

A Comparative Analysis of Korea's Export and Import Trends to Vietnam

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Abstract In this study, we examined Korea's exports and imports trends to the world and Korea's exports and imports trends to Vietnam. We also examined exports and imports trends about China, USA, Vietnam, Hong Kong, Japan and Taiwan in Korea's major trading nation. The purpose of this study is to examine how much Korea's exports and imports of Vietnam have increased and to compare how much it has risen compared to other major countries. To this end, we used imports and exports data for Korea, China, USA, Vietnam, Hong Kong, Japan and Taiwan using data from January 2000 to February 2018 for 218 months. During the past 218 months, Korea's exports to Vietnam have increased rapidly, leading to Korea's exports to the world. Korea's exports to Vietnam showed a 10 times increase rate compared to Korea's exports to the world. Vietnam has grown to be an important export country in Korea.

Key Words : Korea, Vietnam, Import and Export, Indicator Analysis, Model Analysis

요 약 본 연구에서는 한국의 대 세계 수출입 동향과 한국의 대 베트남 수출입 동향을 살펴보았다. 또한 한국의 주요 무역 국가인 중국, 미국, 베트남, 홍콩, 일본, 대만에 대한 수출입 동향을 조사하였다. 본 연구의 목적은 한국의 대 베트남 수출과 수입이 얼마나 증가하였는지 살펴보고, 다른 주요 국가에 비해 얼마나 많이 상승하였는지 비교하고 분석하는데 있다. 이를 위해, 한국과 중국, 미국, 베트남, 홍콩, 일본, 대만에 대한 수출입 관련 자료를 2000년 1월부터 2018년 2월까지 총 218개 월간자료를 이용하였다. 지난 19년 동안 한국의 대 베트남 수출이 급속히 증가하면서 한국의 대 세계 수출을 주도한 것으로 판단되었다. 한국의 대 베트남 수출은 한국의 대 세계 수출에 비해 10배 가까운 상승률을 보이면서, 베트남은 한국의 주요 수출 상대국으로 성장하였다. 향후 한국 경제 발전과 수출의 지속적인 성장을 위해서는 과거 중국 중심의 수출 일변도에서 벗어나, 베트남을 비롯한 동남아로의 수출 다변화를 시도할 필요성이 제기된다.

주제어 : 한국, 베트남, 수출입, 지표분석, 모형분석

1. Introduction

The trade volume between Korea and Vietnam has

increased by more than 40% to \$64 billion in 2017. Korea is the second largest trading partner and largest investor of Vietnam. Vietnam is Korea's fourth largest

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trading nation, but by 2019 it will become the third largest trading nation. In 2017, 2.7 million Korean tourists visited Vietnam and Vietnam became Korea's largest visiting country. Vietnam's GDP grew 6.5% in 2017, consumer prices were up 3.8% and the benchmark interest rate was 6.25%[1].

President Moon Jae-in announced the 'Joint Declaration for the Future of Korea and Vietnam' at the 25th anniversary of diplomatic relations with the Vietnamese government. The two governments proposed an action plan to achieve \$ 100 billion in trade by 2020. The two countries have agreed to cooperate in the field of material parts industry, electronics, energy, high-tech, advanced agricultural development, infrastructure and industrial parks and creative entrepreneurship. Korea and Vietnam concluded MOUs on transportation cooperation, construction and urban development cooperation, cooperation on the 4th Industrial Revolution Cooperation and Employment Permit System[2].

This study examines Korea's export and import trends to the world and Korea's export and import trends to Vietnam. We will also examine the import and export trends of China, USA, Vietnam, Hong Kong, Japan and Taiwan, which are the major trading countries of Korea. Therefore, the purpose of this study is to examine how much Korea's exports and imports to Vietnam have increased, and to analyze how much it rose compared to other countries. For this purpose, we used 218 monthly data from January 2000 to February 2018 for import and export data on Korea, China, USA, Vietnam, Hong Kong, Japan and Taiwan.

