EVALUATING FACTORS TO AFFECT THE AGRICULTURAL PRODUCT EXPORT FROM VIETNAM TO CHINA, BASED ON THE "ONE BELT, ONE ROAD INITIATIVE" – THE APPLICATION OF GRAVITY MODEL

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SUMMARY

Agriculture is of paramount importance industry which spreads the most and reaches close connection to other industries. Within decades, China has been known as a country with a population of billions and being in high demand for agricultural products. Apart from the above reasons, the geographical position of China is also a great cause for Viet Nam to focus on China's export market towards selling agricultural products. Viet Nam has such a great honor to partake in the "One belt, one road initiative" (BRI), our research team grabbed a chance to find out factors that affect the agricultural export of Vietnam to China. To identify and evaluate those factors, the research team has used the gravity model as the chief method. The research's outcome indicated that Gross Domestic Product (GDP), geographical distance, economic gap, the population of China, the level of economic openness, inflation, agricultural land area are principal factors creating the effect on Vietnam's agricultural export. Besides, not only does the initiative "One belt, one road" have a certain significance for improving transports and communications as well as infrastructure but it also receives maximum support from the Government of China. Taking part in the initiative "One belt, one road" also helps both countries approach more policies that are profitable.

Keywords: export, "One belt, One Road", the agriculture of Viet Nam, the gravity model.

1. INTRODUCTION

The gravity model is a common theoretical model which has been widely used by many economists to measure and analyze factors that affect the export condition among countries for years (He et al., 2013). The gravity model in international trade was firstly applied to measure export value between two countries, which was formed by two scientists Timbergan (1962) and Poyhonen (1963) based on Newton's law of universal gravitation (1687). Timbergan demonstrated that countries with a large economic scale and close geographical distance will tend to trade with each other. That means the greater the distance is, the riskier it rises with the partner countries and vice versa, the more potential the commerce becomes (Ghemawat, 2001).

The mentioned gap here is not only about the geographical matter but also the culture, economic and institution gap. While expanding the gravitational force model, many researchers found out several factors that influence the commercial flow among countries. Those factors are the foreign exchange rate (Bergstrand, 1985; Dell'Arricia, 1999), the level of technology innovation (Fagerberg et al., 1997; Wakelin, 1998), the level of economic openness (Rahman, 2009), trading among countries in the same commercial block (Carrere, 2006). The gravity model was switched to Cobb – Douglas function:

$$EXP_{ij} = AY_i^{\beta 1} Y_j^{\beta 2} DIS_{ij}^{\beta 3} \quad (1)$$

EXP_{ij}: commercial turnover between country i and country j;

Y_i: the economic scale (GDP) of country i;

Y_j: the economic scale (GDP) of nation j;

DIS_{ij}: geographical distance between country i and country j;

A: Gravitational constant;

β1, β2, β3: The coefficients that reflect influence' degree of each factor in the model.

The simulation is rewritten as below:

$$\ln EXP_{ij} = A + \beta 1 * \ln Y_i + \beta 2 * \ln Y_j + \beta 3 * DIS_{ij} + \varepsilon_{ij} \quad (2)$$

*** The research model of agricultural exporting of Viet Nam to China**

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Based on the previous researches' outcome as well as the theoretical basis, the author brought about the gravity model of trading for Vietnam's agricultural export to China:

$lnEXP_{it} = A + \beta1*lnGDP_{it} + \beta2*lnGDP_{jt} + \beta3*lnEDIS_{ijt} + \beta4*lnINFVN_{it} + \beta5*lnLANDVN_{it} + \beta6*lnPOPNK_{jt} + \beta7*lnEOPEN_{ij} + \beta8*DIS_{ij} + u_{ijt}$ (3)

EXP_{it}: Vietnam's agricultural export (calculated by USD) to country i in year t;

GDP_{it}: Gross Domestic Product of Viet Nam in year t;

GDP_{jt}: Gross Domestic Product of China in year t;

$EDIS_{ijt}$: The economic gap between two countries;

$INFVN_{it}$: The inflation of Vietnam at moment t;

$LANDVN_{it}$: The agricultural land area of Vietnam;

$POPNK_{jt}$: The total population of the importing country in year t;

$EOPEN_{ij}$: The level of economic openness;

DIS_{ij}: Dummy variable of geophysical distance measured by partaking in the project "One belt, One Road";

u_{ijt}: Random error;

A: The intercept term of the model;

β_1, β_2, β_3, β_4, β_5, β_6, β_7, β_8: Random error is considered to reflect the degree of impact on the model.

