IMPACTS OF ASEAN+3 INTEGRATION ON VIETNAM’S TRADE FLOWS IN FISHERY SECTOR

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ABSTRACT

This research examines the impacts of FTAs in ASEAN+3 trade integration on Vietnam’s trade flow in fisheries sector based on a gravity model and panel data for years from 2001 – 2012. Estimates indicate that economic size, market size, distance and real exchange rate of Vietnam and 43 trade partners play a major role in bilateral trade in fisheries sector between Vietnam and these countries. Meanwhile, the results also reveal that the opening and trade liberalization in ASEAN+3 bring large trade creation effects in fisheries sector especially AFTA, AKFTA, ACFTA. However, some other FTAs such as VJEPA and AJCEP have thus far not been shown to have impact on trade flow in fisheries sector.

Key words: Gravity model, fisheries sector, ASEAN+3, FTA

1. INTRODUCTION

From the second half of the twentieth century to the present, trade liberalization has become an inevitable trend. However, the Doha round had reached an impasse due to disagreements between developed countries and developing countries in negotiations over stronger rules and greater market openness in labor-intensive sectors such as agriculture, fishery, textiles, leather shoes, etc.

The fishery sector is one of the strengths of the developing countries including Vietnam, the dynamics of economic development. Meanwhile, with the influence of large political interest groups, developed countries still want to protect their market. Because disagreements on opening the market between developed countries and developing ones are not easy to solve, countries tend to seek bilateral and multilateral (regional) trade agreements and to promote intra-regional trade with more preferential tariffs than WTO ones.

Vietnam is not an exception to that trend. In 1995 Vietnam participated in ASEAN Free Trade Area (AFTA). The Free Trade Agreement of the ASEAN-China (ACFTA), Free Trade Agreement ASEAN-Korea (AKFTA) and Economic Partnership Agreements ASEAN-Japan Comprehensive (AJCEP) were signed in 2004, 2006 and 2008, respectively. In 2009, the Economic Partnership Agreement Vietnam - Japan (VJEPA) formally took effect. Besides, ASEAN is also directed to the establishment of ASEAN Economic Community (AEC) in 2015 with the economic ambitions of transforming ASEAN into a region with free movement of good and services, including investment, skilled labor and freer movement of capital. All of these agreements will have certain impacts on the Vietnamese economy in general, especially for trade flows in fishery sector.

The fishery sector plays a special position in the strategic importance of socio-economic development of Vietnam. Over the period from 2001 to 2011, its average contribution to GDP is about 3% which helps reduce poverty and improve the living standards of local communities (Directorate of Fisheries, 2012).

From the strong integration trend, this paper applies the gravity model to analyse the impacts of the ASEAN+3 Free Trade Agreements on the trade flows in fishery sector of Vietnam. In particular, the FTAs that we study include FTAs between ASEAN and China, Japan, Korea (ACFTA, AJCEP, AKFTA), ASEAN Free Trade Agreement (AFTA) and Vietnam – Japan Economic Partnership
Agreement (VJEPA). On that basis, the findings of this paper can offer some recommendations for Vietnam to further utilize the potential benefits that regional integration brings about especially in the context of Vietnam’s looking forward to develop a modern industry in 2020.

Gravity model which is a widely used method in the assessment of the impacts of participation FTA. Tinbergen (1962) first applied this model in studying the impact of FTAs on trade and showed a significant positive effect among the member countries of the Commonwealth. The study also assessed these impacts on specific sector. Gilbert, Scollay, and Bora (2004) analyzed the impact of the FTA and the trade bloc in East Asia by area. Besides, AA Hatab, E. Romstad, X Huo (2010) use a gravity model analysis of factors affecting agricultural exports of Egypt with 50 partner countries in the period 1994-2008. Nguyen Tien Dung (2011) using Gravity model to assess impacts of ASEAN Free Trade Agreement (AKFTA) on Vietnam trade, by using the trade data with 18 countries in the period from 2001 to 2009.