2. Precedent Research

Since the normalization of diplomatic relations between Korea and Vietnam in 1992, trade relations have developed rapidly and Korea has become the top foreign investor in Vietnam. Vietnam has grown to become the most popular country in the international

trade market since its accession to the WTO. Vietnam is an important partner of Korea in the ASEAN trade policy[3]. Korea's exports to Vietnam exceeded the growth rate of total exports for the period 2000-2014, with an annual average growth rate of 20%. Korea's air exports to Vietnam accounted from 3.7% in 2000 to 40.8% in 2014. Semiconductors and wireless communication devices are ranked first and second in Korea's exports to Vietnam. Semiconductors and wireless communication devices are ranked first and second in Korea's exports to Vietnam[4]. Since joining the WTO in 2007, Vietnam has actively attracted foreign direct investment through tax benefits and preferential policies. Recently, there has been a positive relationship between foreign direct investment and intermediate goods exports to Vietnam. Vietnam is rapidly emerging as a new exporting country in Korea as an alternative to China[5,6].

To export to the Vietnamese market, the international experience of entrepreneurs has shown a positive impact on exports. The quality differentiation of products exported to Vietnam had a significant effect on exports. In addition, the intensity of competition in the Vietnamese market had a significant impact on exports[7]. As the global supply chain expands, Southeast Asian developing countries are becoming more important in terms of corporate competitiveness. Vietnam export-oriented suppliers are operating in a sustainable supply chain at a high level in Southeast Asia. It is confirmed that society, environment of suppliers have a positive effect on performance improvement[8].

Market access to Vietnam is dependent on a variety of variables such as the level of concessions, negotiating points and base year tariff rates. Therefore, Korea should increase its market access to Vietnam through a bilateral FTA with Vietnam[9,10]. The Korean Wave has a positive effect on Korea's national image and product evaluation, and it has been shown that it influences purchase intention of Korean imported products. Among the national image of Korea, it was

found that the relational image has a significant influence on the purchasing intention of imported goods from Korea[11]. In the Vietnamese market, Korea's national image and electronic product image were analyzed to have a direct impact on the purchasing intention of Vietnamese consumers. Therefore, in order to increase the competitiveness of Korean products in the Vietnamese market, it is necessary to have a strategy that can maximize the positive effects of Korea's national and electronic products and Korean Wave[12,13]. In the purchase of Korean cosmetics, Vietnamese consumers have no relation to the national image and tend to purchase according to the brand image of cosmetics. It is analyzed that the Korean Wave influences Korea's national image and cosmetics brand image[14].

Vietnam's distribution market has expanded significantly due to the market opening schedule and high income growth over the past decade. The case study of Korea Lotte Mart in the Vietnam market provides a practical strategy to help Korean companies enter the Vietnamese market in the future[15,16]. The effect of origin on Vietnam's cultural, economic and international image has a significant effect on the Korean market. And the effect of origin was found to have a significant effect on repurchase intention of Vietnamese products[17,18]. It is important to devise a new trading system in order to promote economic growth with Vietnam. In order to respond positively to the rapidly changing environment, Korean companies should further develop Vietnam's trade policy. And for the long-term development, the promotion of trade between Korea and Vietnam and the win-win strategy of both sides are needed[19].

3. Data Collection and Korea's Import & Export Trends to Vietnam

3.1 Data Collection

This study used Korea's export amount, import amount and trade balance to the world. We also used

Korea's export amount, import amount and trade balance to Vietnam. In addition, exports and imports data for China, USA, Vietnam, Hong Kong, Japan and Taiwan were collected from the Customs Service Trade Statistics.

The analysis period of import and export data for Korea, China, USA, Vietnam, Hong Kong, Japan and Taiwan were 218 monthly data from January 2000 to February 2018. For the sake of convenience, Korea's imports and exports to the world are represented by KOREA and Korea's exports and imports to Vietnam are represented by VIETNAM. In addition, we want to express it as Vietnam, China, USA, HongKong, Japan, Taiwan in Korea's top trading nation.

The monthly data used in this study were numerical analysis, Indicator Analysis and model analysis using Excel, SPSS and e-views. Through this, I would like to compare Korea's import & export trend to the world and Korea's import & export trend to Vietnam. We also analyze the import and export trends of China, USA, Vietnam, Hong Kong, Japan and Taiwan, which are Korea's trading partners[20].

