

# Performane and Competitiveness of Indonesian Nutmeg in Export Market

Helena Juliani Purba<sup>1,\*</sup>, Eddy Supriadi Yusufi<sup>1</sup>, and Juni Hestina<sup>1</sup>

<sup>1</sup> Indonesian Centre for Agricultural Socioeconomics and Policy Studies, Jl Tentera Pelajar No 3B, Bogor, West Java, Indonesia

**Abstract.** Export is one source of foreign exchange earnings for the country. This study analyzes the competitiveness of Indonesian nutmeg in the world market. Measurement of competitiveness was conducted by looking at the comparative and competitive advantages nutmeg products in each of the main markets for export and comparison with competitors. The analytical method uses Revealed Comparative Advance (RCA) and Export Product Dynamic (EPD) in the period 2014-2018. The competitiveness analysis results show that nutmeg and nutmeg powder products have competitiveness in all export destination markets. Competitor countries, namely India, do not have competitiveness in the Dutch and Japanese markets. The nutmeg commodity has a competitive advantage with the trend and the share of exports that are still growing (fast-growing). However, nutmeg powder is no longer competitive in the export destination market. Active efforts to find new markets through market diversification while maintaining existing markets can be an option to increase Indonesian nutmeg exports.

## 1 Introduction

Indonesia is one of the most reckoned nutmegs producing and exporting countries in the international world. Nutmeg (*Myristica fragran haitt*) is a spice plant that has a high economic value, especially the parts of nutmeg and flowers (mace), which can be used as nutmeg oil (oleum myristicae, oleum myrist or myristica oil). Nutmeg oil is one of the essential oils that are in high demand in the international market. Indonesian nutmeg has an advantage in the world market because it has a distinctive aroma and high oil yield. Almost all of the cultivation of nutmeg in Indonesia is managed by smallholder plantations. Most of them have not applied proper cultivation technology, low yield quality because harvesting and processing are still traditional.

The development of the area of nutmeg in Indonesia during the period 2010-2019 (2018 provisional figures and 2019 estimated figures) tends to increase from year to year, namely from 118.34 thousand ha in 2010 to 202.78 thousand ha in 2019 with an average increase of 7.47% per year [1]. When viewed from its production, Indonesia's nutmeg production has tended to increase during the last ten years, from 15.79 thousand tons in 2010 to 37.49 thousand ha in 2019, with a growth of 9.47% / year.

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\* Corresponding Author: [hjpurba@yahoo.com](mailto:hjpurba@yahoo.com)

Nutmeg trade in Indonesia is more oriented towards the export market than for domestic consumption. In the domestic market, to obtain added value from primary to processed form, nutmeg is generally made as sweets and syrup. The marketing opportunity for sweets is still huge because marketing is only around production centers. In 2015-2018, nutmeg consumption was included in other kitchen spices, namely nutmeg, ginger, turmeric, and so on. Consumption of other kitchen spices in 2015-2018 fluctuated, namely 0.55 kg/capita in 2015, 0.59 kg/capita in 2016, 0.53 kg/capita in 2017, and 0.63 kg/capita in 2018 [2].

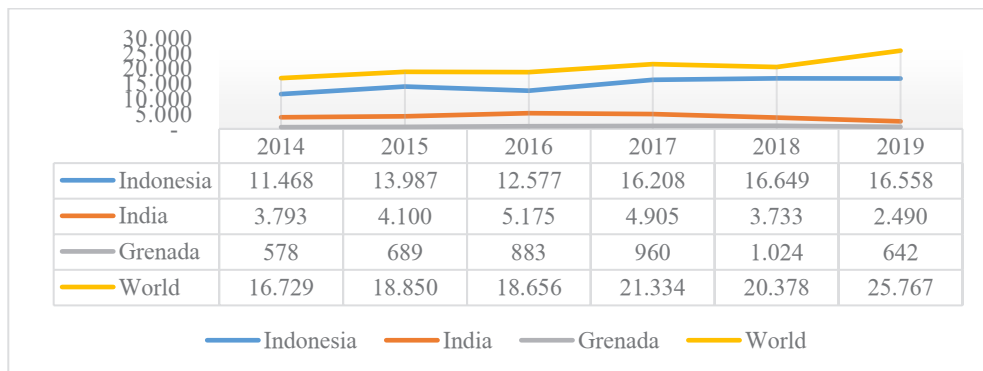
The development of export volume during the period 2009-2018 was quite fluctuating but tended to increase. The average increase in export volume during that period was 3.07% per year. Meanwhile, the import volume of nutmeg in the 2009-2018 period was lower than the export volume, with an average growth of 67.35% per year [2]. The main destination markets for Indonesian nutmeg exports in 2017 were Vietnam, India, Germany, the USA, and the Netherlands [3]. According to [4], nutmeg is one of the plantation crops that so far has generated quite a large foreign exchange. In 2017, this commodity's foreign exchange value reached USD135.9 or equivalent to IDR 1.3 trillion from the production of 31.84 thousand tons and an area of 196.86 hectares and involved 235,518 households. In the international market, Indonesian nutmeg is famous for its good quality branding for Banda and Siau nutmeg.

