DETERMINANTS OF EXPORT POTENTIAL FOR VIETNAM RICE PRODUCT

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ABSTRACT

Exports are increasingly becoming more important to the success of the Vietnam economy and companies. Depending on company's level of resources, objectives and product competitiveness, the number of foreign markets to target simultaneously and the selection process used to determine what markets to pursue will differ considerably. Nornally, there are some important steps to identify right markets for company products such as identifying HS code of your commodity, trending analysis of exports of your HS code, identifying the comparative advantage, trending analysis of major export targets, analysising competitors, analysing competitive advantage, checking trade complementarity of target markets and decision market tools for export company's products. Base on analyzed data, authors have expected to analysis potential for rice export at target markets in Vietnam. Authors have already analysized some indicators of Vietnam export performance such as sectoral or regional Hirschman index (SHI and RHI), revealed competitiveness advantage (RCA), export propensity index (EPI), import penetration index(IPI), and trade intensity index (TII).

Key words: *Export performance, trade indicators, Vietnam market*

INTRODUCTION

Agicutural sector consists of 17% of GDP contribution of economy in Vietnam (2016). Agricultural products export such as rice, coffee, rubber, tea, pepper, soybeans, cashews, sugar cane, peanuts, bananas; pork; poultry; seafood. *(Source: CIA factbook).* At present, Vietnam agricultural products are produced with high quality, and comparative advantages compared to agricultural products of other countries. However, output for agricultural products is mainly in some traditional export markets such as China, Japan with agricultural commodity prices are unstable. The development of output markets has always been an important issue for the agricultural sector. Price and quality developments in the input markets affect the comparative advantage of agricultural production among regions and types of production; these developments also affect the income of farm households, exporters, and others. The concerns arise especially with respect to market power of input suppliers as this can result in higher input costs and a distribution of rents different from what a competitive market would produce. The purpose of the study focuses on products and markets identification for agicultural sector in Vietnam.

METHODOLOGY

The first research method is the qualitative research based on secondary source of Website Trademap.org to analysis some trade indicators in case of Vietnam.

Sectoral and Regional Hirschmann Index (SHI and RHI)

The Sectoral Hirschmann Index is a measure of the sectoral concentration of a region's exports. Sectoral or Regional Hirschman Index (SHI & RHI): Sectoral or Regional Hirschman Index is most widely known in economic literature as Herfindahl-Hirschman Index (HHI). Sectoral or Regional Hirschman Index is most widely known in economic literature as Herfindahl-Hirschman Index or HHI. As Rhoades pointed in 1993, the Herfindahl Hirschman Index was developed autonomously by Hirschman in 1945 and Herfindahl in 1950 as a statistical measure of concentration in a variety of contexts. Following Mikic and Gilbert (2009) as well as acknowledging the paternity of index's name, as defended plausibly by Hirschman in 1964 (Hirschman, 1964), the current paper will refer to the constructed indexes as Regional Hirschman Index and Sectoral Hirschman Index.

 Furthermore, the index has been modified extensively through the years, as recently by Matsumoto et. al. (2012), incorporating numerous critiques published in relative literature. The current work, following the United Nations "Handbook of Commonly used Trade Indices and Indicators" (Mikic & Gilbert, 2009) will construct the above mentioned indices as Regional Hirschman (RHI).

Export Propensity Index (EPI)

The EPI for a particular industry is defined as a proportion of exports over domestic production of that industry. A higher ratio of the EPI in a particular commodity indicates that country has a higher degree of specialization in producing the commodity, and a comparative advantage in that commodity. It was calculated according to as follows: $EPI = X / DP$, where X is the export value of sector ; DP is the domestic production of that sector.

EPI relates to overall degree of reliance of domestic producers on foreign markets.High EPI means all domestic producers wants to export and no competition in the local market. So it will be chosen a product with high EPI to begin my startup which will ensure no L1 competition. Since high EPI ensures high exports in turn means high acceptance of my product in foreign markets, I am safe to export this sector.

