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The Situation and Trend of Thai Rice Exporting to The United States of America from the Year 2019 - 2023

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Abstract

Research results found that the production situation of Thai rice and Thai rice exporting to The United States of America (USA.) according to objective 1, Thailand had a growing area of rice growing every year, but in the production year 2014-2015 with less arable land. The production decreased from the production year 2013 due to the effects of drought. But the production year 2016 - 2017, the area of cultivated land was increasing again and the decreased production also increased from the production year 2016. For the situation of Thai rice exporting to USA. USA had the third largest demand for rice from the world market in year 2019 and had been the number one rice exporter from Thailand. The purpose of this research is (1) to study the production situation and Thai rice exporting to the United States of America using the secondary data regarding production and exports, using descriptive statistics in data analysis (2) to analyze trends and forecast Thai rice exporting to USA. by using the time series export data quarterly from year 2009 - 2018. In the analysis of trends and forecasting Thai rice exporting to USA. in the next 5 years using power analysis by Decomposition method, quarterly export value data from year 2009 - 2018, a total of 40 quarters, and decomposition in terms of product multiplied by Trend, Seasonal Variation, Cyclical Variation, Irregular Variation and use the value received to forecast the export value in the year 2019 - 2023 for a long time with the most rice being imported from Thailand during year 2015 - 2019. The results according to objective 2: Forecasting the trend of Thai rice exporting to USA. found that the trend of Thai rice exporting to USA. had been increasing trend due to the increasing demand for consumption.

Background and Statement of the problem

Thailand, the agricultural sector is considered to play a very important role in the economy and life of Thai people. Therefore, source of income and markets for other economic sectors, such as the production of raw materials for food and fiber to industrial factories, source of employment, source of income for people in rural areas, a source of income from exports and a product market of other economic sectors etc. From the above role, it can be seen that the agricultural sector can generate income both domestically and internationally. There are many types of agricultural market structure. The farmers themselves are usually the ones who take the price while the production quantity depends on external factors such as weather conditions. Prices of agricultural products will fluctuate all the time. In addition, the most of the farmers themselves have relatively low education, which often causes disadvantage, resulting in the state to intervene in both production and marketing in order to help reduce the problems through various plans such as Agricultural Development Plans or National Economic and Social Development plans and so all. The major obstacle to the expansion of the agricultural sector is the particular climate variation. Before year 2011, Thailand was one of the world's high-value rice exporters, but since year 2011 onwards, until year 2018, it was found that Thailand's major competitor is India. The world's number one rice exporter to replace Thailand make Thailand become the world's second-largest rice exporter, while Vietnam and Pakistan become the third and the fourth respectively which affect market share [1]. Due to domestic and external factors, the domestic factor comes from the change in rice policies along with the setting of demand targets in order to bring the whole rice supply into the system compiled by the government in order to stabilize the price level of rice. But to implement this policy, the government requires a large amount of budget to use and the cost of rice exports from Thailand is higher than other countries. Causing the price level of Thai rice exported to be higher than the competitors. However, even though Thailand has internal and external problems, Thailand still has strengths in long-term international acceptance in the quality of Thai rice which reflects the capability of production, production process and the further development of knowledge in terms of processing. In addition, Thailand has increased the population at that time causing the amount of demand for rice to increase. In addition, the development of communication makes Thai food known and easily accessible because of the popularity of Thai rice. Important risk factors for Thai rice are production depends on weather conditions. An important production costs are fertilizer. If fertilizer prices increase, production costs must also increase also.

From the above reasons, it is both an opportunity and a risk in terms of Thai rice, therefore being an incentive to conduct research on Thai rice export to USA. At the same time, it is necessary to estimate the forecast of Thai rice exports to USA. in order to be used for forming the further strategies and developing production and export development plans of Thailand.

Objectives

1. To study the production situation and Thai rice exporting to USA.
2. To forecast Thai rice exporting to USA. on a quarterly basis using time series techniques by Decomposition method.