Based on the status of the concession, nutmeg plantations are divided into three, namely Smallholder Plantation (PR), State Large Plantation (PBN), and Private Large Plantation (PBS). Of the three types of exploitation, PBS has not cultivated nutmeg since 2004, while the total area of PBN since 2014 has not changed, which is 485 ha. During the period 1980-2019, most of the Indonesian nutmeg (98.68%) was produced by PR, and PBN owned the remaining 1.32%. Therefore, the increase or decrease in the area of national nutmeg is largely determined by the increase or decrease in PR nutmeg. Nutmeg production is still traditionally managed by people with insufficient knowledge of cultivation technology.

During the last ten years, from 2010-2019, Indonesian nutmeg production tended to increase by 9.47% per year if viewed from its production. In 2019 (estimated figures), nutmeg production reached 37.49 thousand tons. Apart from production, the productivity of nutmeg also experienced an increase in growth during the same period and tended to increase by an average of 3.52%/year or 459 kg/ha.

Until now, nutmeg, as one of the superior commodities of Indonesian spices, has not been able to optimize its exports so that various efforts are still needed to improve its export performance. Many factors influence this condition, one of which is an indicator of Indonesian nutmeg's competitiveness in the international market and various other factors. During the 2014-2019 period, Indonesia, as the leading exporter of nutmeg, was followed by India and Grenada [5]. Indonesia's export volume increased throughout the year until 2019, Indonesia's export share reached 64% with a volume of 16.5 thousand tons as shown in Figure 1.

To develop nutmeg exports in the world market, it is necessary first to know how competitive the nutmeg products are in the export destination market. If the product's competitiveness is high (it has comparative and competitive advantages), then a strategy to increase exports can be determined and implemented. It is crucial to fulfill the quality requirements of nutmeg, both to meet the demand for quality seeds and ground nutmeg in world trade and to increase the selling price received by farmers.



**Fig. 1.** Export volume from nutmeg’s exportir in the world market, 2014-2019

One of the growing export market destinations for Indonesian nutmeg is the European Union. However, the European Union applies strict rules (private standards), especially aspects of health and food safety for all imported products, including nutmeg. European people’s lifestyle that prioritizes health and hygiene encourages the demand for natural ingredients in the food content they will consume [6]. Indonesian nutmeg consumption in the European Union is classified into two types: consumption of dry nutmeg (whole nutmeg and powder nutmeg) and dried mace (whole and refined). Whole dry nutmeg is commonly used for flavoring in the food industry, meat, and dairy products (sausages, soups, spice mixes, baked products, eggnog, ice cream, etc.) well as for household use. Meanwhile, mace is used for domestic and industrial culinary delights as a flavoring for sweets, cakes, donuts, and dairy products [7].

Nutmeg, besides being used as a spice in cooking, also has many health benefits. Nutmeg contains many chemical compounds derived from plants known to have antioxidant properties, prevent disease, and promote health. Nutmeg is also thought to have antibacterial properties that can help remove harmful microorganisms from the body [6]. The Indonesian government is developing the competitiveness and nutmeg industry, so that the added value of processed nutmeg is in the country. The previous studies have not analyzed the competitiveness of nutmeg based on primary and processed products (powder). Therefore, the purposes of this study are to analyze performance and the competitiveness of Indonesian nutmeg products in the export market.

## 2 Research Methods

This research uses secondary data type time series for five years, namely 2014-2018. Secondary data consists of volume, export value, major exporting countries, and nutmeg importers in the world market. The type of nutmeg products analyzed were nutmeg (grain) with HS code 09081100 and nutmeg powder with HS code 09081200. Secondary data came from the Central Statistics Agency (BPS), Directorate General of Plantation, Ministry of Agriculture and UNComtrade.

### 2.1 Analysis Method

This research uses quantitative analysis methods. The analysis begins by identifying the nutmeg products and their derivatives with the most considerable export value and the leading export destination country for Indonesia and the main competing countries in the world market. To analyze competitiveness, Revealed Comparative Advantage (RCA) and Export Product Dynamic (EPD) methods are used.