Revealed Comparative Advantage (RCA)

Measures of revealed comparative advantage (RCA) have been used to help assess a country's export potential. The RCA indicates whether a country is in the process of extending the products in which it has a trade potential, as opposed to situations in which the number of products that can be competitively exported is static. It can also provide useful information about potential trade prospects with new partners. Countries with similar RCA profiles are unlikely to have high bilateral trade intensities unless intraindustry trade is involved. RCA measures, if estimated at high levels of product disaggregation, can focus attention on other nontraditional products that might be successfully exported. The RCA index of country I for product j is often measured by the product's share in the country's exports in relation to its share in world trade: $RCA_{ij} = (X_{ij}/X_{it}) / (X_{wj}/X_{wt})$. Where X_{ij} and X_{wj} are the values of country i's exports of product j and world exports of product j and where X_{it} and X_{wt} refer to the country's total exports and world total exports. A value of less than unity implies that the country has a revealed comparative disadvantage in the product. Similarly, if the index exceeds unity, the country is said to have a revealed comparative advantage in the product.

Import Penetration Index (IPI)

For this study, import penetration index has been computed from the input-output tables (commodity×industry absorption matrix) prepared by the Central Statistical Organization, Government of India. Following Das (2003), the import penetration ratio (IPI) of each sector is computed as follows:

$IPI_j = M_j/(P_j + M_j - X_j)$, where P, M and X denote production, imports and exports, respectively, and subscript j is for that sector.

It is the share of the actual number of export relationships (at the country product level) forged by Country A in the maximum possible number of export relationships it can form given the number of its exports. The denominator is

calculated by summing the number of countries that import each product that Country A exports.

Trade Intensity Index (TII)

Trade intensity index is based on an actual observation of bilateral trade flow, and it measures the intimacy of the trading relationship between any given two countries.It is defined as the share of one country's exports going to a partner divided by the share of world exports going to the partner. It is calculated as follows:

$T_{ij} = (X_{ij}/X_{it})/(X_{wj}/X_{wt})$.

Where X_{ij} and x_{wj} are the values of country i's exports and of world exports to country j and where X_{it} and X_{wt} are country i's total exports and total world exports respectively. An index of more (less) than one indicates a bilateral trade flow that is larger (smaller) than expected, given the partner country's importance in world trade.

RESULTS AND DISCUSISONS

Rice Sector (HS code 1006) in Vietnam

Vietnam's status as a major world rice exporter is evaluated in regard to its production potential and trend in domestic rice consumption. According to report in 2011 by the Food and Agriculture Organization of the United Nations (FAO), Brunei is leading the world in rice consumption per capita, at 245 kg/person/year. Vietnam holds the second largest position with 166 kg/person/year and Laos is the third with 163 kg/person/year.