3.2 Korea's Import & Export Trends to Vietnam

Korea's trade volume in Great Vietnam has steadily increased at an annual average rate of 25.6% during the last 17 years (2000–2017). Fig. 1 shows that the trade volume is rapidly increasing from \$ 2 billion in 2000 to \$ 64 billion in 2017. By 2017, Vietnam has emerged as a major exporting country and a trade surplus in Korea. Korea's exports to Vietnam are the third largest after China and USA, and the trade balance is the third after China and Hong Kong. Vietnam accounts for 8.3% of Korea's exports and 33.2% of Korea's trade balance. Vietnam has emerged as a major trading nation in Korea and is expected to grow in size in the future. Vietnam is emerging as a manufacturing country for electronics after China, and Korean companies are actively advancing into Vietnam[21].

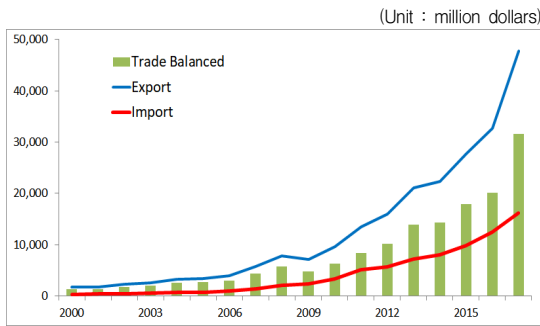


Fig. 1. Korea's Trade Trend to Vietnam

Table 1 shows the weight and amount of Korea's exports and imports to Vietnam by product in 2017. Each item is listed in order of export value. Electrical appliances, parts and sound recorders account for 46.5% of total exports. Trade balance is high in the order of electric appliances and parts, nuclear reactors, boilers, machinery, educational equipment, photographic equipment, plastic products.

4. Empirical Analysis

4.1 Numerical Analysis

Table 2 shows the export amount descriptive statistics of Korea's exports to the world (KOREA) and Korea's exports to Vietnam (VIETNAM). In

KOREA and VIETNAM, the mean was 0.92% & 2.98%, and the standard deviation was 8.07 & 16.99, respectively. In the case of variation, VIETNAM (103) was twice as large as KOREA (47). In the case of Skewness, VIETNAM (0.57) has a longer right tail than KOREA (0.12)[22].

Table 2. Export Descriptive statistics

	KOREA	VIETNAM
Mean	0.9227	2.9823
Median	0.4924	1.5241
Maximum	24.918	64.328
Minimum	-22.283	-38.824
Std. Dev.	8.0755	16.997
Skewness	0.1284	0.5728
Kurtosis	3.2371	3.7848
Jarque-Bera	1.1107	17.518
Probability	0.5738	0.00017
N	218	218

Table 2 shows the export amount descriptive statistics of Korea's exports to the world (KOREA) and Korea's exports to Vietnam (VIETNAM). In KOREA and VIETNAM, the mean was 0.92% & 2.98%, and the standard deviation was 8.07 & 16.99, respectively. In the case of variation, VIETNAM (103) was twice as large as KOREA (47). In the case of Skewness, VIETNAM (0.57) has a longer right tail than KOREA (0.12)[23].

Table 1. The weight and amount of Korea's imports and exports by product category to Vietnam (2017)

(unit : 1,000\$/1ton)

	Export Weight	Export Amount	Import Weight	Import Amount	Trade Balan.
Electrical equipment and its parts, sound recorders / voice reproducers	109,683.0	22,197,425	76,275.9	6,522,868	15,674,557
Nuclear reactors, boilers, machinery and parts	279,911.6	5,671,689	38,862.8	835,144	4,836,545
Optical equipment / Photographic equipment / Movie equipment and its parts	66,229.8	4,422,296	8,279.6	566,043	3,856,252
Plastics & its Products	1,111,987.4	2,792,788	49,117.6	216,477	2,576,312
Mineral fuels its parts, mineral oils & distillates	3,444,542.6	2,032,308	544,515.6	167,997	1,864,312
steel	1,923,670.1	1,274,706	299,758.8	192,277	1,082,430
Railway vehicles and its parts	162,363.1	1,213,164	5,890.2	73,025	1,140,140
Knitted and crocheted knitwear	132,822.7	1,118,031	4,011.1	13,349	1,104,682
Aluminum and its products	205,130.8	608,079	71,266.2	143,098	464,981
Artificial filaments, artificial textile materials	55,581.9	541,040	55,955.9	115,318	425,722