*** Factors and hypotheses of the model**

GDP of import and export country

While analyzing factors that have an impact on the export turnover, the first-mentioned factor was GDP – Gross Domestic Product of the exporting country. Bhagwati (1988) realized that the GDP's growth often leads to a corresponding increase in commerce's expansion. GDP is an index to measure the economic scale. Furthermore, this indicator also represents the purchasing power of the importing and exporting country, manufacturing ability, and the country's demand (Dilanchiev, 2012). Numerous researches have figured out the evidence of the positive relationship between GDP and the acceleration in goods and services trading (Bhagwai, 1998; Eita, 2008). The increase in total goods' value and manufacturing services within the country's domain will make the good supply also augment, which assumes the responsibility for the rise in the exportability.

To the importing country, GDP measures the importers' absorbability (Hatab et al., 2010). The higher the import country's GDP grows, the higher the manufacturing ability is, which means the importing country has a high demand for input materials. Moreover, people who have a bigger income will afford more goods as well as boost their diverse demand for commodities, which impulse the import of goods from other countries (Fujimura và Edmonds, 2006). Hence, GDP of both importing and exporting countries is expected to exert a positive impact on the trade flow.

In this research, delivered duty paid (DDP) is calculated by ruling price (USD).

Hypothesis 1a: GDP of Vietnam has a positive impact on Vietnam's agricultural export.

Hypothesis 1b: GDP of China has a positive impact on Vietnam's agricultural export.

Geographical distance

Geographical distance has been investigated for a long time through several articles about international trade in the international economy(Anderson and Wincoop, 2003). This factor is regarded as a vital one that has a strong impact on the country's export activity. It is also a fundamental variable of the gravity model, which has been commonly applied to researchers: Eita (2008), Rahman (2010), Binh (2011), Tho (2013), Trang (2014).

The international trade deal of both goods and services is reflected through the geographical distance between the two countries. Those costs include transport charges, the market approach cost (Heo and Doanh, 2015). Additionally, the transaction cost (relating to similarities in culture, taste, the predilection for something) and the administrative cost belong to geographical

distance (Huang, 2007).

In this study, geographical distance is measured by participating in the project "One belt, One Road". Matters that directly effect on velocity and circulation time of goods, transport charges, etc. have been deeply studied in the project with the purpose to construct the transport system and harbor/seaport of a country. What is more, the trade between two countries is also an affecting factor that has been researched.

Hypothesis 2: The project "One belt, One road" augments Vietnam's agricultural export to China.

Economic gap

The economic gap is considered as the income inequality between two or more countries**.** Helpman (1981) reckoned that the resemblance in economic development was expected to intensify trading among countries, which was similar to the research's outcomes ofMartínez-Zarzoso and Nowak-Lehmann (2003). The argument assumed that international trade in manufacturing goods or services will bloom more prosperously among countries that have a similarity in GDP than those do not. That means countries that have the similarity of GDP per capita income will possess the same demand, which prompts commerce exchange. In this research, the economic gap is measured by the subtraction between GDP per capita income of China and that of Vietnam (GDP per capita income of China - GDP per capita income of Vietnam).

Hypothesis 3: There is a negative relationship between the economic gap and agricultural export

The population of the importing country

The population of the importing country shows the potential demand for goods, likewise the labor force of the market. The population scale goes up will bring about an increase in demand for goods, especially primary commodities. This cause may have certain influences on the export turnover of the partner country. Nevertheless, the factor's influence degree cannot be defined as negative or positive unless the researcher examines specific conditions such as the labor's quality and standard in each country.

On the other hand, the study paper of Inmaculada Martínez-Zarzoso and Felicitas Nowak-Lehmann D. released the outcome: the population of importing countries has not only positive influence but also a negative one when applying different measurement methods, while the authors as Tien (2009), Tri (2006) has demonstrated within their paper that there was a positive impact on trading in Vietnam's case.

Hypothesis 4: The population of China has a positive impact on Vietnam's agricultural export.

The level of economic openness

The level of economic openness is calculated by the rate of total export value per GDP. The greater this rate indicates, the higher the intensity of its commerce with partner countries (Hatab et al., 2010). This factor is used as the representative one for a nation's foreign trade policy. If the foreign trade policies go towards liberalization, the level of economic openness will push up commercial trade opportunities among countries. Specifically, if the openness of the partner economy witnesses an upward trend, the foreign trade of Vietnam to those nations is expected to be more potential since the trading opportunity becomes higher.

Hypothesis 5 a, b: The level of economic openness of Vietnam and China has a positive relationship with Vietnam's agricultural export to China.

Inflation

Inflation is the general rise in goods and services prices over a period, which has a certain impact on the country's economy in general and export activity in particular. In reality, the increase of inflation will cause the escalation in goods' price, which directly lessens the competitive ability of domestic entrepreneurs to international ones, correspondingly affects the export activity.

When it comes to research on the impact of

inflation on Vietnam's agricultural export, the hypothesis claims that inflation exerts a positive influence on export turnover of farm products, as a rise in inflation will be responsible for the higher export prices, leading to a higher amount of exported goods. The research paper of My (2015) released that after all factors were analyzed, inflation was proved to exert positive effects on agricultural export turnover.