The RCA method is a method that can be used to measure a country's comparative advantage in the world market [8, 9, 13, 24, and 27]. RCA is an index to measure the relative gains and losses of certain commodities in a country which are reflected in their trading patterns, based on Ricardo's theory of comparative advantage [26]. The rationale underlying this index is the export performance of a country is significantly determined by its relative level of competitiveness against similar products made in other countries. Of course, with the assumption of *ceteris paribus* is applied (the functional relationship between price and quantity of a good), namely the value of the currency traded and the factors others that affect export growth remain unchanged.

In this study, the RCA will be calculated from several major exporting countries of nutmeg and its derivative products to compare its comparative advantages. The export performance of nutmeg and its derivative products from Indonesia to major importing countries is a variable measured by calculating Indonesia's export value to total exports to Indonesian nutmeg importing countries. Then it will be compared with the share of the world export value to Indonesian nutmeg importer countries. From this calculation, it will be known the ability or inability of Indonesian nutmeg quantitatively to compete in Indonesia's leading importing country.

Mathematically, RCA is formulated as follows:

$$RCA_j = \frac{X_{ij}}{\sum_j X_{ij}} / \frac{X_{wj}}{\sum_j X_{wj}} \quad (1)$$

where :

$RCA_i$  : Level of competitiveness of Indonesian nutmeg to country  $i$

$X_{ij}$  : The value of Indonesia's nutmeg export to country  $i$  (US\$)

$X_{wj}$  : Total value of nutmeg export from all countries/world (US\$)

$\sum_i X_{ij}$  : Export value of all country commodities  $i$  (US\$)

$\sum_i X_{wi}$  : Total export value of all commodities from all countries/world (US\$)

$j$  : Nutmeg commodity

$i$  : Country  $i$

If the  $RCA_j$  value is  $> 1$ , the country has a comparative advantage over the world average, meaning that the nutmeg product has a comparative advantage (strong competitiveness). If the  $RCA_j$  value is  $< 1$ , it means that the nutmeg product does not have a comparative advantage or has weak competitiveness.

After the RCA calculation results were obtained, to determine the position of the identified nutmeg products in the world market, the analysis was continued using the EPD method. EPD is one of the indicators of competitiveness (competitive) to show the export performance of a commodity by measuring a country's commodity market position in specific export market destinations. [9] stated that there are five important aspects of competitiveness, namely (1) dynamic process; (2) competitiveness can only be assessed in a relative sense; (3) competitiveness is a tool that enables sustainable exploitation of the market to gain an advantage relative to other competitors; (4) competitiveness is a holistic point of view on the ability to sustain the results achieved through trade which depends on the success factors and constraints that must be identified and managed; and (5) to maintain competitiveness, it is important to continuously attract scarce resources.

The EPD method consists of a matrix that places the analyzed products into four categories [10], as shown in Table 1. To find out the competitiveness of a product (Table 1) can be converted into the quadrant shown in Figure 2, where the position of competitiveness will be in one of the quadrants. The quadrant's position represents the business strength (X-axis) and market attractiveness (Y-axis) of a product [25]. Business strength is measured based on the growth of a country's market share for a particular market destination; meanwhile, market attractiveness is calculated based on the growth in demand for a product for a

particular market destination. The combination of market attractiveness and business strength produces the character of the product's position to be analyzed into these four categories.

**Table 1.** Competitiveness position matrix using the EPD method

Share of Country's Export in World Trade	Share of Product in World Trade	
	Rising (Dynamic)	Falling (Stagnant)
Rising (Competitive)	Rising Star	Falling Star
Falling (Non-Competitive)	Lost Opportunity	Retreat

Source: [10]

Mathematically, the business strength/export share growth (X axis) of a product is formulated as follows:

$$\frac{\sum_{t=1}^n \left(\frac{X_{ij}}{X_{iw}}\right)_t \times 100\% - \sum_{t=1}^{t-1} \left(\frac{X_{ij}}{X_{iw}}\right)_{t-1} \times 100\%}{T} \tag{2}$$

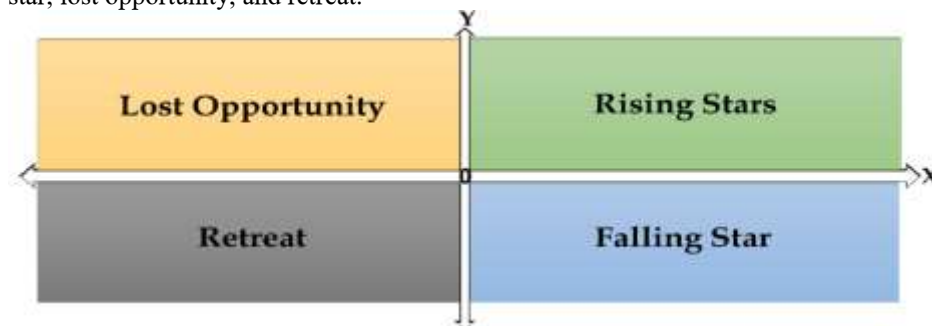
Meanwhile, the market attractiveness of an export product (Y axis) is formulated as follows:

$$\frac{\sum_{t=1}^n \left(\frac{X_j}{X_w}\right)_t \times 100\% - \sum_{t=1}^{t-1} \left(\frac{X_j}{X_w}\right)_{t-1} \times 100\%}{T} \tag{3}$$