However, it appears that the current assessment of the integration of Vietnam is still limited, especially for assessing the impacts of regional integration on fishery sector in particular. Therefore, this paper will focus on evaluating the impacts of the ASEAN +3 integration Vietnam, including AFTA, ACFTA AKFTA, AJCEP, VJEPA, on exports and imports of Vietnam fishery products.

The structure of this paper will be organized as follows. After the introduction in the first part, we briefly explain the data and methodology employed within this paper. The third part presents the estimation results and discussion. The paper ends by making conclusions about the impacts of ASEAN+3 FTA on Vietnam’s trade flows in fishery sector and draws out some implications to further strengthen Vietnam’s exports of fishery products.

2. DATA AND METHODOLOGY

2.1. Methodology

The gravity model of bilateral trade flows was first introduced by Tinbergen (1962) and Pöynönen (1963). Since then it has been widely used in explaining the trade relations between countries. The model is based on Newton’s law of gravity, in which the gravitational force between two objects is directly proportional to the mass of each object and inversely proportional to the distance between them. In general, the basic idea of the gravity model is that the volume of trade between two trading partners is positively related to the economic sizes of both countries and negatively related to the distance between countries. The basic form of the gravity model in international trade is expressed as the following equation:

\[ X_{ij} = \varphi \left( \frac{Y_i*Y_j}{D_{ij}} \right) \]

In which \( X_{ij} \) represents the volume of export from country i to country j. \( Y_i \) and \( Y_j \) are gross domestic product (GDP) of country i and j. \( D_{ij} \) stands for the distance between two countries and \( \varphi \) is a constant of proportionality.

However, the model was criticized for lacking of theoretical underpinnings. Since late 1970s, further developments of the gravity model were made to fill the theoretical gap (For example, Anderson 1979, Bergstrand 1985, Anderson and Wincoop 2003). Recently, many researchers use gravity model to assess the impacts or possible impacts of FTAs. This method requires determination of the trade-influencing variables, including FTA implementation.

For the FTA that has been signed and came into effect, the studies using gravity model can provide an econometric assessment of the impacts of the FTA on the volume of trade. The impacts of an FTA can be under the form of trade creation or trade diversion. Therefore the three types of trade flows, which
are important to assess this impact, include trade between members, imports by members from non-members, exports by members to non-members.

Urata and Okabe (2007) used gravity model to examine the impacts of FTAs on trade flows of a wide range of countries. The regressors used in this research included FTAs dummies, the economic size (GDP), GDP per capita, distance, language, adjacency. Besides, MUTRAP III (2010) applied the gravity model to study the economic impacts of ASEAN Free Trade Agreement (AFTA) on the trade flows of Vietnam. The independent variables of the model used in this research were the level of economic development (GDP, GDP per capita), distance, real exchange rate, average tariffs. In addition, other dummy variables which are also included in the model, will take the value of 1 if the two countries share the same language, border or colonial linkages and zero otherwise.

Nguyen Tien Dung (2011) used the gravity model to analyze the impacts of ASEAN-Korea Free Trade Agreement (AKFTA) on Vietnam trade. In this paper, the author estimated the export and import model separately to assess impacts of AKFTA on exports and imports of Vietnam in specific. Moreover, the models were augmented by including a set of dummy variabales (AFTA, AKFTA, ACFTA, AJFTA) besides the common variables (GDP, GDP per captia, Distance, real exchange rate).