Hypothesis 6: Vietnam's inflation has a positive impact on agricultural export to China.

Agricultural land area

Land, which is often measured as agricultural land area or agricultural land's proportion per total land area of a country, is one of the most vital elements of agricultural manufacture. According to the Heckscher - Ohlin theory, the country whose land is available will tend to decide the country's comparative advantage (the availability of land determines the comparative advantage of one nation). Hence, countries with land redundant such as Canada, Australia, China, or Vietnam will have the comparative advantage in the manufacture and goods export; especially agricultural products that require huge tracts. The above countries tend to export more agricultural products than import them from other countries. In contrast, countries are lack empty land for agriculture will have to import more.

Hypothesis 7a: Agricultural land area of Vietnam has a positive impact on Vietnam's agricultural export.

Hypothesis 7b: Agricultural land area of China has a negative impact on Vietnam's agricultural export.

2. RESEARCH METHODOLOGY

2.1. Data

The study collected secondary time data from Vietnam and China during the period from 2010 to 2019. Data on agricultural exports is gathered from the General Statistics Office and the General Department of Customs of Vietnam, the Organization for Economic Cooperation and Development (OECD). Data on GDP, GDP per capita (on purchasing power parity – PPP), Nominal GDP, population, agricultural land area, economic expansion is collected from WB.

2.2. Methods of data analysis

With time-series data, the study utilizes the ADF method (Augmented Dickey-Fuller test) to determine optimal stop and latency. After optimal stationarity, Impulse Response Function (IRF) is applied to consider the impacts of factors on agricultural exports. In this study, Engle – Granger's co-alignment method is used to measure long-term relationships between variables while the VAR vector or VECM error correction model method estimates short-term ones. The results of regression were then analyzed in relation to the geographical distance dummy variable to assess the influence of the One Belt, One Road project. The support tool is Stata 13 statistical software.

3. RESULTS – EVALUATION

3.1. Description of subjects

Table 1. Description of subjects

Variable	Obs	Mean	Std. Dev.	Min	Max
XKG	20	1441257	1490545	123257.8	4396697
GDP	20	124230.8	76567.1	31172.52	261921.2
KCKT	20	3.241913	.5305057	2.459341	3.887123
GDPcn	20	6549066	4552755	1211347	1.43e+07
E_ICN	20	.2629533	.056042	.1945124	.3674099
E_IVN	20	1.549466	.3054479	1.114171	2.104002
ARCN	20	.5527933	.0059206	.5476368	.5622296
ARVN	20	.3449693	.0360893	.2822607	.3929435
POPCN	20	1333.441	41.44135	1262.645	1397.715

The statistical analysis illustrates that Vietnam's total agricultural products exported to China from 2000 to 2019 reached an average value of 1441257 (thousand USD) and peaked at the largest value of 4396697 (thousand USD). In general, the trend of export to China

increased between 2000 and 2018; however, the period from 2018 up to now has witnessed a downward trend (shown in detail in fig. 1).

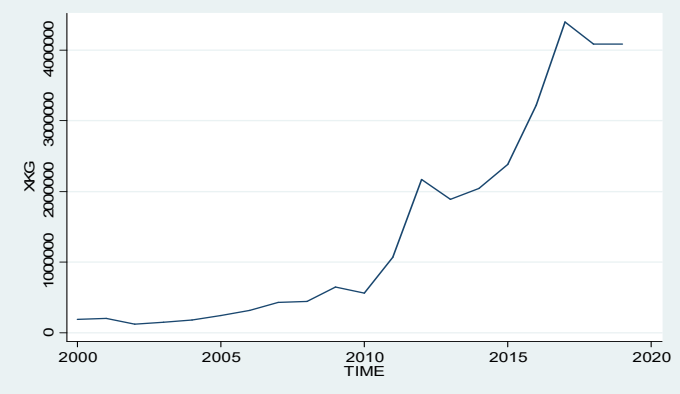

Figure 1. In general, the trend of export to China increased between 2000 and 2018

It is undeniable that Vietnam's GDP, as well as China's, has seen a continuous increase over the past 20 years. Our GDP has hit the highest point of 261921.2 (thousand USD) while China is 1.43*10^7 (thousand USD). Fig. 2 revealing the growth rate of the two countries' GDP shows that the rate of China is higher than that of Vietnam (greater slope), which contributes to the increase in the economic gap between the two nations over time. The statistical value of the table above illustrates that the gap per capita is 3.24 (thousand USD).