(Source : Customs Service Trade Statistics - <https://unipass.customs.go.kr:38030/ets/25>)

Table 3. Import Descriptive statistics

	KOREA	VIETNAM
Mean	0.7810	3.2980
Median	0.3393	1.8638
Maximum	25.175	78.531
Minimum	-20.070	-41.041
Std. Dev.	6.8966	17.9094
Skewness	0.5060	0.8813
Kurtosis	4.0047	4.9203
Jarque-Bera	18.473	61.721
Probability	0.0001	0.0000
N	218	218

Table 3 shows the import descriptive statistics of KOREA and VIETNAM. In KOREA and VIETNAM, the mean was 0.78% and 3.28%, and the standard deviation was 6.89 and 17.90, respectively. In the case of variation, VIETNAM (120) was more than twice as large as KOREA (45). In the case of Skewness, VIETNAM (0.88) has a long tail to the right as compared to KOREA (0.50).

Table 4. Export Correlation

	VIETNAM	KOREA
VIETNAM	1	
KOREA	0.618	1

Table 5. Import Correlation

	VIETNAM	KOREA
VIETNAM	1	
KOREA	0.305	1

The correlation between exports and imports is shown in Table 4 and Table 5 Correlation coefficients show 0.618 for exports and 0.305 for imports. Exports have a relatively high correlation with imports.

Table 6. Export Regression Analysis : dependent variable – KOREA

Variable	Coefficient	Std. Error	t-Stat.	Prob.
VIETNAM	0.2938	0.0249	11.7610	0.000
R-squard	0.3812	Mean dependent var		0.922
Adjusted R-squard	0.3812	S.D. dependent var		8.075
S.E. of regression	6.3521	Akaike info criterion		6.540
Sum squard resid	8755.8	Schwarz criterion		6.555
Log likelihood	-711.86	Hannan-Quinn criter.		6.546
Durbin-Watson stat			2.6010	

Table 6 shows that KOREA is a dependent variable and VIETNAM is an independent variable Least Squares. In the simple regression model, the Coefficient is 0.2938, and when VIETNAM is increased by 1 unit, KOREA is increased by 0.2938. Adjusted R-squared was 0.3812, and the variation of the dependent variable KOREA was 38.12%. The Durbin-Watson stat value is 2.60, which is close to 2, meaning a market that moves independently of each other. The t-statistic and p-value(≤ 0.01) of VIETNAM were statistically significant[24].

Table 7. Import Regression Analysis : dependent variable – KOREA

Variable	Coefficient	Std. Error	t-Stat.	Prob.
VIETNAM	0.1215	0.0245	4.9550	0.0000
R-squared	0.0900	Mean dependent var		0.7810
Adjusted R-squar.	0.0900	S.D. dependent var		6.8966
S.E. of regression	6.5787	Akaike info criterion		6.6101
Sum squared resid	9391.6	Schwarz criterion		6.6256
Log likelihood	-719.50	Hannan-Quinn criter.		6.6164
Durbin-Watson stat			2.5239	

Table 7 shows that KOREA is a dependent variable and VIETNAM is an independent variable Least Squares. In the simple regression model, the Coefficient is 0.1215, and when VIETNAM is increased by 1 unit, KOREA is increased by 0.1215. The Durbin-Watson stat value is 2.52, which is close to 2, meaning a market that moves independently of each other. The t-statistic and p-value of VIETNAM were statistically significant.