Therefore, the gravity equations applied in this paper will base on those of Urata and Okabe (2007), MUTRAP III (2010), Nguyen Tien Dung (2011). In addition, the model includes the influencing variables such as economic size, distance, real exchange rate, income, income gap between two countries and the dummy variables representing the FTA ASEAN+3. We build the separate equation for exports and imports of fisheries products of Vietnam. The models are specified as follows:

\[
(1) \ln(\text{EX}_j) = G + \beta_1 \ln(\text{GDP}_i, \text{GDP}_j) + \beta_2 \ln(\text{INC}_i, \text{INC}_j) + \beta_3 \ln(\text{DIST}_{ij}) + \text{REER} + \alpha_1\text{AFTA} + \alpha_2\text{ACFTA} + \alpha_3\text{AKFTA} + \alpha_4\text{VJPEPA} + \epsilon
\]

\[
(2) \ln(\text{IM}_j) = G + \beta_1 \ln(\text{GDP}_i, \text{GDP}_j) + \beta_2 \ln(\text{INC}_i, \text{INC}_j) + \beta_3 \ln(\text{DIST}_{ij}) + \text{REER} + \alpha_1\text{AFTA} + \alpha_2\text{ACFTA} + \alpha_3\text{AKFTA} + \alpha_4\text{VJPEPA} + \epsilon
\]

Where \(i\) and \(j\) stand for Vietnam and trading partners, respectively. \(\text{EX}_j\) is bilateral exports of fisheries products from Vietnam to country \(j\). \(\text{IM}_j\) is bilateral imports of fisheries products of Vietnam from country \(j\). GDP is the gross domestic product, INC is the GDP per capita. \(\text{DIST}_{ij}\) is average geographic distance between country \(i\) and \(j\), measure in kilometers. GAP is the income gap between Vietnam and country \(j\). REER is the the real exchange rate of the partner country in terms of the Vietnam Dong.

\(\text{AFTA}, \text{AKFTA}, \text{ACFTA}, \text{VJPEPA}, \text{AJCEP}\) are the dummy variables used to assess the impacts of these FTAs on trade flow in fisheries sector.

The dummy variables take value of one if country \(j\) is the member of FTAs and zero otherwise. ACFTA, AKFTA, AJCEP take value of one in 2006, 2007, 2009 respectively after these FTAs came into effect. For the case of AFTA, the tariff reductions started in 1995 after Vietnam became the member of AFTA. Meanwhile, in late 1990s, most of the products under the tariff reductions benefited from quite low tariff rates. However, Vietnam, due to its late membership and the gap in the level of economic development with ASEAN 6, is granted the longer implementation time until 2006; and the schedule for the phasing in of its Temporary Exclusion List (TEL) has been redesigned accordingly. In particular, the elimination of tariff for manufactured products in the phasing of its TEL will start on January 1999 and finish by January 2003. In addition, Vietnam is committed to reduce its tariff line between 0 and 5 percent by 2003 and to extend the number of tariff lines in the 0 percent category by 2006 (ASEAN Secretariat 1999). Therefore, the dummy AFTA will take the value of one in 2003.

GDP and GDP per capita variables measures the economic size and the the level of economic development of importing and exporting countries. They are believed to reflect the potential demand
of the importing countries and the potential supply of the exporting countries. Thus, the estimated coefficients of these variables are expected to be positive. Distance (DIST) is hypothesized to be negative, both in the export and import model. Distance measures the trade transportation cost and trade is expected to decline with distance between countries. Income gap (GAP) variable which provide an indication of the type of trade between countries can be negative or positive. If, the estimated coefficient of GAP is positive, it reflects the impacts of inter-industry trade based on the difference in production factors. Conversely, it reflects the impacts of intra-industry trade (Nguyen Tien Dung, 2011).

Real exchange rate of the partner country in terms of Vietnam Dong is expected to be positive in the export model and negative in the import model. Real exchange rate measures the relative price of Vietnamese products and the partner’s ones. In particular, the increase in real exchange rate implies the real depreciation of Vietnam Dong and hence, Vietnam’s exports will rise. The real appreciation of Vietnam Dong is represented by a decrease in the real exchange rate, as a result imports would be cheaper and the demand for imports will rise.

Moreover, the dummy variables included in the model allow estimating the impact of ASEAN+3 trade integration on trade flow in fisheries sector. If the coefficients of these FTA dummies are positive, the implementation of FTAs brings trade creation effects in Vietnam’s fisheries sector and trade creation effects otherwise.

