

Competitiveness Analysis of Indonesian Ginger Exports 2012-2021

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ABSTRACT

Indonesia is an agrarian country which has a land and climate that supports growing spices such as ginger, Indonesia is able to compete in ginger exports in international trade, one of the influences of economic development, Indonesia exports in Japan, USA, Malaysia consecutively in 2012-2021 this analysis uses the RCA method to measure comparative advantage in international trade, this data is also taken from UN Comtrade and International Trade Centre (ITC) sources. The results showed that Indonesia has a comparative advantage, which has a value of more than 1 in the RCA calculation in international trade with Japan, USA, and Malaysia. Therefore, it requires a good strategy to be supported by the government in exporting ginger and increasing the productivity of ginger farmers.

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INTRODUCTION

International trade is a trading activity between countries involving two or more countries for the purpose of economic, political, debt, or dependence on other countries. In international trade, there are two main activities, namely exports and imports. Exporting is the process of sending goods from one country to another through procedures and payment systems agreed by the exporter and importer, which also involves supervision from customs. Exports are an important aspect of international trade dynamics, with the division between oil and gas (oil and gas) and non-oil and gas (all goods other than oil and gas) as the two main components.

Indonesia is a country that has various types of spices and has a good advantage, in this era spices are so much in demand by foreign countries, Indonesia is one of the most spice exporters, this advantage makes Indonesia a developing country. To remain competitive in the spice industry market in this liberalisation era, Indonesia needs to increase its export share by utilising unique advantages compared to its competitors. One of Indonesia's natural advantages is its abundant labour force and plentiful availability of raw materials, coupled with the special characteristics of Indonesian spice commodities that are not

shared by all countries. In addition, Indonesia is also known for its high production of spices (Anggrasari et al., 2021).

With this opportunity, the Indonesian state is able to encourage the country's economic growth and improve inflation. The opportunity for the Indonesian state is so great considering the large number of spices that exist, especially ginger, which is where many are looking for exports so that it can improve inflation in the country and improve the country's economy. Exports have an important role in Indonesia's economic growth because they can generate foreign exchange. To increase the contribution of exports to foreign exchange, the government needs to collaborate with exporters. The government's task is to encourage increased revenue through the development of an export sector that is able to compete globally, while exporters are responsible for finding and expanding markets for export products (Hodijah & Angelina, 2021).

Several countries in the world have great potential as Indonesia's trading partners, and one that stands out is the countries in Europe. These European countries formed several alliances to foster economic and social development within their region. Currently, there are several significant alliances, including the European Union 15, European Union 27, and European Union 28. The European Union 15 consists of Austria, the Netherlands, Belgium, Denmark, Finland, the United Kingdom, Ireland, Italy, Germany, Luxembourg, France, Portugal, Spain, Sweden, and Greece, which play a crucial role in the European Union's own economy (Fadhlan Zuhdi et al., 2020).

Indonesia is an agricultural country with good soil fertility. Therefore, Indonesia can have quite abundant spices such as ginger, which many countries need, especially in winter. Ginger is also used as a traditional medicine, and the number of countries that need it can help economic growth as well (L.M.Rizal & Wahyudin, 2022).

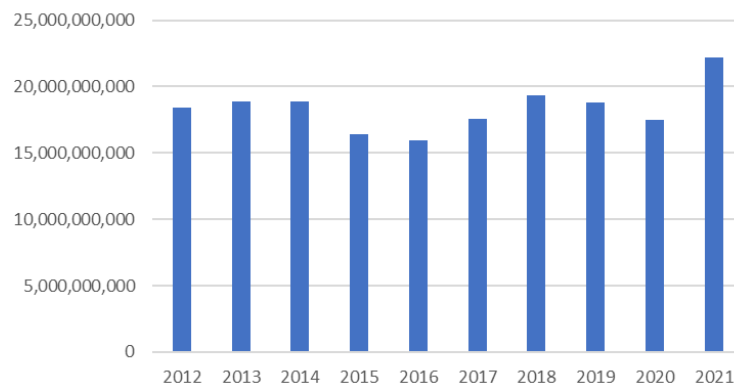


Figure 1. Ginger Exports 2012-2021
Source: International Trade Center (ITC)