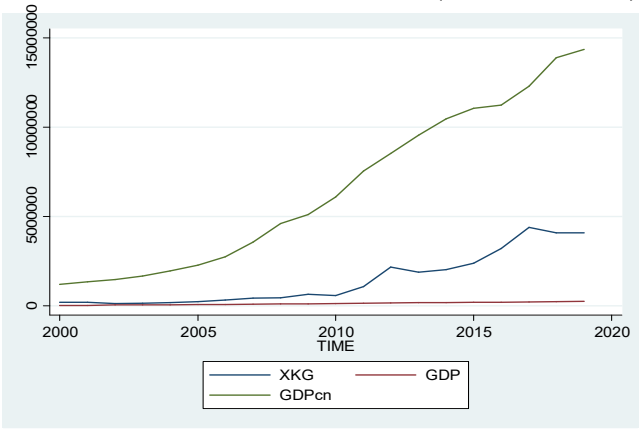

Figure 2. The figure below revealing the growth rate of the two countries' GDP shows that the rate of China is higher than that of Vietnam (greater slope)

Vietnam's economy has an average openness of 1.55; however, that of China is 0.26. The change in economic openness of the two nations is shown in fig. 3.

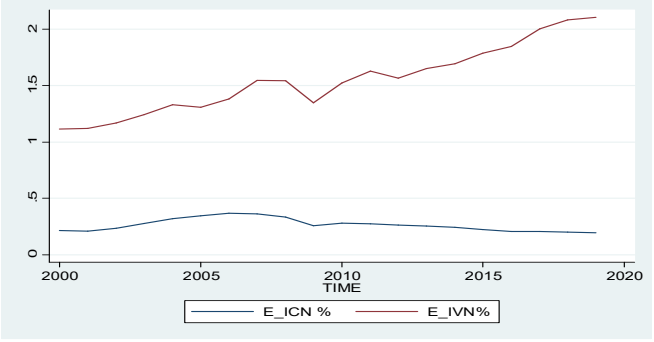

Figure 3. The change in economic openness of the two nations is shown in the following chart

China's agricultural land which occupies over 55% of the total area has stayed unchanged in the last 20 years, while that of Vietnam accounts for a lower proportion witnessing an increase from less than 30% in 2000 to nearly 40% in 2019.

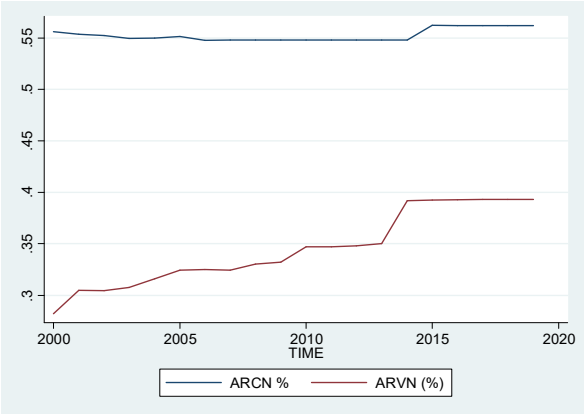

Figure 4. "China – Vietnam" agricultural land

3.2. Analysis of the relationship of factors with exports

Impulse Response Function IRF is used to estimate the impact of factors on the export of Vietnam's agricultural products to China with a maximum period of 8.

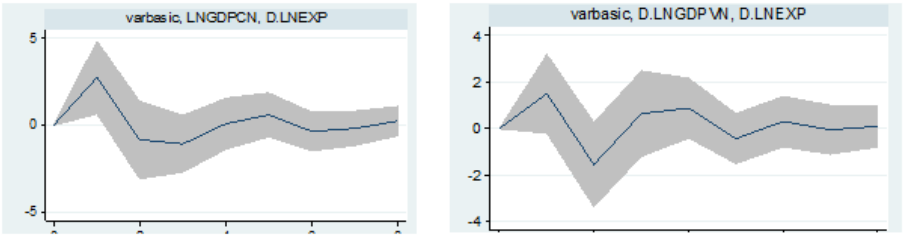

Figure 5. The relationship between GDP and agricultural exports

The Impulse Response Function indicates that the GDP of Vietnam and China both exert a strong and immediate influence on agricultural exports.

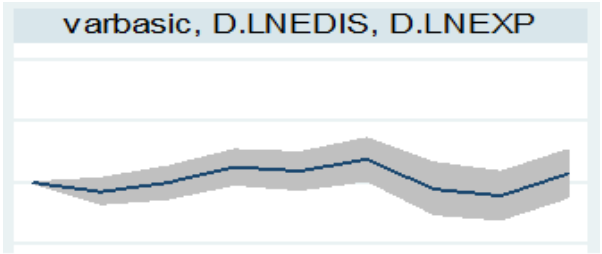

Figure 6. The connection between the economic gap and agricultural exports

The IRF chart reveals that economic distance has both short-term and long-term effects.