Where:

- $X_{ij}$  : The value of Indonesia's nutmeg export to country i (US\$)
- $X_{iw}$  : Total value of world nutmeg export to country i (US\$)
- $X_j$  : Total value of export of all Indonesian commodities to country i (US\$)
- $X_w$  : Total value of export of all the World commodities to country i (US\$)
- T : Number of years
- t : Year t

The results of the calculation of growth in the export share and market attractiveness of an export product can be positioned and fill one of the quadrants in Figure 2. Graphically, an export product's position can be categorized into four categories, namely rising star, falling star, lost opportunity, and retreat.



**Fig. 2.** Position of product competitiveness with the EPD Method

The rising star position is ideal and has the highest role in exports, meaning that the share of products is increasing, while the lost opportunity position is an unexpected position due to a decline in the domestic market share at the same time that the export market share is still increasing. The falling star position is a worse lost opportunity position, meaning that there is an increase in the percentage of product exports in the export destination country, but there is a decrease in the share of products in the country, meaning that the world market and

product market in the export destination country is no longer dynamic. The retreat position stated that the product was not dynamic and not competitive in the export market.

## **3 Results and discussion**

### **3.1 Indonesia's Nutmeg Export Performance**

Nutmeg is one of the plantation commodities of the spice group owned by Indonesia and has been Indonesia's pride since the colonial era. The uniqueness of Indonesian nutmeg is its position in Indonesian history. Nutmeg is originated from Banda Islands and it was the target of all nations in the past to come there for wealth [21]. The Ministry of Agriculture in 2020 has a program to restore the heyday of Indonesian spices through an export increase program as outlined in the Minister of Agriculture Regulation Number 19 of 2019 concerning the development of agricultural commodity exports. Nutmeg and its derivative products are among the commodities whose exports will be increased under the three-fold increase in exports (GraTiEks) program during the period 2020-2024. The GraTiEks program is a strategic program of the Ministry of Agriculture, especially for superior plantation commodities consisting of seven commodities, namely coffee, cocoa, coconut, cashew nuts, pepper, nutmeg, and vanilla [1].

Indonesia is the largest nutmeg producing and exporting country globally, with a share of 75%, followed by India and Sri Lanka. Nutmeg and other spices from Indonesia are known for their excellent quality to have a high selling price. Nutmeg from Indonesia has a distinctive aroma and high oil yield [12]. In 2019, Indonesia's nutmeg production was 43,970 tons, with a productivity level of 548 kg/tonne [1].

Indonesia's nutmeg production in 2018 amounted to 36,242 tons from an area of 202,325 hectares. Nutmeg production centers are scattered in several provinces, including North Maluku, Aceh, Maluku, West Papua, and North Sulawesi. These five provinces are the largest production centers with a production share of 21.55% respectively; 21.10%; 15.04%; 14.62% and 14.31% [2]. The commodity nutmeg is widely used as a cooking spice in the country, while it is beneficial in the health sector in export destination countries.

The main countries for the export of nutmeg from Indonesia are Vietnam, the United States, the Netherlands, Germany, and Italy. In 2018, the enormous volume of nutmeg exports was aimed at the Vietnamese market with a volume of 9,188 tons and an export value of US\$ 26.37 million, followed by the European Union with a volume of 3,979 tons and an export value of US\$ 31.31 million. Nutmeg exports to the US market amounted to 1,402 tons with an export value of US \$ 10.25 million; meanwhile, exports to the Dutch market were 1,108 tons and an export value of US \$ 9.63 million [11]. During the five years (2014-2018), the share of Indonesia's nutmeg exports to Vietnam was 36.03% and each year increased with a growth rate of 8.64%. The Dutch market occupies the second-largest share, namely 11.94%; however, Indonesia's nutmeg exports to this country have a relatively large negative trend, namely 24.24% annually in the same period. The condition is not much different from that of the Netherlands, where Indonesia's nutmeg exports also experienced a significant decline in the United States. With a market share of 8.67%, exports have decreased by 9.52% annually [5].