From the table above, ginger exports are quite stable because quite a lot of countries exported ginger to reach 15M-20 million tonnes from 2012 to 2021, ginger is a spice that many countries were interested in from 2012 to 2014 always stable in exporting ginger to reach 18Million tonnes but in 2015 to 2020 it decreased by around 2Million to reach around 16Million to 17Million tonnes. From 2015 to 2020, ginger exports have gradually decreased. The main cause of this decline is the implementation of the ASEAN Economic Community (AEC) starting in 2016, which caused some domestic commodities to experience a decline in export value. Some of the impacts of this policy include: (1) regional trade liberalisation with tariff reduction; (2) regulatory harmonisation; (3)

facilitation of trade in goods and services; (4) increased competition at the regional level. (Pohan, Maryunianta, & Pinem, 2022). In 2019 to 2020 experienced the COVID-19 outbreak which hit the whole world which resulted in damage to international trade. In 2021, it just started to experience a drastic increase of up to 22 billion tonnes this year, the new normal took effect, and international trade began to normalise, which is one of the factors for the increase in ginger because ginger is also one of the covid-19 drugs where many countries need it at that time which resulted in an increase in demand for spices such as ginger, because ginger extract can multiply natural killer natural vessel cells and destroy the cell walls of viruses that have infected their hosts in the human body, with ginger being able to become a medicine for many countries that are starting to need it (Marisca Agustina et al., 2022).



Figure 2. Ginger Exports 2012-2021
Source: UN Comtrade

From the table above is where Indonesian ginger exports experienced ups and downs where the lowest was in 2012 which reached 324,685 thousand tonnes but in the following year experienced an increase of 500,00-800,00 thousand tonnes in 2013-2015 in 2016 Indonesian ginger exports decreased again to 539,643 thousand tonnes and during 2018 to 2021 Indonesia experienced a high increase in exports because in 2019-2021 there was a covid-19 outbreak where spices were needed in various countries because spices, especially ginger, had good properties to prevent viruses and resulted in a lot of demand for ginger in Indonesia.

The success of a product in the international market largely depends on its competitiveness, which includes unique characteristics, consumer satisfaction, and compliance with strict standards. Signs of this success are reflected in high demand and increasing export volumes in the global market. Despite facing competition from China, India and Thailand, Indonesian ginger faces significant challenges. However, a potential positive is its strong competitive advantage. Although still in the development phase, Indonesia has great potential as a ginger export leader. Going forward, the prospects are bright. By optimising resources and improving the quality of ginger, Indonesia can increase its competitiveness in the international market. Indonesia has the opportunity to expand its global market share of ginger (Hapsari, 2023).

Based on this analysis, ginger is one of the spices that are sought after by many countries, therefore the purpose of this research is to make ginger exports one of the largest exports in international trade and the possibility of competing with other countries.

LITERATURE REVIEW

International Trade

International trade is the exchange of goods and services between different countries. This activity includes exports, which is selling goods and services from within the country to outside the country, and imports, which is buying goods and services from outside the country into the country. International trade allows countries to obtain goods that cannot be efficiently produced domestically, as well as sell production surpluses to the global market. Through international trade, countries can utilise comparative advantage, improve economic welfare, expand markets, and support world economic growth. In general, economic growth is a long-term macroeconomic problem in which every period, the society of a country tries to increase its ability to produce goods and services. The ultimate goal is to increase the level of real production (national income) and living standards (real income per capita) through the mobilisation of factors of production. With the increase in factors of production such as the number of labour, past investments and new investments that add capital goods, as well as current production capacity, which is usually accompanied by technological developments in the means of production, all of this will accelerate the increase in production capabilities (Rinaldi et al., 2017).

Economic growth is the most commonly used economic indicator to describe a country's progress over a period of time. It reflects a greater increase in value added compared to the previous period. Economic growth is measured by the percentage increase in Gross Domestic Product (GDP) at constant prices in one year compared to the previous year. There are several approaches to calculating GDP, namely the production approach, income approach, and expenditure approach (Wulandari & Zuhri, 2019).

Export Competition

Exports are an important part of international trade as they allow countries to capitalise on comparative advantages, optimise resource use, and access a wider global market. In addition, exports make a major contribution to economic growth by increasing national income, creating jobs, and generating foreign exchange that can be used to import goods and services that are unavailable or less efficiently produced domestically.

Indonesia's exports have been dominated by several major trading partner countries such as Japan, the United States, Singapore, Korea, and China. During the period 1990-2005, the share of exports to these five countries reached 58.63% of Indonesia's total exports. Indonesia's increasing trade performance has prompted an assessment of the factors affecting Indonesia's bilateral trade with its trading partners (Dini Yunirati, 2007).

Exports refer to the activity of producing goods and services in a country for consumption outside that country. This means that excess production from within the country is marketed to the international market. According to the Decree of the Minister of Industry and Trade Number 182/MPP/Kep/4/1998, export is the process of releasing goods and services from the customs area of a country, which includes land, waters, airspace above it, as well as certain locations in the exclusive economic zone and continental shelf in accordance with Law No. 10 of 1995 concerning customs (Ustiaji, 2017).