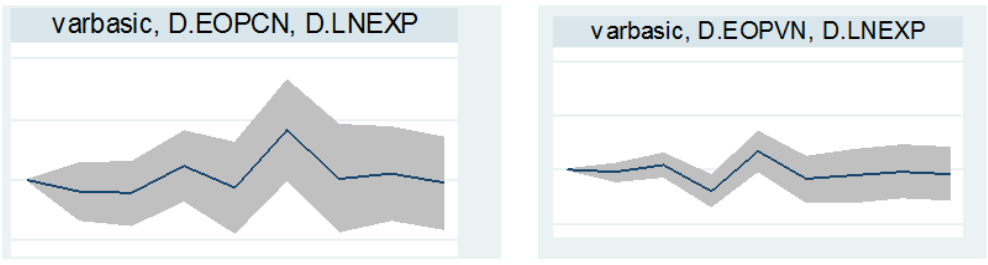

Figure 7. The association between the economic openness and agricultural exports

Fig. 7 shows that the economic openness of China and Vietnam at the same time makes an impact on our agricultural exports in which that China exerts a stronger influence than Vietnam's.

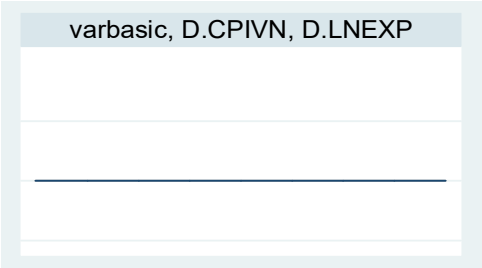

Figure 8. The correlation between inflation, the population of importing country and the export of Vietnamese agricultural products

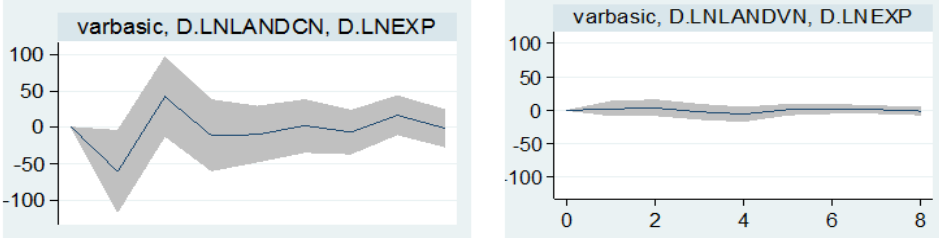

Figure 9. The relationship of agricultural land area with Vietnam's rural products exporting to China

Vietnam's inflation and Chinese population have almost no effect on our agricultural exports to China.

The analysis revealed that China's agricultural land area has an immediate response to Vietnam's rural exports; however, this impact will gradually decrease in the long term. When it comes to the agricultural land area of Vietnam, it is shown that not much impact on export is made.

Summary: The results indicate that factors influencing Vietnam's agricultural exports to China include Vietnam and China's GDP, the economic gap of the two nations, the economic openness in both countries as well as the area of agricultural land in China.

Determine the optimal latency

The variable lag will be identified to show whether the past value of one variable can help to forecast another or not.

The results of the analysis indicate that the AIC makes sense at a latency of 4, which means the optimal lag for the model is 4.

Table 2. The results of the analysis indicate that the AIC

Selection-order criteria
Sample: 2005 - 2019 Number of obs = 15

lag	LL	LR	df	p	FPE	AIC	HQIC	SBIC
0	260.122				5.2e-24	-33.7496	-33.7531	-33.4192
1	334.044	147.84	49	0.000	4.4e-25*	-37.0725	-37.1007	-34.4291
2	3278.82	5889.6	49	0.000	.	-423.177	-423.229	-418.22
3	3718	878.35	49	0.000	.	-481.733	-481.786	-476.777
4	3761.4	86.795*	49	0.001	.	-487.519*	-487.572*	-482.563*

Endogenous: D.LNEXP D.LNGDPVN D.LNGDPCN D.EOPCN D.LNEDIS D.EOPVN D.LNLANDCN
Exogenous: _cons

Co-integration test

Co-integration implies that chains fluctuate over time, as a result, they are related in the long term. The co-integration result is of important basis for choosing a vector of error correction model (VECM) or a vector autoregression (VAR) model.

Johansen test used to assess co-integration shows that at least 1 variable has co-integration, leading to the usage of the VECM model to analyze regression.

The results illustrated that variables such as

Vietnam and China's GDP, the economic gap of the two nations, the openness of the two countries, the area of agricultural land in China have a statistically significant impact on Vietnam's agricultural exports. However, while GDP and the economic gap show the same direction influence, other factors exert the opposite direction effect.