2.2. Data

Bilateral trade data in fisheries sector with 49 trade partners are taken from UN Comtrade database for the period from 2001 – 2012. These 49 countries are the largest trading partners of Vietnam in fisheries sector, which account for 90 percent of Vietnam’s export of fisheries products. In this study, trade data are selected at the four-digit level of HS product categories. GDP and GDP per capita are obtained from Word Bank. All data are expressed in US dollars. Real exchange rates data are taken from the research of Darvas, Zsolt (2012). The distance data which are the great-circle distance between Hanoi and the capital city of the trade partner are obtained from web Centre d’ Etudes Prospectives et d’Informations Internationales (CEPII).

<table>
<thead>
<tr>
<th>Variable</th>
<th>Definition</th>
<th>Unit</th>
<th>Data Sources/Calculations</th>
</tr>
</thead>
<tbody>
<tr>
<td>EX(_j)</td>
<td>Vietnam’s exports of fishery product to country (j)</td>
<td>USD</td>
<td>United Nations Comtrade Data (<a href="http://comtrade.un.org/">http://comtrade.un.org/</a>)</td>
</tr>
<tr>
<td>IM(_j)</td>
<td>Vietnam’s imports of fishery product to country (j)</td>
<td>USD</td>
<td>United Nations Comtrade Data (<a href="http://comtrade.un.org/">http://comtrade.un.org/</a>)</td>
</tr>
<tr>
<td>GDP</td>
<td>Gross Domestic Product</td>
<td>USD</td>
<td>World Bank Data</td>
</tr>
<tr>
<td>INC</td>
<td>GDP per capita</td>
<td>USD</td>
<td>World Bank Data</td>
</tr>
<tr>
<td>GAP</td>
<td>Income gap between Vietnam and country (j)</td>
<td>USD</td>
<td>(\text{INC}_t^j - \text{INC}_t^i)</td>
</tr>
</tbody>
</table>

\(^1\)The fisheries products in HS classification include 03 (Fish, Crustaceans, molluscs, aquatic invertebrates nes), 1604 (Prepare/preserved fish & caviar) and 1603 (Extracts & juices of meat, fish, Crustaceans and molluscs.

### Table 3.1: Regression results for Gravity model of Vietnam's fishery exports

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>Std. Error</th>
<th>t-Statistic</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>-45.50951</td>
<td>4.637633</td>
<td>-9.813090</td>
<td>0.0000(***)</td>
</tr>
<tr>
<td>AFTA</td>
<td>2.424321</td>
<td>0.819474</td>
<td>2.958389</td>
<td>0.0032(***)</td>
</tr>
<tr>
<td>ACFTA</td>
<td>0.378151</td>
<td>1.095592</td>
<td>0.345157</td>
<td>0.0173(**)</td>
</tr>
<tr>
<td>VJEPA</td>
<td>-2.051081</td>
<td>2.994392</td>
<td>-0.684947</td>
<td>0.0893(*)</td>
</tr>
<tr>
<td>AJCEP</td>
<td>0.360793</td>
<td>1.210874</td>
<td>0.297961</td>
<td>0.8876</td>
</tr>
<tr>
<td>AKFTA</td>
<td>0.172569</td>
<td>1.030231</td>
<td>0.167505</td>
<td>0.0000(***)</td>
</tr>
<tr>
<td>LOG(GDP_i_GDP_j)</td>
<td>1.480998</td>
<td>0.112621</td>
<td>13.15027</td>
<td>0.0000(***)</td>
</tr>
<tr>
<td>LOG(GAP)</td>
<td>0.804474</td>
<td>0.202010</td>
<td>3.982352</td>
<td>0.0001(***)</td>
</tr>
<tr>
<td>LOG(INC_i_INC_j)</td>
<td>0.755207</td>
<td>0.324524</td>
<td>2.327126</td>
<td>0.0203(**)</td>
</tr>
<tr>
<td>LOG(DIST)</td>
<td>-2.025435</td>
<td>0.263561</td>
<td>-7.684891</td>
<td>0.0000(***)</td>
</tr>
<tr>
<td>REER</td>
<td>0.774878</td>
<td>1.174227</td>
<td>0.659905</td>
<td>0.0326(**)</td>
</tr>
<tr>
<td>R2=</td>
<td>0.73</td>
<td></td>
<td>Adjust R2=0.72</td>
<td></td>
</tr>
<tr>
<td>Obs=</td>
<td>587</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*: p< 0.1, **: p< 0.05, ***: p< 0.01