4.2 Indicator Analysis

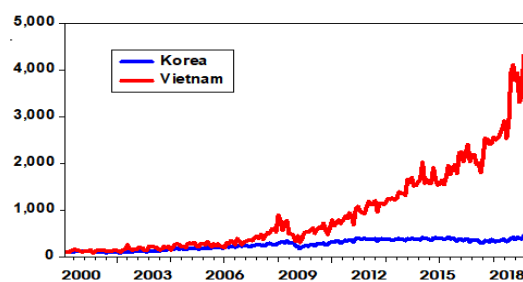


Fig. 2. Export Growth Rate: KOREA & VIETNAM

The growth rate of Korea's exports to the world (KOREA) and Korea's exports to Vietnam (VIETNAM) is shown in Fig. 2. From January 2000 to February 2018, Korea's exports to Vietnam grew by 3,894% and Korea's exports to the world totaled 404%. Korea's exports to Vietnam grew almost 10 times, and Vietnam grew to be an important export country of Korea.

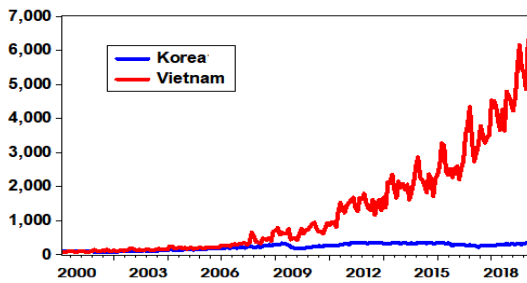


Fig. 3. Import Growth Rate: KOREA & VIETNAM

The growth rate of imports of KOREA and VIETNAM is shown in Fig. 3. From January 2000 until February 2018, import growth rate was 5,213% for VIETNAM and 330% for KOREA. The growth rate of VIETNAM was more than 12 times higher, and Vietnam became a major importer of Korea.

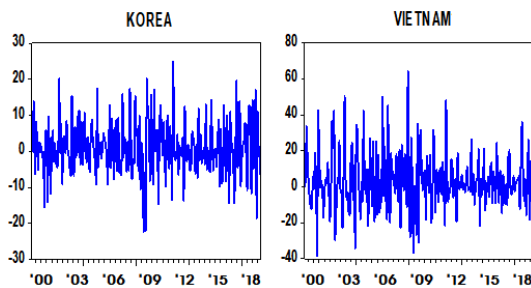


Fig. 4. Export Change Rate

The export change rate of KOREA and VIETNAM is shown in Fig. 4. The rate of change is between -20 and + 20% for KOREA and -40 to 60% for VIETNAM. Over the last 218 months, VIETNAM is much larger than KOREA in the exports change rate.

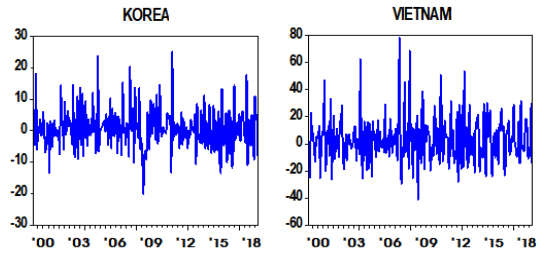


Fig. 5. Import Change Rate

The import change rate of KOREA and VIETNAM is shown in Fig. 5. The rate of change is between -20 and + 20% for KOREA and -40 to 80% for VIETNAM. Over the last 218 months, VIETNAM is much larger than KOREA in the imports change rate like exports.

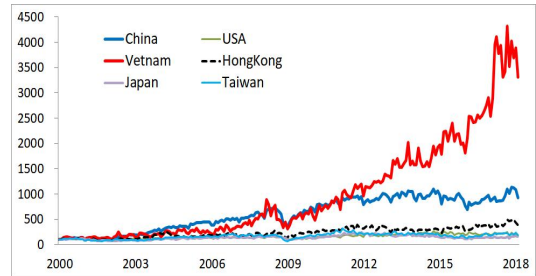


Fig. 6. Export Growth Rate of major countries

Export growth rate of China, USA, Vietnam, HongKong, Japan and Taiwan are shown in Fig. 6. In the past 218 months, the growth rates of each country are shown in the order of Vietnam 3,390%, China 933%, HongKong 387%, Taiwan 189%, Taiwan 189%, USA 180%, Japan 160%. Since 2000, Vietnam has been recognized as a leading country in Korea's export growth.