In the world market, during 2014-2018, the most traded nutmeg products were nutmeg and nutmeg powder, with an average share of 68% and 31%, respectively, as shown in Table 1. During these five years, the nutmeg's export performance, both in its primary form and its derivative products, is experiencing a slowdown. The export value of nutmeg decreased by 0.20% per year, while the export value of nutmeg powder was also reduced by 5.26% annually. Great efforts are needed to improve the performance of Indonesia's nutmeg exports.

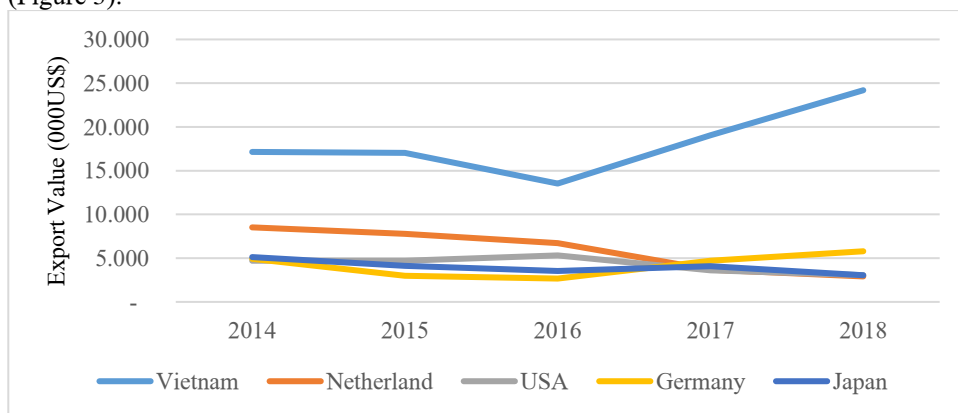
At the cultivation level, aflatoxin fungal disease's attack cannot be overcome so that the aflatoxin content still exceeds the predetermined maximum limit. Improving research and development on nutmeg intend to improve its quality [23]. The intensity of extension activities and farmer assistance by the Department of Agriculture [22] or stakeholders in the cultivation system, according to GAP (Good Agricultural Practices) and GHP (Good Handling Practices), is needed to overcome this problem.

**Table 2.** Development of Indonesia's nutmeg export value (000US\$), 2014-2018

Product	2014	2015	2016	2017	2018	Average	Growth (%)
Nutmeg	53.983	50.138	42.805	51.209	52.947	50.216	-0.20
Share (%)	66.98	69.07	65.47	69.36	72.10	68.60	1.53
Nutmeg powder	26.612	22.453	22.576	22.621	20.489	22.950	-5.26
Share (%)	33.02	30.93	34.53	30.64	27.90	31.40	-3.35
Total	80.595	72.591	65.381	73.830	73.436	73.166	-1.79

Based on Table 2, it can be seen that the export of primary nutmeg (seeds) still dominates the types of products traded from Indonesia, and the number continues to increase above powdered nutmeg. On average, the share of nutmeg exports increased throughout the year by 1.53%; however, the share of nutmeg powder exports decreased by 3.35% per year. It shows that the nutmeg commodity downstream program has not developed as expected. Policies that encourage the acceleration of domestic downstream are needed in line with the understanding of compliance with world trade regulations. Indonesia as a member of the world trade organization (WTO), is certainly not allowed to prohibit the export of nutmeg to foreign countries; therefore, domestic industry reform and certainty of raw materials are essential keys to support the downstream program. Thus, the added value formed can be distributed to domestic economic actors. In the world trade system, the SPS (sanitary and phytosanitary) instruments and customs procedures applied in world trade have become obstacles (obstacles) to the flow of trade between countries [13]. This condition caused a decline in demand for Indonesian nutmeg in the European market in 2011-2012 [14].

The Indonesian nutmeg export market during the 2014-2018 period was spread over five central destination countries, namely Vietnam, the Netherlands, USA, Germany, and Japan (Figure 3).



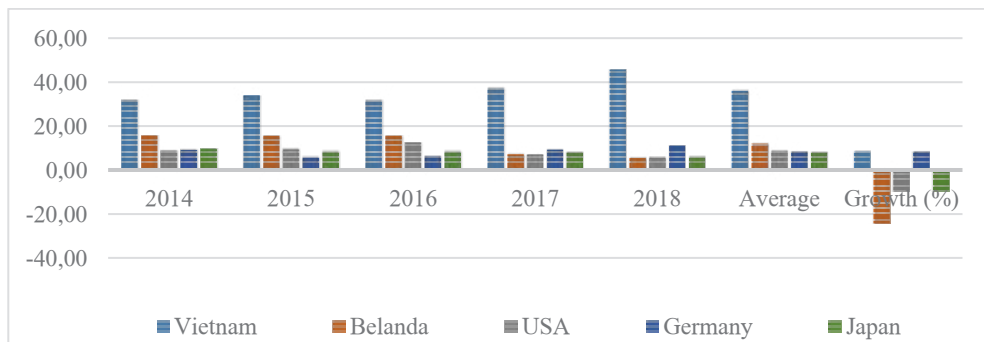
**Fig. 3.** Export value of Indonesian nutmeg to export destination countries