Source: The author’s calculation

### Table 3.2 Regression results for Gravity model of Vietnam's fishery imports

Source: The author’s Synthesis
The estimated results show that almost all the standard gravity variables have the expected and statistically significant sign. R-squared value in the export model is 0.73, quite high and accepted for depicting the export equation. However, only 52% of Vietnam’s fishery imports in the period 2001-2012 can be explained in the import model. This suggests that there are still other factors affecting the volume of Vietnam's fishery imports. Due to the multicollinearity, we remove some independent variables.

Real GDP which measures the economic size is seen to have positive sign in both export and import equations. The coefficients of this variable in both models are statistically significant at 1%. It reveals that the growth of economy of Vietnam as well as the trading countries will foster the export and import flows in and out of Vietnam. In other words, real GDP factor has positive effects on trade flows in fishery sector. Moreover, this coefficient in the export model is larger than that in the import model. They are 1.48 and 1.17, respectively. This is suitable with the fact that turnover of Vietnam’s fishery imports is very small compared to Vietnam’s fishery exports. In reality, fishery imports turnover only equals 4%-5% of exports one. Therefore, the growth rate has larger impact on Vietnam's fishery

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>Std. Error</th>
<th>t-Statistic</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>-57.03209</td>
<td>8.866210</td>
<td>-6.422522</td>
<td>0.0000(***)</td>
</tr>
<tr>
<td>AFTA</td>
<td>4.283536</td>
<td>1.095875</td>
<td>3.908784</td>
<td>0.0001(***)</td>
</tr>
<tr>
<td>ACFTA</td>
<td>0.049201</td>
<td>1.273506</td>
<td>0.038634</td>
<td>0.4973</td>
</tr>
<tr>
<td>VJEPA</td>
<td>3.214180</td>
<td>2.717006</td>
<td>1.182986</td>
<td>0.2376</td>
</tr>
<tr>
<td>AJCEP</td>
<td>-2.151715</td>
<td>1.524962</td>
<td>-1.410995</td>
<td>0.1591</td>
</tr>
<tr>
<td>AKFTA</td>
<td>0.86140</td>
<td>1.330268</td>
<td>1.647539</td>
<td>0.5263</td>
</tr>
<tr>
<td>LOG(GDPi*GDPj)</td>
<td>1.175167</td>
<td>0.186812</td>
<td>-6.432522</td>
<td>0.0000(***)</td>
</tr>
<tr>
<td>LOG(GAP)</td>
<td>-1.027547</td>
<td>0.349373</td>
<td>-2.941957</td>
<td>0.0035(***)</td>
</tr>
<tr>
<td>LOG(INCi*INCj)</td>
<td>1.497524</td>
<td>0.450125</td>
<td>3.326903</td>
<td>0.0010(***)</td>
</tr>
<tr>
<td>LOG(Dist)</td>
<td>-0.811021</td>
<td>0.356161</td>
<td>-2.277118</td>
<td>0.0233(**)</td>
</tr>
<tr>
<td>REER</td>
<td>-0.489429</td>
<td>1.703393</td>
<td>-0.287326</td>
<td>0.0047(***)</td>
</tr>
</tbody>
</table>

R2= 0.52
Adjust R2=0.49
Obs= 386

*: p< 0.1, **: p< 0.05, ***: p< 0.01

Source: The author’s calculation
exports. This can also be explained by international trade policy to regulate and manage the volume of import.