Research Methodology

To study the situation of production and Thai rice exporting using the data of production year 2009 - 2018 from the Office of Agricultural Economics and websites International Trade Center (ITC), including forecasting the trend of Thai rice exporting to USA. by using Time Series Analysis, which is analyzed from Secondary Data, quarterly statistics from the first quarter of 2009 to the fourth quarter of 2018, totaling 40 quarters or 10 years, collecting data from websites International Trade Center (ITC). The results from the analysis and forecasting will come to a conclusion and discussion further.

In predicting the trend of Thai rice exporting to USA. from the year 2019 - 2023 with multiplicative model by decomposition method.

1. Time Series Analysis uses the data quarterly from the first quarter of year 2009 to the fourth quarter of year 2018 to analyze the trend of the value of Thai rice exporting to USA. by using component separation methods. Bring the value of rice exports quarterly year 2009 - 2018, collected from the analysis for T, S, C and I by separating components from time series data and finding the equation.

2. Analysis of the separation of components T, S, C and I from the value of Thai rice exporting to USA. with the following methods

- 2.1 Find the trend (T) by estimating for the coefficient of decision making and use the coefficient of decision-making as an option to find the equation that is most suitable for the data by using statistical software packages.

- 2.2 Statistical program will specify S, I and T x C values, therefore get S and I.

- 2.3 Find the trend (T) from the equation to get the trend (T).

- 2.4 Then, calculate cycle (C) by dividing the obtained T value by the derived T value divided by the T x C calculated with the program to get the C value. For the forecasting in this research, C and I have not been calculated because it will cause more uncertainty in forecasting.

The Result of Research

Rice is an important export economic crop of Thailand in terms of rice production from year 2009 - 2018, Thailand has a growing area of rice continuously every year. But in the production year 2014 - 2015 with less arable land, the production decreased from the production year 2013 due to the effect of drought, but the production year 2016 - 2017, the area of the plantations returned to increase. Therefore, the production also increased from the production year 2016. For the situation of Thai rice exports to the United States of America, USA. has the 3rd largest demand for rice from the world market in the year 2019 and has been the number one rice imports from Thailand for a long time during the year 2015 - 2019.

Summary of analysis and forecasting trend of Thai rice exporting to USA. From year 2019 - 2023

- Trend of Thai rice exporting value to USA. from the 1st quarter of year 2009 to the 4th quarter of year 2018 for a total of 40 quarters or 10 years, the United States increased at an increasing rate.

- Seasonal variation in the 1st and 4th quarters, the value of Thai rice exports to USA. is rather higher than the 2nd and 3rd quarters due to the rice harvest period, resulting in Thailand's rice production has increased, resulting in increased exports. Coupled with the government's policy to promote rice exports during this period, but the third quarter, the value of Thai rice exports to the United States will fall to the lowest since it's the planting period.

- Cyclical variation of the value of Thai rice export to USA. moves according to the economic cycle of the United States of America. One cycle will take a very long time but will occur repeatedly seasonal movement, in which 1 cycle consists of 4 phases, namely the prosperous economy, contraction economy, downturn economy and recovery economy with circulating.

- Irregular variation value of Thai rice exporting to USA. There are unusual movements all the time, which are high and low export values caused by unforeseen circumstances such as rainy weather or the demand for rice from the United States or the occurrence of an epidemic etc.

Recommendations

1. An important factor that affects the value of international exports product and causes movement to change easily which is exchange rate, so it should also be considered in further research.

2. There are many methods of time series forecasting beside of separating time series components. (Decomposition Method), which may have to do many methods and then compare that method to give more accuracy, then choose to predict by using that method.

3. Forecasting using quantitative methods is the prediction of numbers only. Forecasting data to plan or make decisions should be considered with other factors such as the situation of products in the market and the world situation, etc. It will be help planning and decision making more accuracy.