The regression model is rewritten as below:

lnEXPVN = 0.23 + 296.2*lnGDPVND1. + 249.8*lnEDISD1. - 277.4*lnGDPCND1. - 40.3*lnEOPD1. - 450*lnLANDCND1. (4)

Table 3. The co-integration result

Johansen tests for cointegration

Trend: constant — Number of obs = 18
Sample: 2002 - 2019 — Lags = 1

maximum rank	parms	LL	eigenvalue	trace statistic	5% critical value
0	7	304.92214	.	164.3273	124.24
1	20	338.9446	0.97718	96.2824	94.15
2	31	354.72809	0.82687	64.7154*	68.52
3	40	368.48444	0.78314	37.2028	47.21
4	47	378.30445	0.66416	17.5627	29.68
5	52	383.08731	0.41224	7.9970	15.41
6	55	386.42291	0.30970	1.3258	3.76
7	56	387.08582	0.07101		

Table 4. The result of regression using Vector of Error Correction Model VECM

Equation	Parms	chi2	P>chi2
_ce1	5	11997.61	0.0000

Identification: beta is exactly identified

Johansen normalization restriction imposed

beta	Coef.	Std. Err.	z	P>|z|	[95% Conf.	Interval]
_ce1						
LNEXP D1.	1	.	.	.	.	.
LNGDPVN D1.	269.1923	13.18126	20.42	0.000	243.3575	295.0271
LNGDPCN D1.	-277.3831	13.14099	-21.11	0.000	-303.139	-251.6273
LNEDIS D1.	249.8479	13.15998	18.99	0.000	224.0548	275.641
EOPCN D1.	-40.26409	.6754191	-59.61	0.000	-41.58789	-38.9403
LNLANDCN D1.	-450.0865	4.59858	-97.88	0.000	-459.0995	-441.0734
_cons	.2276139	.	.	.	.	.

The impact of GDP on agricultural export

The relationship of Vietnam's GDP (β = 296.2; $p < 0.01$) exerts favorably to the value of bilateral trade. The export structure of Vietnam's agricultural products accounts for approximately 20% of the total, therefore, if Vietnam is capable of expanding production, it seems that the ability of exports also increases. Export of rural products to China always makes up a large proportion of about 40% of export turnover to China. However, in recent years, with the development and application of science

and technology to increase productivity, China has steadily self-supplied agricultural products, which has assumed the responsibility for the decline in Vietnam's export turnover. In other words, the Chinese GDP has an opposite effect on Vietnam's agricultural exports.

The impact of the economic gap on agricultural export

The analysis indicated that the economic gap between the two nations indicates a positive influence on Vietnam's agricultural exports. According to Martínez-Zarzoso and Nowak-Lehmann (2003), international trade in manufactured goods or services will be more active among countries with equal income per capita in comparison to those with unequal ones. However, agricultural products are necessities that serve the daily needs of the people, as the result, the economic gap is no longer a barrier to exports.

Table 5. Assess the impact of distance control variables (project "One Belt, One Road") on the result of regression

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. ttest _est_e1, by(DIS)