GDP per capita variables are positive and statistically significant in both models. In the export model, the coefficients of GDP and GDP per capita are 1.480 and 0.755, respectively. In the other words, GDP has larger impact on Vietnam’s fishery exports than GDP per capita, which shows that Vietnam’s fishery exports are affected by the supply factor (GDP) more than demand factor (GDP per capita). While a country’s economic growth can foster the production of goods and services and its volumes of exports, an increase in GDP per capita causes a rise in the demand for imported goods at a lower level.

Income Gap variable also has a significant coefficient of 0.804 at 1% level in the fishery export model. This indicates that Vietnam’s fishery products are exported more to the larger economies, which is consistent with the basic hypothesis of the gravity model. This is also consistent with the fact that the United States, EU, Japan, China, South Korea, ASEAN and Canada are main markets of Vietnam’s fishery exports.

The distance variable is recorded at a significantly negative sign in both equations, which matches with the theory in gravity model. The greater the distance is, the smaller the volume of trade between Vietnam and partner countries. Actually, geographical distance is an important factor in reducing Vietnam’s trade volume.

The estimation shows that real exchange rate variable which appeared to be positive sign in the export model and negative sign in the import one, is statistically significant in both equations. This implies the devaluation of the VND leads to a reduction in Vietnamese fishery imports and an increase in fishery exports. However, the coefficients of this variable are less than 1 so real exchange rate does not have large impact on Vietnam’s fishery trade. While the main fishery products exported to the partners are semi-processed and raw materials with low prices, Vietnam also imports inputs for domestic processing industry. Moreover, the price elasticity of Vietnam’s fishery products is rather low so relative price fluctuations due to the volatility in the exchange rates don’t have clear impact on Vietnam’s fishery trade.

Most of the coefficients of dummy variables representing the FTAs are positive in both models. The results reveal that the opening and trade liberalization in ASEAN+3 bring large trade creation effects in fishery sector. At 1% significant level, AFTA is the key FTA having the largest impacts on Vietnam’s fishery trade. AFTA’s coefficients in the export and import model are 2.424 and 4.283 respectively, which are much higher than 1. This proves that tariff reductions under AFTA, with long time in effect have substantially affected Vietnam’s fishery trade. In detail, in the framework of AFTA, the tariff reduction to 0-5% was applied with ASEAN6 in 2003 and Vietnam in 2006. With a long roadmap for tariff reductions, AFTA has had an obvious impact on the volume of trade between its members.

Both AKFTA and ACFTA have positive sign and statistical significance in the export model, which implies that the implementation of commitments in the framework of ACFTA and AKFTA has increased Vietnam’s fishery exports. This is suitable with the fact that turnover of Vietnam’s fishery exports to China and South Korea has risen significantly since two FTAs came into effect in 2006 and 2007. The results are also consistent with the fact that South Korea and China are ranked as 4th and 5th in top 10 largest partners importing Vietnam's fishery products. However, these two dummies are not statistically significant in the import model so ACFTA and AKFTA have not had clear impact on Vietnam’s fishery imports from partner countries.
Besides two models of Vietnam’s fishery exports and imports, we assessed the impact of ASEAN+3 integration on Vietnam’s trade. Whereas AJCEP and VJEPA affect strongly on Vietnam’s trade in general, these two FTAs do not have clear impact on Vietnam’s fishery trade. The coefficients of two variables are found insignificant in both equations above. Because AJCEP and VJEPA have come into effect since 2009, a short time and the initials tariffs reduction/elimination are not large enough, their impact on trade is not evident. In detail, in the framework of VJEPA, Japan committed the reduction/elimination of 188 in total 330 tariff lines of fishery products within 10-15 years period. 64 in 330 tariff lines of fishery products exported to Japan have enjoyed 0% tariff right after VJEPA came into effect in 2009. 8 tariff lines will be reduced/eliminated within 3 years, which accounts for 8% of the export turnover of Vietnam’s fishery sector. Moreover, 96 tariff lines of fishery products will also be reduced/eliminated within 9-10 years period. For AJCEP, Vietnam committed to reduce/eliminate 88.6% tariff lines in 2025. Vietnam’s fishery products will get a lot of benefits from tariff liberalization in the framework of AJCEP and VJEPA, especially when the roadmap of tariff elimination has mostly completed in the future (almost fishery products will be applied with tariff 0%). There are also other reasons explaining the unexpected results of AJCEP and VJEPA coefficients. Vietnam’s fishery exports mostly include raw and semi-processed products with low quality. The competitiveness of Vietnam’s enterprises is still very weak. Therefore, Vietnam’s fishery sector has not taken all the advantages of tariff reduction/elimination roadmap. Vietnam’s government and enterprises should make strong adjustments on policies and strategies to effectively utilize the benefits of two agreements to deeply penetrate into Japan market.