The largest market in Vietnam and it has a positive trend of increasing every year with a growth of 8.87% / year. Likewise, with the German market, Indonesia's nutmeg exports increased throughout the year and grew by 8.26%. The poor export performance occurred in



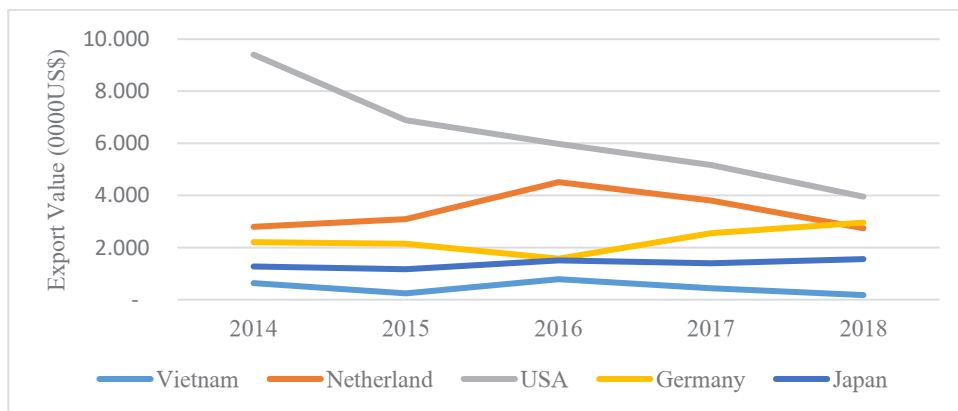
the markets of the Netherlands, the USA, and Japan. Nutmeg exports have been slowing down for five years, which is indicated by the negative trend.

The market share of Indonesian nutmeg exports to Vietnam is the largest compared to the four central export destination countries and is consistent throughout the year, as shown in Figure 4. The Netherlands and the USA are also export destinations for nutmeg, which have the second and third largest shares, but their growth has slowed down during the 2014 -2018 period.



**Fig. 4.** Market share of Indonesian nutmeg exports in export destination countries

The main export destination countries for Indonesian nutmeg powder are not different from nutmeg, namely Vietnam, USA, Netherland, Germany, and Japan (Figure 5) from 2014-2018. Based on the export value, the USA market is the export destination with the highest value, followed by Netherland, Germany, Japan, and the smallest export value to Vietnam. However, based on the growth in export value, during the 2014-2018 period, almost all of Indonesia's nutmeg powder export destinations gave a deteriorating performance because their growth declined every year.



**Fig. 5.** Export value of Indonesian nutmeg powder to export destination countries

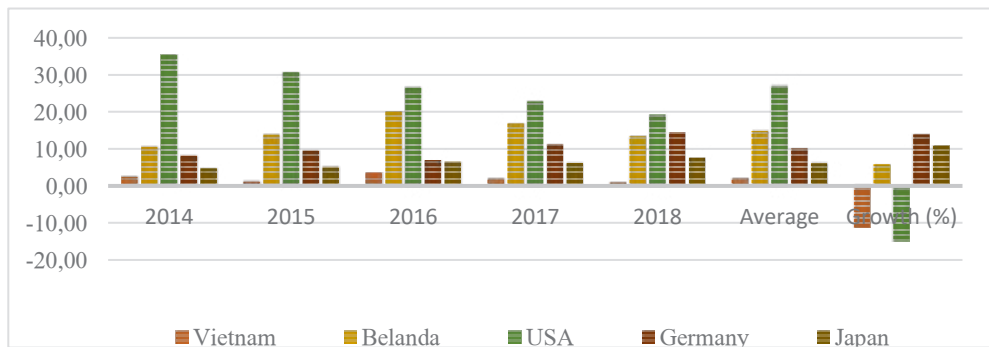
Although the USA contributed the highest to export value, this value tended to decline considerably, namely 20.11%, and this is the most considerable growth rate compared to 4 other countries. Efforts to increase exports to the USA need to do immediately and the obstacles in developing exports, especially to that country. For example, improvements are made in the aspects of Good Manufacturing Practices (GMP) at the processing industry level, most of which are small and Medium Enterprises (SMEs).Based on study of [20], an



awareness of product quality and safety must be emphasized to all concerned parties in order to sustain the nutmeg industry.