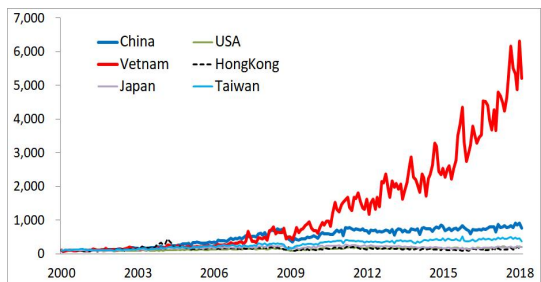


Fig. 7. Import Growth Rate of major countries

Import growth rate of China, USA, Vietnam, HongKong, Japan and Taiwan are shown in Fig. 7. In the past 218 months, the growth rates of each country are shown in the order of Vietnam 5,213%, China 752%, Taiwan 358%, USA 199%, Japan 190%, HongKong 149%. Since 2000, Vietnam has been recognized as a leading country in Korea's import growth.

4.3 Model Analysis

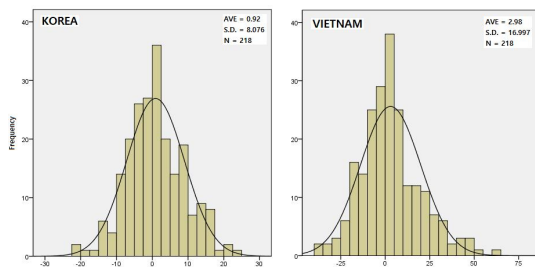


Fig. 8. Export Normal Distribution

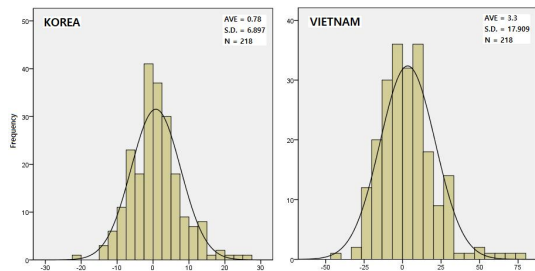


Fig. 9. Import Normal Distribution

The normal distribution of export growth rate of KOREA and VIETNAM is shown in Fig. 8. KOREA shows a distribution of -20%+20%, and VIETNAM shows -40%+50%. VIETNAM has a relatively broad distribution compared to KOREA. The normal distribution of import growth rate of KOREA and VIETNAM is shown in [Figure 9]. The distributions are -15%+30% for KOREA and -30%+80% for VIETNAM. VIETNAM is more than twice as wide as KOREA.

The export autocorrelation function (ACF) in Table 8, Table 9 and Fig. 10 shows that the current state is

not independent with the progress of time because it is not closely related to past and future state. Time series data of KOREA & VIETNAM are considered to have autocorrelation. In the Box-Ljung statistic, the probability of significance is smaller than the significance level (0.05), and the null hypothesis is rejected and autocorrelation exists. It means that there is no random and independent period between time series data.

Table 8. Export Autocorrelations : KOREA

Time lag	Auto correlations	Standardization error*	Box-Ljung statistic		
			Value	Degree of freedom	P**
1	-.295	.067	19.280	1	.000
2	-.117	.067	22.305	2	.000
3	.114	.067	25.184	3	.000
4	-.168	.067	31.542	4	.000
5	.008	.067	31.555	5	.000
6	.215	.066	41.981	6	.000
7	-.007	.066	41.991	7	.000
8	-.182	.066	49.570	8	.000
9	.147	.066	54.517	9	.000
10	-.303	.066	75.668	10	.000
11	.032	.066	75.911	11	.000
12	.377	.066	108.969	12	.000
13	-.087	.065	110.736	13	.000
14	-.127	.065	114.514	14	.000
15	.017	.065	114.586	15	.000
16	-.165	.065	121.019	16	.000

* : The assumed basic process is independent (white noise).