4. CONCLUSION AND IMPLICATIONS

4.1. Conclusion

By using the trade data of fishery products with 49 trading partner countries in the period from 2001–2012, the paper applies the gravity model to assess ASEAN+3 trade integration on Vietnam’s fishery sector. This paper has tested and analysed the main influential factors on Vietnam’s exports and imports of fishery products and the results found are consistent with the hypothesis of the gravity model. First, the estimation results indicate that the bilateral trade flows in Vietnam’s fishery sector are driven by the level of economic development (GDP, GDP per capita) or market size, income gap and exchange rate volatility. In addition, the distance between Vietnam and the trading partners is found to be the trade resistant factor. These findings of the paper follow the economic theory and the hypothesis of the gravity model.

Furthermore, Vietnam’s integration under FTA ASEAN+3 (ACFTA, AKFTA) and AFTA is found to have positive impacts on exports of fishery products especially AFTA. Except for AFTA, other FTAs have unclear impacts on imports or fishery products. VJEPA and AJCEP is insignificantly statistical in both models due to short time effect. However, we are optimistic that if the implementation time is longer, the impacts of AJCEP and VJEPA may become more apparent.

4.2. Policy implications

The results reveal that bilateral trade in Vietnam’s fishery sector increases with economic size and market size. Therefore, economic growth of both Vietnam and partner countries will strongly affect the volume of trade in fishery sector. In this respect, the stabilization policies and attractive business environment play a vital role in economic growth in general and promoting trade volume in fishery sector in particular.

The findings also indicate that real exchange rate has significant effect on fishery sector trade. Thus, the State Bank of Vietnam should regulate the exchange rate movement more efficiently and avoid the
large volatility in exchange rate that make the fishery products relatively more expensive and reduce the volume of export. In addition, the exchange rate policies should be adjusted flexibly to boost Vietnam’s trade and trade of fishery products.

Besides, AFTA has substantial impacts on trade in fishery sector because tariff reductions are applied to most of the major exported fishery products of Vietnam. However, the non – tariff barriers are still the big issues and difficult to to be removed. Therefore, Vietnam and other partners should reach more commitments in non – tariff barrier removal to facilitate intra – regional trade.

Although VJEPA and AJCEP have not just shown impacts on fishery product trade, Vietnamese enterprises should still focus on Japan markets. In addition, this market offers strict technical standards which are the biggest challenge of fishery products exported to Japan. However, the tariff line reductions are expected to end in 2019 and Vietnamese fishery products will enjoy much preferential treatment. Hence, product quality should be improved to enter this large potential market.

In summary, the regression results indicate that AFTA, AKFTA and ACFTA have positive impacts on Vietnam’s exports of fishery products. Vietnamese fishery enterprises, therefore, should focus on the main markets such as Japan, Korea, ASEAN, EU and the US to enjoy more preferential tariff. The trade promotion together with the market orientation of from government could help Vietnamese fishery exporters overcome the challenges and improve the product quality to pervade these potential markets.

4.3. Future research

Future research may focus on studying and adding the Non – tariff barrier variable to the model. More deep evaluation should be done to assess the impacts of non – tariff barriers on trade flows in fisher sector by using the qualitative and quantitative methods.

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