The negative trend of nutmeg powder exports also occurred in Vietnam during the same period. Meanwhile, positive export performance occurred in Germany, Japan, and the Netherlands, with growth rates of 8.35%, 5.79%, and 1.76%, respectively. The Vietnam market is an important export market for Indonesian nutmeg product. From 2002 to 2016, Vietnam was the largest importer of Indonesian nutmeg, followed by United States, Germany, Italy, Belgium, and Malaysia [19], now, the European market provides an excellent opportunity for the export of nutmeg powder from Indonesia.

Based on the development of market share, Indonesia's nutmeg powder exports to Germany are growing in size and growing every year by 13.87%. However, the share is still below the USA and the Netherlands (Figure 6). In the future, the German market is still open to be filled with nutmeg powder from Indonesia. The Japanese market is also still promising because the export share's growth is still increasing every year. In contrast, the markets share of export in Vietnam and the USA has been slowing down and tends to decline every year.

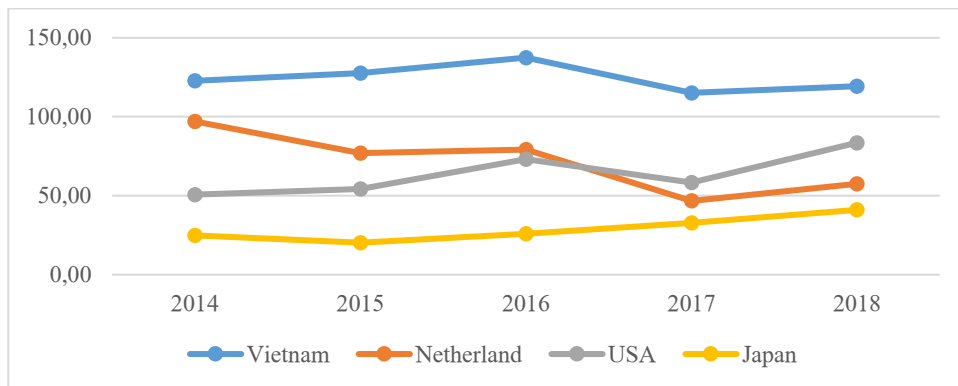


**Fig. 6.** Market share of Indonesian nutmeg powder exports in export destination countries

### 3.2. Analysis of Indonesia's Nutmeg Competitiveness

The results of the analysis of competitiveness using the Revealed Comparative Advantage (RCA) method show that Indonesia's nutmeg commodity has competitiveness in all export destination markets during the 2014-2018 period. It is shown by an RCA value above 1, which means that the commodity nutmeg, both nutmeg and nutmeg powder, has a comparative advantage over the world average or has strong competitiveness. Research [15] also shows the same result that Indonesian nutmeg has strong competitiveness in the European Union market. A similar analysis was also carried out by [16, 17, 18, 19], which stated that Indonesia's nutmeg commodities were competitive in export destination markets.

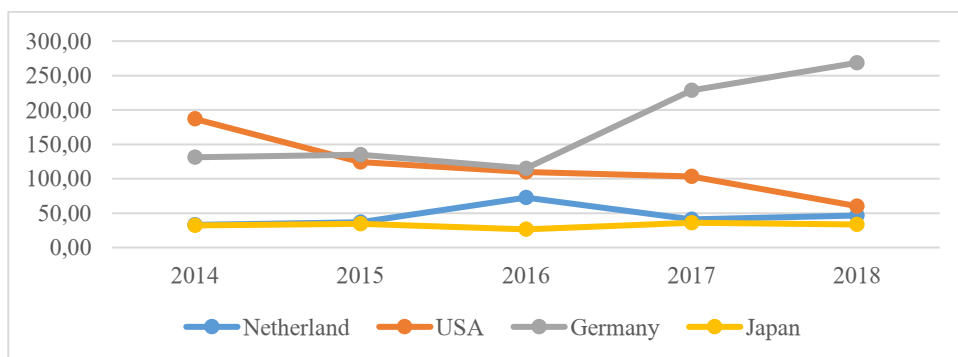
Figure 7 shows the dynamics of this strong competitiveness fluctuating between years. The dynamics of nutmeg's competitiveness from 2014-2018 to the USA and Japan markets showed a positive trend with an increase in competitiveness every year. Meanwhile, the competitiveness of nutmeg in Vietnam and the Netherlands has a negative trend.



**Fig. 7.** RCA of Indonesian nutmeg, 2014-2018

Analysis of the dynamics of Indonesian nutmeg powder's competitiveness in the 2014-2018 period is shown in Figure 8. Nutmeg powder has strong market competitiveness and has a positive trend in Germany and Japan's destination markets; meanwhile, in the Netherland and USA markets, the competitiveness of nutmeg powder is slowing down. Since 2016 the competitiveness of Indonesian nutmeg powder in Germany has increased sharply until 2018. This phenomenon provides information that the German market is still mostly open to nutmeg powder from Indonesia. Likewise, for the Japanese market, Indonesian nutmeg powder's competitiveness has consistently increased throughout the year.