This total domestic use includes seed use and waste as well as the consumption or food use. It is possible that the domestic demand projections by Goletti et al. (1997) may not have included the seed and waste components of demand, which could result in an overestimate of the surplus available for export. The Vietnam Food Association has revised down its full-year forecast for rice exports twice this year, attributing the downturn to a lack of demand from key markets and Thailand's sales of its massive stockpiles. Export volume, including sales across the border to top buyer China, is projected to fall by more than 2 million tons from 6.56 million tons in 2016. Meanwhile, India and Thailand, which are Vietnam's main competitors in the global market, have performed well compared with Vietnam rice export performance . Another key factor is that Vietnam has long been focused on quantity rather than quality, which has actually backfired on the country's rice exports. Vietnam rice exporters are also faced with the risk of being banned from the United State after a series of pesticide residue issue.
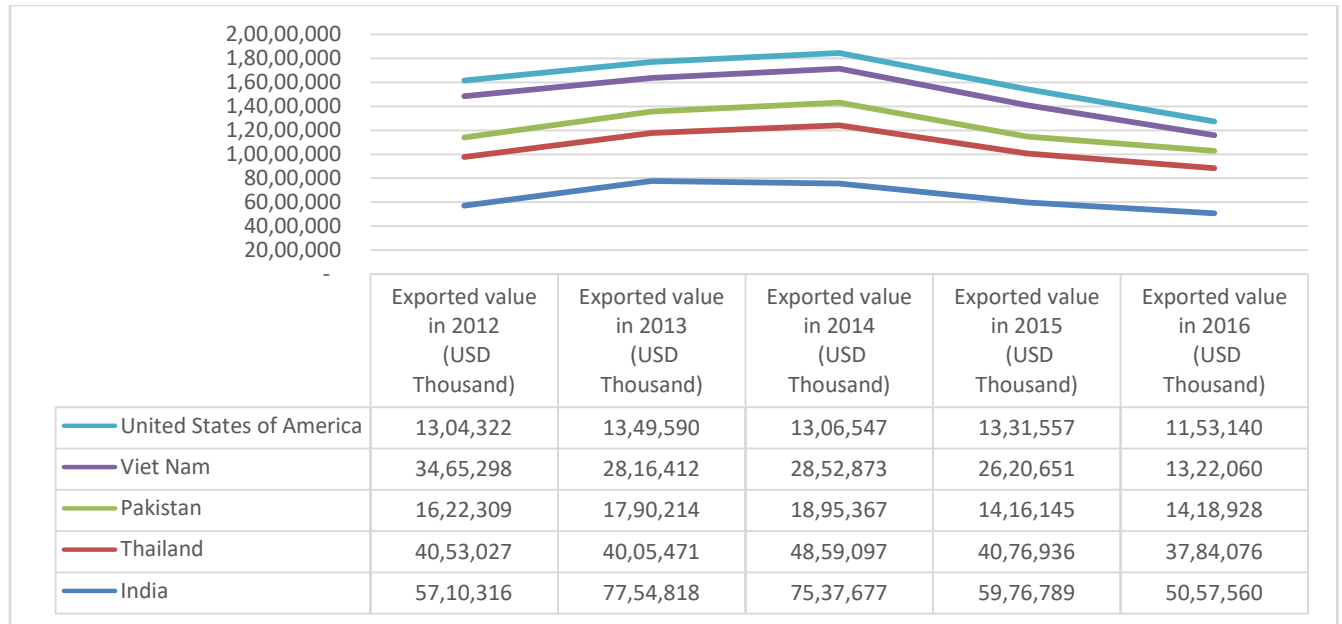
	Exported value in 2012 (USD Thousand)	Exported value in 2013 (USD Thousand)	Exported value in 2014 (USD Thousand)	Exported value in 2015 (USD Thousand)	Exported value in 2016 (USD Thousand)
United States of America	13,04,322	13,49,590	13,06,547	13,31,557	11,53,140
Viet Nam	34,65,298	28,16,412	28,52,873	26,20,651	13,22,060
Pakistan	16,22,309	17,90,214	18,95,367	14,16,145	14,18,928
Thailand	40,53,027	40,05,471	48,59,097	40,76,936	37,84,076
India	57,10,316	77,54,818	75,37,677	59,76,789	50,57,560

Figure 1. List of top exporting countries for Semi-milled or wholly milled rice (HS code: 100630)

(Source: Analysis from Trademap.org)

The above Figure 1. shows information about exported value of top countries for semi-milled or wholly milled rice, whether or not polished or glazed (HS code: 100630) from 2012 to 2016. According to the given numbers, India is the first largest exported country, followed by Thailand, Vietnam, Pakistan and USA. In general, most countries increased the exportedvalue from 2012 to 2014. However, there has been a slight decrease in recent years. Especially, it can be clearly seen that Vietnam's exportedvalue reduced considerably in 2016. One of reasons for this reduction might be caused by the prolonged slowdown in the global economy which have further aggravated the problem for developing countries' exporting sectors, the growth in the dollar value in 2015-2016, lack of export diversification related to national tariff line and target market, changing volume of rice inventory in countries.