** : It is based on the approximate chi-square approximation.

Table 9. Export Autocorrelations : VIETNAM

Time lag	Auto correlations	Standardization error*	Box-Ljung statistic		
			Value	Degree of freedom	P**
1	-.223	.067	10.982	1	.001
2	-.214	.067	21.156	2	.000
3	.080	.067	22.597	3	.000
4	-.233	.067	34.757	4	.000
5	.063	.067	35.649	5	.000
6	.249	.066	49.716	6	.000
7	-.113	.066	52.593	7	.000
8	-.144	.066	57.316	8	.000
9	.102	.066	59.714	9	.000
10	-.297	.066	80.101	10	.000
11	.120	.066	83.463	11	.000
12	.304	.066	104.969	12	.000
13	-.051	.065	105.586	13	.000
14	-.065	.065	106.594	14	.000
15	-.077	.065	108.002	15	.000
16	-.095	.065	110.165	16	.000

* : The assumed basic process is independent (white noise).

** : It is based on the approximate chi-square approximation.

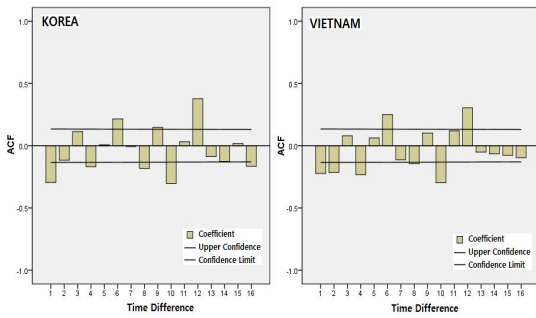


Fig. 10. Export Autocorrelations

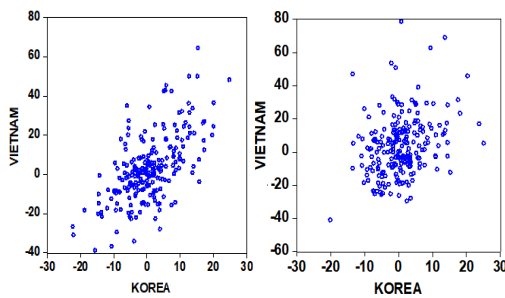


Fig. 11. Export & Import Scatter Chart

The export and import scatter charts of KOREA and VIETNAM are shown in Fig. 11. The X-axis and Y-axis represent the variation of KOREA and VIETNAM, respectively. In the case of exports, the distribution of KOREA and VIETNAM is on the whole upward, indicating that the synchronized phenomenon is relatively high. In the case of imports, the distribution of KOREA and VIETNAM is generally rounded, indicating that the synchronized phenomenon is very low.

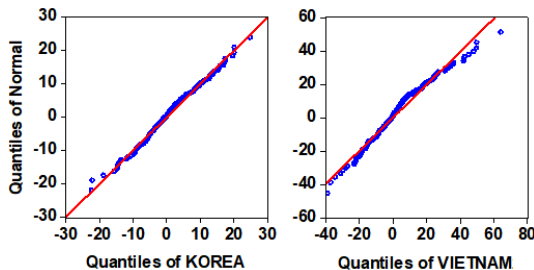


Fig. 12. Export Q-Q Charts

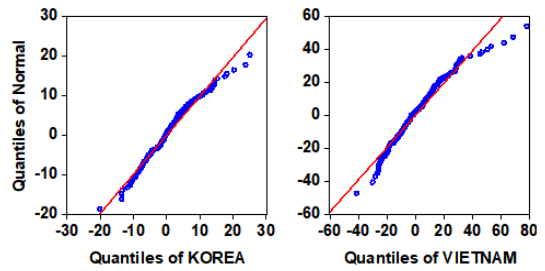


Fig. 13. Import Q-Q Charts

Fig. 12 and Fig. 13 show the export and import Quantiles-Quantiles charts of KOREA and VIETNAM. In Q-Q Charts, the red line (baseline) represents the 1:1 line on the X and Y axes. In the case of exports, we can see that KOREA & VIETNAM is moving closer to the baseline. In the case of imports, KOREA & VIETNAM shows that it is deviating from the top to the baseline.