Two-sample t test with equal variances
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Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
0	14	.7857143	.1138039	.4258153	.5398558	1.031573
1	6	1	0	0	1	1
combined	20	.85	.0819178	.3663475	.6785441	1.021456
diff		-.2142857	.1765762		-.5852584	.156687

```
    diff = mean(0) - mean(1)                                  t =  -1.2136
Ho: diff = 0                     degrees of freedom =       18

    Ha: diff < 0                 Ha: diff != 0                 Ha: diff > 0
 Pr(T < t) = 0.1203         Pr(|T| > |t|) = 0.2406          Pr(T > t) = 0.8797
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The impact of the level of China's economic openness on Vietnam's agricultural export

The openness of the economy is used as a representative of a country's foreign trade policy. The greater the foreign trade policy toward liberalization, the greater the openness of the economy, leading to the increase in international trade exchanges. The analysis, on the contrary, indicated that the openness of the Chinese economy exerts a statistically opposite influence on Vietnam's agricultural exports. This conclusion can be explained that once the openness of China's economy experiences growth, contributing to international cooperation. Besides, the project One Belt, One Road is one of the policies that affect Chinese openness and the exports of participating countries, including Vietnam. Therefore, the diversification of supply also witnesses a rise, which means one product can be exported to China from lots of countries and trading partners. As a result, the import of products from Vietnam will experience a decrease.

The results showed that the influence of the One Belt One Road project had a forward direction (rising the country's agricultural exports), but the due value was $|t| = 1.21 < 1.95$ (due value at 5%). Therefore, it bears no statistical significance. One Belt One Road project aims at enhancing the circulation of goods by reducing time, decreasing transportation costs as well as minimizing risks in transportation. The project is in the construction stage, so it certainly doesn't show immediate efficiency, but in the long run, it will create strong pushes in agricultural exports in particular and economic trade in general.

4. CONCLUSION AND RECOMMENDATIONS

The results of the study figure that factors such as GDP, geographical distance (One Belt One Road project is of importance in the development of infrastructure and it has the

maximum support from the Government of China), economic gap, the population of importing country (Chinese population), economic openness (joining One Belt One Road project to achieve better policy), inflation and the area of agricultural land are the main factors making up the influence on Vietnam's agricultural exports to the densely populated China. Despite the level of each factor's impact, with the investment of China's government in transport infrastructure, the One Belt One Road project, or specifically geographical distance, whose distance doesn't change and exert no statistical significance, will surely revitalize the agricultural export turnover if Vietnam participates in. Not only do Vietnam's products entry China market in particular, but they are also exported to countries in One Belt One Road projects.

In 2019, when taking part in the 2nd One Belt One Road forum, Vietnamese Prime Minister Nguyen Xuan Phuc strongly supported China's Belt and Road initiative based on ensuring the principles of peaceful, equal, and mutually beneficial cooperation, accompanied by mutual respect, in accordance with international law, aiming to contribute to the development and prosperity of all countries (VTV, 2019). With the support from the two governments, the Vietnamese people agreed to strongly support participation in the "One Belt, One Road" initiative, which exerts advantageous influences on Vietnam's agriculture export turnover and other trades to the Chinese market.

REFERENCES

1. Hoang Chi Cuong, Bui Thi Thanh Nhan, Do Thi Bich Ngoc (2013). "New International Trade Theory: Test Evidence from the Case of Vietnam", Journal of Science and Development, 11(3), 411-428.

2. Ngo Thi My (2016). Research on factors affecting exports of some agricultural products of Vietnam, Economic Ph.D. Thesis, Thai Nguyen University of Economics and Business Administration.

3. Nguyen Minh Son (2010). Economic solutions to boost Vietnam's export of agricultural products in the process of international economic integration, Ph.D. thesis, National Economics University, Ha Noi.

4. Abdelhak S Senhadji, Claudio (1999). "Time Series Analysis of Export Demand Equations: A Cross-Country Analysis", IMF Staff Papers, Vol 46, No 3, pp. 259-273.

5. Bernardina Algieri (2004). "Price and Income Elasticities of Russian Exports", The European Journal of Comparative Economics, Vol. 1, n. 2, pp. 175193.

6. Djoni, Dedi Darusman (2013). "Unang Atmaja, and Aziz Fauzi, Determinants of Indonesia's Crude Coconut Oil Export Demand", Journal of Economics and Sustainable Development, Vol.4, No.14, pp 98-105.

7. Everen Erdogan Cosar (2002). "Price and Income Elasticities of Turkish Export Demand: A Panel Data Application", Central Bank Review 2, pp. 19-53.

8. Goldstein, M. and Khan, M. S. (1978). "The Supply and Demand for Exports: A Simultaneous Approach", Review of Economics and Statistics, vol. 60, no. 2, pp. 275-286.

9. Gunawardana, P. J. and Karn, P. Ch. (1998). "Supply of and Demand for Australia's Pharmaceutical Exports," Working Paper No. 7/98, Department of Applied Economics, Victoria University, Melbourne, Australia.