Table 1. Value imported in 2012-2016 and trade balance in 2016

Importers	Imported value in 2012 (US Dollar thousand)	Imported value in 2013 (US Dollar thousand)	Imported value in 2014 (US Dollar thousand)	Imported value in 2015 (US Dollar thousand)	Imported value in 2016 (US Dollar thousand)	Trade balance in 2016 (USD thousand)	Growth rate 2012-2016 (%)	Market share
China	1,006,903	848,707	1,031,027	1,168,092	1,336,571	(1,160,524)	7.34	9.2%
Saudi Arabia	1,057,370	1,358,980	1,731,508	1,451,417	872,054	(867,928)	-4.70	6.0%
United States of America	629,765	700,528	707,934	700,222	643,958	509,182	0.56	4.4%
Japan	427,985	473,412	413,182	502,836	428,257	(401,783)	0.02	2.9%
South Africa	678,366	650,967	404,915	301,963	406,601	(357,489)	-12.01	2.8%

(Source: Analysis from Trademap.org)

Above is the numbers of imported value of leading countries for Semi-milled or wholly milled rice, whether or not polished or glazed in 2012-2016.Major importing countries accounted for 43.3% of the world's importing market share. Data shows that the highest importing demand always belongs to China and Saudi Arabia in the given period. In 2016, China isa countrywith the highest imported value and also has increased compared to previous years. In the case of Saudi Arabia, it is still the second highest country in imported value, although there is a significant decline compared to 4 years ago. Except for China, South Africa, Indonesia, all top countries reduced in imported value in 2016.

Table 1also indicates clearly that the trade balance of most countries is negative, except for the USA. The negative trade balance means that countries' imported value are more than their exported value, or it might be understood that these countries imported the mentioned rice for domestic consumption only. The USA is not only top importing countries but also top exporting countries, the USA have imported the product for both domestic consumption and re-export to other countries, it is why their trade balance is positive. Besides, information of growth rate 2012-2016 indicatesdifference of imported value. A negative value means that imported value in 2016 is less than imported value 2012. Growth rate and trade balance is bases to calculate indicatorsrelated to potential market identification, such as IPI and TII. These indicators will be mentioned in the below market analysis.

Therefore, basing on figures were given on the column of trade balance and growth rate of the table 1, we can select some countries for calculating IPI so as to know what extent domestic demand is satisfied by imports. It is the first step to analyze and identify a potential importing market. In the table 1, some countries has market

share is higher than other countries and a negative trade balance but growth rate is less than zero, therefore we did not choose those countries to calculate IPI. Below table is IPI result of six selected countries.

Table 2. Analysis Import Penetration Index (IPI) in some countries

Importers	Imported value in 2016	Growth rate	Market share	IPI
China	1,336,571	7.34	9.2%	0.07
United States of America	643,958	0.56	4.4%	0.32
Japan	428,257	0.02	2.9%	0.68
France	328,114	0.95	2.3%	0.70
Germany	265,324	4.29	1.8%	1.10
United Kingdom	232,616	0.25	1.6%	1.38

(Source: Analysis from Trademap.org)

According to the Table 2, UK has the highest IPI, then it might be a potential importing market for Vietnam's rice export.In turn, Germany, France, Japan and China also need to satisfy their domestic demand by importing from foreign countriesbecause of high IPI. In the case of the USA, although its IPI is higher than China's, but the country imports not only for domestic demand but also for re-export to other countries. So, If Vietnam might focus on this country as target market for the next time or not.We also refer actual figures in 2016 and other calculation to give final decision which markets Vietnam should pay attention to strongly. In 2016, statistics showed that Vietnam has also exported to importing market mentioned on the table 2, however, the exported value in some markets is not many, the below table is given for more detail information.

Table 3. Actual importing markets for rice exported by Viet Nam in 2016

Importers	Value exported in 2016 (USD thousand)
China	658,296
United States of America	19,746
France	4,141
Germany	2,385
United Kingdom	348
Japan	105

(Source: Analysis from Trademap.org)

From the above table 3, it is clearly seen that Vietnam has still exported to the USA, however, the calculated figuresof IPI on the table 2 show that Vietnam should look for better opportunity on other target markets.