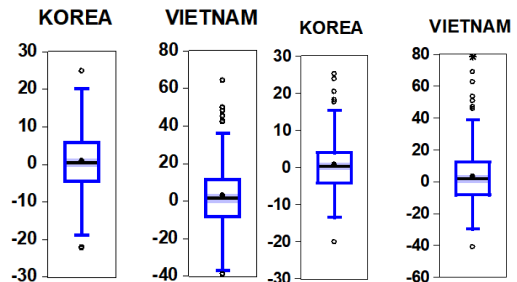


Fig. 14. Export & Import Box Plot

The export and import Box Plot of KOREA and VIETNAM is shown in Fig. 14. The figure on the left shows the exports, and the figure on the right shows the imports. In Export Box Plot, VIETNAM has more than double the rate of change compared to KOREA. VIETNAM shows a number of points (○) on top of KOREA. In the Import Box Plot, VIETNAM has a relatively wide variation relative to KOREA. VIETNAM has many points (○, *) at the top compared to KOREA and shows a strong upward trend.

5. Conclusion

In this study, we examined trends of Korea's export and import to the world and Korea's import and export to Vietnam. We analyzed how much VIETNAM increased compared to KOREA. We also examined the import and export trends of China, USA, Vietnam, Hong Kong, Japan and Taiwan, which are the major trading countries in Korea. We compared and analyzed how much Korea's imports and exports to Vietnam rose compared to any other countries. To this end, we used 218 monthly data from January 2000 to February 2018 for import and export data on China, USA, Vietnam, Hong Kong, Japan and Taiwan.

Korea's trade volume to Vietnam has steadily increased at an annual average rate of 25.6% during the last 17 years. Korea's exports to Vietnam are the third largest after China and the US, and the trade balance is the third after China and Hong Kong. Vietnam accounts for 8.3% of Korea's total exports and 33.2% of Korea's trade balance. Of the exports to Vietnam, electric appliances, its parts and sound recorders accounted for 46.5%, nuclear reactors, boilers, machinery for 11.9%, and optical appliances for 9.3% of total exports.

In the baseline statistics, the average and standard deviation of exports were calculated as 0.92% and 8.07 for KOREA, 2.98% and 16.99 for VIETNAM, respectively. In the correlation, correlation coefficients of KOREA and VIETNAM were 0.618 for exports and 0.305 for imports. Exports have a relatively high correlation with imports. In the trend of export growth rate, VIETNAM was 3,894% and KOREA was 404%. Vietnam has grown into a major exporter of Korea. In the trend of import growth rate, Vietnam grew to be an important importing country in Korea. In the trend of export and import change, VIETNAM showed three times the rate of change compared to KOREA.

In the past 218 months, the export growth rate of each country was in the order of Vietnam 3,390%, China 933%, HongKong 387%, Taiwan 189%, Taiwan

189%, USA 180%, Japan 160%. Vietnam seems to be the country that led the increase of exports to Korea the most. The growth rate of imports in each country was in the order of Vietnam 5,213%, China 752%, Taiwan 358%, USA 199%, Japan 190% and HongKong 149%.

In the normal distribution of export growth rate, KOREA is -20% – $+20\%$ and VIETNAM is -40% – $+50\%$. In the normal distribution of import growth rate, KOREA was -15% – $+30\%$ and VIETNAM was -30% – $+80\%$. VIETNAM showed more than 2 times wider distribution than KOREA. In the export and import autocorrelation function (ACF), the autocorrelation crosses + and - from time to time according to the time difference, and the time series data of KOREA & VIETNAM are judged to have autocorrelation. In the Box-Ljung statistic, the probability of significance is smaller than the significance level (0.05), and the null hypothesis is rejected and autocorrelation exists.

In Scatter analysis, the export distribution of KOREA and VIETNAM showed an upward trend overall, indicating that the synchronized phenomenon was high. The distribution of imports was relatively lower than the synchronized phenomenon of exports. In the Quantiles-Quantiles analysis, KOREA & VIETNAM moved closer to the baseline for export. However, in the case of imports, it showed an abnormal surge when it deviated from the baseline at the top. In Box Plot analysis, VIETNAM showed more than two times more variation than KOREA.

Finally, during the past 218 months, Korea's exports to Vietnam have increased rapidly, leading to Korea's exports to the world. Korea's exports to Vietnam grew nearly 10 times faster than Korea's exports to the world, and Vietnam became a major exporter of Korea. In order for Korea's economic development and export growth to continue, it will be necessary to diversify exports to Vietnam and other Southeast Asian countries out of Korea's exports to China.

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