10. Baier, S.L., & Bergsrtand, J.H. (2007). Do free trade agreements actually increase members international trade? Journal of International Economic, 71(1): 72-95.

11. Bergstrand, J. H. (1985). The gravity equation in international trade: some microeconomics foundations and empirical evidence. The Review of Economics and Statistics, Vol.67, No.3: 474-481.

12. Bhagwati, J. (1988). Protectionism. The MIT Press, Cambridge, Massachusetts: xiii+147.

13. Boyacigiller, N. (1990). The role of expatriates in the management of interdependence, complexity and risk in multinational corporation. Journal ofInternational Business Studies, 21: 357-381.

14. Carrere, C. (2006). Revisiting the effects of regional trade agreements on trade flows with proper specification of the gravity model. European Economic Review, Elsevier, vol. 50, No.2: 223-247.

15. Carlson, S. (1974). International transmission of information and the business firm. Annals of American Academy of Political and Social Science, 412(March): 55-63.

16 Chen, N. (2004). Intra-national versus international trade in the European Union: Why do national borders matter? Journal of International Economics, 63(1): 93-118.

17. Dell'Ariccia, G. (1999). Exchange rate fluctuations and trade flows: Evidence from the European Union. IMF Staff Papers, Vol.46, No.3: 315-334.

18. Dilanchiev (2012). Empirical Analysis of Georgian Trade Pattern: Gravity Model. Journal of Social Sciences: 75-78.

19. Dinh Thi Thanh Binh, Nguyen Viet Duong and Hoang Manh Cuong (2011). Applying Gravity Model to AnalyzeTrade Activities of Vietnam. 12. Eita, J. H., 2008. Determinants of Namibian exports: a gravity model approach. University of Namibian.

20. Fagerberg, J. (1997). Competitiveness, scale and

R&D. En: Fagerberg, J., Hansson, P., Lundberg, L. y Melchior, A., eds., Technology and International Trade. Cheltenham, UK, Edward Elgar: 3855.

21. Frankel, J., và Rose, A. (2000). An estimate of the effects of currency unions on growth. Unpublished working paper.

22. Frankel, J. (1997). Regional Trading Blocs in the World Economic System. Washington DC: Institute for International Economics.

23. Fujimura, M. and Edmonds (2006). Impact of Cross-border Transport Infrastructure on Trade and Invesment in GMS. Discussion Paper No.48. Asian Development Bank.

24. Ghemawat, P. (2001). Distance still matters: The hard reality of global expansion. Harvard Business Review, 79(8): 137-40, 142-7, 162.

25. Hatab, Abu, Romstad and Huo (2010). Determinants of Egyptian Agricultural Exports: A Gravity Model Approach, Modern Economy 1: 134-143.

26. Hausman, J. A., and Taylor, W. E. (1981). Panel data and unobservable individual effects.Econometrica, Vol.49, No.6, paper 1377-1398.

27. Helpman, E. (1981). International Trade in the Presence of Product Differentiation, Economies of Scale and Monopolistic Competition: A Chamberlin Heckscherlin-Ohlin Approach, Journal of International Economics, Vol. 11: 305-340.

28. Hofstede, G. (1980). Culture's Consequences: International Differences in Work-Related values, Beverly Hills, CA: Sage Publications.

29. Zoltán Jakab, Mihaly A. Kovacs and Andras Oszlay (2001). How far has trade integration advanced? An analysis of the actual and potential trade of three Central and Eastern European Countries. Journal of Comparative Economics, Vol.29: 276-292.

30. Kogut, B., and Singh, H. (1988). The effect of national culture on the choice of entry mode. Journal of International Business Studies, 19: 411-432. 24. Linder, S.B., 1961.An Essay on Trade and Transformation, Almqvist & Wiksell Boktr Uppsala, Stockholm.

31. Loungani, P., Mody, A., and Razin, A. (2002). The Global Disconnect: The Role of Transactional Distance and Scale Economies in Gravity Equations, Scottish Journal of Political Economy 49(5), 526-543.

32. McCallum, J. (1995). National borders matter: Canada-U.S. regional trade patterns. The American Economic Review, 85(3): 615-623.

33.https://vtv.vn/trong-nuoc/thu-tuong-hoan-nghenh-sang-kien-vanh-dai-va-con-duong-cua-trung-quoc-20190425125728212.htm.

ĐÁNH GIÁ CÁC YẾU TỐ ẢNH HƯỞNG ĐẾN XUẤT KHẨU NÔNG SẢN VIỆT NAM SANG TRUNG QUỐC TRÊN CƠ SỞ SÁNG KIẾN "MỘT VÀNH ĐAI, MỘT CON ĐƯỜNG" – ỨNG DỤNG PHƯƠNG PHÁP MÔ HÌNH TRỌNG LỰC

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TÓM TẮT

Trong nền kinh tế Việt Nam, nông nghiệp là ngành có vai trò rất quan trọng có sức lan tỏa rất lớn, và có tính kết nối rất cao với nhiều ngành kinh tế khác. Trong nhiều thập kỉ qua thì Trung Quốc (nước tỉ dân, khả năng tiêu thụ nông sản mạnh, lại sát biên giới với Việt Nam) luôn là thị trường xuất khẩu mà sản phẩm nông nghiệp (nông sản) của Việt Nam hướng tới. Trên cơ sở sáng kiến "một vành đai một con đường" được đề xuất mà Việt Nam là một quốc gia vinh dự nằm trong sáng kiến đó. Các yếu tố nào ảnh hưởng đến xuất khẩu nông sản Việt Nam sang Trung Quốc, nghiên cứu ứng dụng phương pháp mô hình trọng lực nhằm đánh giá tìm ra các yếu tố tác động đến việc phát triển và tăng cường xuất khẩu nông sản của Việt Nam sang thị trường này. Kết quả nghiên cứu cho thấy các yếu tố như: GDP, khoảng cách địa lý (sáng kiến một vành đai một con đường có ý nghĩa trong việc phát triển giao thông cơ sở hạ tầng, sự hỗ trợ tối đa từ phía chính phủ Trung Quốc), khoảng cách kinh tế, dân số nước nhập khẩu (dân số Trung Quốc), độ mở nền kinh tế (tham gia sáng kiến một vành đai một con đường có được chính sách mở hơn), lạm phát, diện tích đất nông nghiệp là những yếu tố chính tạo nên sự ảnh hưởng đến xuất khẩu nông sản Việt Nam.

Từ khóa: mô hình trọng lực, một vành đai một con đường, nông sản Việt Nam, xuất khẩu.

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