and the performance of any newly signed trade agreement, and be well prepared to be proactive in order to actively export to the RCEP market to exploit the most the benefits of this FTA.

The method of combining the RCA and RO to assess impacts of the FTAs is very handy, and easy to use, while implying a quite useful policy message. However, one of the weaknesses of the proposed method is that the combination matrix above does not contain all HS 2-digit commodities. The absent commodities cannot be categorized since their RCA indexes fluctuate from a value lower than 1 to a value higher than 1, or vice versa, from time to time during the period from 2010 to 2013. Two of the most remarkable and interesting commodities among those absent are *Lead and articles thereof (78)* and *Electrical, electronic equipment (85),* which has RCA and RO indexes as in Table 2.

For the case of Lead and articles thereof (78), this sector has not yet shown a strong revealed comparative advantage; however, it's obvious that this sector is regionally oriented. It is likely that the sector has enjoyed the trade

Table 2: RCA index, RO index in ASEAN and RO in RCEP of Vietnam for the sectors of 78 and 85

HS	Description	VIETNAM's RCA				RO (VN-ASEAN)				RO (VN-RCEP)			
		2010	2011	2012	2013	2010	2011	2012	2013	2010	2011	2012	2013
78	Lead and articles thereof	0.56	0.54	0.90	0.95	18.48	0.59	1.11	2.79	103.70	12.71	7.38	37.26
85	Electrical, electronic equipment	0.75	1.12	1.64	1.98	1.00	0.91	0.97	1.06	1.74	0.95	0.79	0.79

diversion effect from the AFTA and as well as the RCEP in the future. The RCA index of the sector is slightly increasing. Hopefully, by utilizing preferences from FTAs, the sector will enhance its competitiveness and show revealed comparative advantage in the near future.

For the case of Electrical, electronic equipment (85), this commodity sector always has the highest value in the list of products exported by Viet Nam, at least for the 4 years from 2010 to 2013. This highly important exported product has an increasing RCA index and has started having a revealed comparative advantage since 2011. However, the RO index of this sector seems to remain low and lower than 1 in the case of the RCEP. It may be interpreted that this potentially competitive sector would not be RCEP-regionally oriented. In order to enjoy the revealed comparative advantage of the sector, Viet Nam should consider other regional trade agreements, rather than relying on the AFTA or RCEP.

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Notes:

1. http://www.adb.org/publications/series/asian-economic-integration-monitor, accessed on 9th September 2014.
2. In this paper, "East Asia" is also considered as "extended East Asia" that covers all FTA partners of ASEAN including China, South Korea, Japan, India, Australia and New Zealand.
3. ASEAN, *ASEAN Economic Community Blueprint,* section I, November 20, 2007.
4. Ibid, section II.
5. These were approved by Economic Ministers on 30 August 2012, and endorsed by Leaders, and provide a roadmap for negotiators.
6. http://www.trademap.org/
7. United Nations Commodity Trade Statistics Database.

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