Table 4. Trade Intensity Index (TII) of Viet Nam in importing countries 2012-2016

Importing Market	2012	2013	2014	2015	2016
China	1.02	1.17	1.13	1.03	1.06
Japan	1.09	1.04	1.06	1.01	1.03
France	0.89	1.28	1.36	1.39	0.96
Germany	0.85	0.97	1.00	1.11	0.98
United Kingdom	2.02	2.18	2.52	2.29	1.62

(Source: Analysis from Trademap.org)

To identify a potential market based on TII, we will chose TII which has

	TII of L2 in China					TII of L2 in UK					TII of L2 in Japan				
	2012	2013	2014	2015	2016	2012	2013	2014	2015	2016	2012	2013	2014	2015	2016
Thailand	0.954	0.935	0.946	1.039	0.893	1.960	1.920	1.813	1.523	1.221	1.047	1.027	1.040	0.997	1.013
Vietnam	1.019	1.169	1.132	1.029	1.064	2.020	2.179	2.517	2.293	1.622	1.094	1.037	1.061	1.008	1.027
Pakistan	0.909	0.880	0.949	0.862	1.042	2.270	1.346	1.454	2.068	1.500	1.094	1.040	1.062	1.009	1.027
India	1.118	0.909	1.192	1.259	1.187	2.295	2.241	2.522	2.265	1.869	1.094	1.036	1.062	1.009	1.027
USA	0.489	0.393	1.149	1.259	0.862	2.307	1.867	2.378	2.113	1.655	1.075	1.034	1.051	1.006	1.001

value more than 1 and has been rising in a period of 2012 - 2016. As a result, China, Japan and United Kingdom will be three potential markets for Vietnam's exporting. However, we also have to know these markets prefer Vietnam's product to other countries' or not. We will calculate TII of other top exporting countries (L2 competitors) in these markets.

Table 5. TII of top Exporting countries in Japan, UK and China

(Source: Analysis from Trademap.org)

China, UK and Japan are potential markets not only for Vietnam but also other countries. The table 5 shows that India and Pakistan are two strong competitors in these markets. In China and UK markets, India's TII is a bit higher than Vietnam's

TII, Pakistan's TII is a bit less than Vietnam's TII. In the period 2013-2015, In Japan market, Pakistan and India has TII more than Vietnam. Until 2016, TII of three countries is the same. It means that three countries have been receivingthe same preference in this market. In the coming years, Vietnam should improve this situation for rice export performance.

SOME SOLUTIONS FOR ENHANCING RICE EXPORT IN VIET NAM

Vietnam producers should promote high quality rice to boost export revenues: Vietnam is facing rising competition from rice exporters Thailand and India. Under its long-term plan, Vietnam exporters expect the volume of its exports will actually fall and increse high quality rice in the coming years. Vietnam aims to keep China, the Philippines, Indonesia and Malaysia as the main buyers in Asia while increasing exports to UK and Japan. In particular, UK and Japan markets requiried rice high quality with lots of strickly SPS standards. Therefore, Vietnam exporters should research information carefully to suit their needs and maintain rice quality in each contract. In the recent year, Vietnam has exported rice to neighbor countries, mainly China, via border trade. However, the trade volumes have not been recorded in the official numbers of both selling and buying countries. The report therefore cannot include the number of such trade volumes into the export numbers and has to consider these volumes as a part of local consumption. In China market, Vietnam exporters should focus on certain kinds of rice with reasonable price based on common price of the world price.

Diversification of export markets: Vietnam's rice export market is concentrated in Asia, Europe, Middle East and Africa. The traditional markets of Vietnam are the Philippines (accounting for more than 1/3 of total rice exports), Malaysia, Indonesia, Singapore and Iraq; Eastern European countries such as Poland, Ukraine; Western and Central African countries, etc. Along with the traditional markets are maintained, new markets have been opened recently such as USA, EU, Japan and Australia. Market solutions need to be deployed in the direction of multilateralization, diversification, stabilization of already existing markets and, on the other hand, the need to actively expand new markets, especially markets that require high quality rice. Because in the long run, Vietnam's rice export activities need to carry out simultaneously the search for high quality rice market with the improvement of rice quality. Some Asian and African countries are buying 25% broken rice from Vietnam, but if they improve their economy and switch to 15% broken rice, Vietnamese rice exporters will be passive. Therefore, Vietnam needs to shift its focus to high-quality rice, despite paying attention to low-grade rice to maintain its current markets. In addition, there are lots of other crucial solutions for

enhance rice export performance in Vietnam. However, the paper has certain limitations due to limited resources in conducting research, only based on some trade indicator. Therefore, it has might been other analysis factors related to company's export performance.

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