Through the Ministry of Agriculture in 2020 is running a mentoring program to increase productivity, added value, competitiveness, and superiority of nutmeg products. Productivity improvement programs at the cultivation level still face difficulties in overcoming plant pests, the use of uncertified seeds, and random seeds. To solve the problem of seeds, the Ministry of Agriculture has built a modern nursery that aims to ensure seeds' availability at the farmer level. Improvements at the post-harvest and processing stages also need to be carried out by implementing Good Handling Practices (GHP) and Good Manufacturing Practices (GMP).



**Fig. 8.** RCA of Indonesian nutmeg powder, 2014-2018

Analysis of competitive and dynamic competitiveness is obtained through the EPD method. Based on the analysis of competitive competitiveness, it was found that nutmeg exports from Indonesia in the export destination countries of Vietnam and the USA had a rising star position during the 2014-2018 period (Table 3). This position is an ideal position, meaning that the growth in the export share of nutmeg products and Indonesia's total exports in Vietnam and the USA are increasing (growing fast). In other words, the markets in Vietnam and the USA are promising markets to be filled with nutmeg products.

**Tabel 3.** EPD analysis of Indonesian nutmeg, 2014-2018

Export destination country	The average export growth of nutmeg	The average total export growth	EPD analysis position
Vietnam	6.8631	0.0694	Rising star
Netherland	-8.2888	-0.0092	Retreat
USA	6.0611	0.0050	Rising star
Germany	5.7306	-0.0054	Falling star
Japan	8.9905	-0.0618	Falling star

In the German and Japanese markets, nutmeg products from Indonesia were in a falling star position during 2014-2018. It indicates that we are facing a decline in the share of exports, but in total, our exports are still growing. The falling star position is a condition in which Indonesia's total export market share has decreased ( $<0$ ), while the growth in the export market share of nutmeg is still increasing ( $>0$ ). The strategy that can be done is to maintain and increase market share in Germany and Japan, and to seek new markets (market diversification) actively. Indonesian nutmeg products in the Netherland market are already in the least desirable position, namely retreat. The share of nutmeg exports and the share of total exports is no longer growing (stagnant). The strategy that can be done is to leave the market and look for new markets. Different research results were presented by [19] in 2019. The German market is a promising export destination for Indonesian nutmeg, as well as the market of Pakistan, the United States and Italy.

As stated earlier, Indonesian nutmeg powder products have comparative advantages in all export markets. However, nutmeg powder is less competitive in all export destination countries. EPD analysis shows that Indonesian nutmeg powder's position in the Japanese market is a retreat (Table 4). It means that Indonesia's market is no longer growing (stagnant), and there is no need to maintain this market. In the Netherlands and Germany markets, nutmeg powder exports from Indonesia are in a falling star position. In this position, a commodity still has a competitive advantage but has weak competitiveness, and the growth of these commodities tends to be not dynamic or stagnant. Meanwhile, in the USA and Vietnam markets, Indonesian nutmeg powder's export position is a lost opportunity. This competitiveness condition can still be improved through efforts to boost exports because the USA and Vietnam markets are still wide open to be filled with Indonesian nutmeg powder products. In other words, Indonesia still has the opportunity to increase or at least maintain its exports of nutmeg powder in both markets.

**Tabel 4.** EPD analysis of Indonesian nutmeg powder, 2014-2018

Export destination country	The average export growth of nutmeg	The average total export growth	EPD analysis position
Netherland	2.2761	-0.0092	Falling star
USA	-21.4554	0.0050	Lost opportunity
Germany	6.5122	-0.0054	Falling star
Japan	-1.0304	-0.0618	Retreat
Vietnam	-2.4117	0.0694	Lost opportunity

## 4 Conclusion

The export performance of Indonesia's nutmeg and nutmeg powder products in the markets of export destination countries have improved but need to be improved. Indonesian nutmeg has a comparative and competitive advantage, meaning that both nutmeg and nutmeg powder have competitiveness in the export market, even though there is weakening competitiveness, especially in the European market. Strategies that can be taken are securing export markets in the main destination countries and expanding new export markets. Efforts to increase competitiveness and diversification of export products and trade facilitation are inevitable to fill and add new outlets in the world market.

Recommendations that can be given for the development of Indonesian nutmeg exports are to increase competitiveness through policies related to cultivation, post-harvest (especially aspects of packaging, labeling, and quality standards), processing, and trade facilitation.

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