Economic Growth

Economic growth is the increase in a country's ability to produce goods and services over time. It is generally measured by the percentage increase in real Gross Domestic Product (GDP), which indicates an increase in value added in the economy. Economic growth

reflects progress in resource utilisation, technological development, and increased efficiency, which in turn can increase national income, create jobs, and improve people's lives (Yoseph Nanda Fahriza N et al., 2022).

According to theory, consumption-driven economic growth is not sustainable. Sustainable economic growth relies more on investment. Investment-led growth is thought to increase productivity and, in turn, drive economic growth. However, in practice, economic growth and low incomes often depend on public consumption (Ernita et al., 2013).

Economic growth in Indonesia is very important for the community because if Indonesia has a good economy then the community is prosperous and peaceful where economic growth can also make the country become advanced and peaceful, the unemployment rate is reduced because with good and perfect economic growth will make a country better (Umiyati, 2014).

Ginger Export Research Analysis

Ginger exports are an important aspect of agricultural commodity trade in major producing countries such as India, China and Indonesia. Ginger, well known for its health properties and use in various cuisines, has a high demand in the global market. Analyses of ginger exports show that export volumes from producing countries often fluctuate due to factors such as weather conditions, crop yields, and trade policies. For example, changes in ginger prices on the international market can be caused by extreme weather or crop diseases that affect production. In addition, trade policies such as tariffs and quotas can also affect a country's ability to supply international markets. Ginger-producing countries must face the challenge of improving product quality and processing efficiency to remain competitive in the global market. Stable demand in the international market, especially in countries such as the United States, Japan, and the European Union, provides opportunities for ginger-producing countries to develop their export sectors. However, to maximise export potential, producers must adapt to market trends and ensure sustainability and product quality (Safar Nasir et al., 2022).

Ginger farming faces several risks, including weather or climate, which can make ginger production unstable. In addition, suboptimal farming patterns often lead to low ginger quality, which does not meet market standards and makes it difficult to compete with other ginger products. Pest and disease attacks also lead to a decline in ginger production and quality. The decline in ginger productivity can be caused by land conversion, disease attacks on ginger plants, and poor quality ginger seeds, which often come from previous crops. This has discouraged farmers from planting ginger, resulting in a decline in ginger exports (Saputra et al., 2018).

RESEARCH METHODS

This study aims to analyse the competitiveness of Indonesian ginger exports (HS091011 code) in international trade in 2012-2021 with destination countries Japan, USA, Malaysia. The data used is international marketing data, which includes the value of Indonesian ginger exports and the total value of Indonesian ginger exports. The data were obtained from UN Comtrade and International Trade Centre (ITC) international trade sources. The RCA index is calculated on an annual basis within the research period of ginger export competitiveness analysis data in international trade, using the formula:

$$RCA\ Index = \frac{X_{ij}/X_{it}}{W_j/W_{it}}$$

Description:

X_{ij} = Indonesian ginger exports to Japan, USA, Malaysia

X_{it} = Indonesia's total exports to Japan, USA, Malaysia

W_j = World ginger exports

W_t = Total world exports

RCA > 1 = Indonesian ginger has a comparative advantage / strong competitiveness in Japan, USA, Malaysia

RCA < 1 = Indonesian ginger has no comparative advantage in destination countries

RESULTS AND DISCUSSION

Tabel 1. X_{ij} Value of Indonesian Ginger Exports to Destination Countries in 2012-2021

Country	x _{ij}									
	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Japan	451,078	586,657	662,424	453,958	428,639	359,087	667,710	440,515	389,982	26,907
USA	2,837	87,300	39,987	51,383	81,597	64,629	49,456	3,553	100,642	50,783
Malaysia	159,872	2,377,689	3,716,664	899,500	737,162	841,506	480,867	617,317	137,021	608,966

Source: UN Comtrade

Export data from Japan, USA, and Malaysia show different trends from 2012 to 2021. Japan experienced significant fluctuations, with export values increasing from 451,078 in 2012 to a peak of 667,710 in 2018, before experiencing a sharp decline in 2019 and 2020, and greatly decreasing to 26,907 in 2021. This may reflect major disruptions or significant changes in trading patterns. The USA shows high volatility with a surge in exports in 2013 (87,300) and a peak in 2020 (100,642), before experiencing a steep decline in 2021 (50,783), which may be influenced by changes in trade policies or the impact of the COVID-19 pandemic. Meanwhile, Malaysia experienced a dramatic surge in exports from 159,872 in 2012 to 3,716,664 in 2014, before experiencing a significant decline but recovering in 2021 with an export value of 608,966. This trend shows that there are complex dynamics in the foreign trade of the three countries, influenced by global economic factors, trade policies, and geopolitical situations (Dermawan, 2021).

Tabel 2. X_{it} Total Value of Indonesian Ginger Exports to Destination Countries in 2012-2021

Country	x _{it}									
	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Japan	30,135,106,982	27,086,258,710	23,127,088,759	18,020,877,343	16,101,544,919	17,798,800,690	19,479,891,977	16,003,261,514	13,664,728,614	17,855,409,214
USA	14,901,181,324	15,741,131,921	16,560,075,701	16,268,488,416	16,171,284,269	17,817,789,648	18,471,771,365	17,873,579,569	18,668,906,208	25,820,254,775
Malaysia	11,280,384,955	10,666,609,471	9,731,540,673	7,630,889,322	7,112,008,233	8,441,139,738	9,436,721,342	8,801,814,960	8,098,764,365	12,006,469,603

Source: UN Comtrade

The data shows the total trade value for Japan, USA, and Malaysia from 2012 to 2021. Japan experienced a consistent downward trend from 30,135,106,982 in 2012 to a low of 13,664,728,614 in 2020, but showed signs of recovery in 2021 with a value of 17,855,409,214. The USA, on the other hand, showed an increasing trend with some fluctuations, from 14,901,181,324 in 2012 to a peak of 25,820,254,775 in 2021, showing good resilience and adaptation to global economic changes despite the instability that needs to be watched out for. Malaysia experienced a decline in trade value from

11,280,384,955 in 2012 to 7,112,008,233 in 2016, but then recovered to reach 12,006,469,603 in 2021. This recovery demonstrates Malaysia's ability to bounce back from economic challenges, although the initial decline indicates issues that need to be addressed. Overall, all three countries have faced challenges and successes in trade over the past decade, with positive prospects but requiring attention to ensure sustainable economic growth.

Tabel 3. Wj Value of Indonesian Ginger Exports to The World 2012-2021

Country	wj									
	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
World	324,685	558,026	859,780	657,425	539,643	764,157	799,332	901,439	1,288,387	1,128,956

Source: International Trade Center (ITC)

The data shows the total value of world trade from 2012 to 2021. At the beginning of the period, the value of world trade increased sharply from 324,685 in 2012 to 859,780 in 2014. However, there was a significant decline in 2015 with a value of 657,425 and continued to decline in 2016 to 539,643. Since 2017, the value of world trade has increased again, reaching a peak of 1,288,387 in 2020, before declining slightly to 1,128,956 in 2021.

Overall, the trend shows that despite fluctuations, world trade has increased from 2012 to 2021. The significant increase after 2016 reflects recovery and growth that may have been influenced by factors such as rising global demand, economic recovery after the crisis, and technological and logistical developments that facilitate international trade. The declines in 2015 and 2016 and in 2021 indicate that world trade is vulnerable to a variety of external factors, including global economic conditions, trade policies, and geopolitical situations. Overall, the data show complex dynamics in world trade with positive long-term trends despite periodic challenges.

Tabel 4. Wt Total Value of Indonesian Ginger Exports to The World in 2012-2021

Country	wt									
	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
World	18,391,908,309	18,849,843,134	18,856,957,626	16,418,063,890	15,924,013,040	17,563,431,176	19,328,911,204	18,768,145,957	17,521,362,527	22,158,013,142

Source: International Trade Center (ITC)

The data shows the total value of world trade from 2012 to 2021 in unspecified units. The value of world trade in 2012 was 18,391,908,309 and increased to 18,849,843,134 in 2013 and 18,856,957,626 in 2014. However, in 2015 and 2016, the value of trade decreased quite significantly to 16,418,063,890 and 15,924,013,040 respectively. After that, world trade began to recover with a gradual increase to 17,563,431,176 in 2017, 19,328,911,204 in 2018, and 18,768,145,957 in 2019. In 2020, there was a slight decrease to 17,521,362,527, but then jumped sharply in 2021 to 22,158,013,142.

Overall, these data show that despite fluctuations and decreases in certain years, the long-term trend shows an increase in the value of world trade. The declines that occurred in 2015 and 2016 were likely caused by unstable global economic conditions or changes in international trade policies. However, since 2017, there has been a global economic recovery and an increase in international trade activity that peaked in 2021. The sharp increase in 2021 may be due to the recovery from the impact of the COVID-19 pandemic and increased global demand.

Country	RCA									
	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Japan	0.847898	0.731625	0.628202	0.629094	0.785543	0.463699	0.828861	0.573109	0.388119	0.029577
USA	0.010785	0.18734	0.052959	0.078877	0.148893	0.083368	0.064743	0.004139	0.073313	0.038602
Malaysia	0.802811	7.529774	8.376373	2.943756	3.058558	2.291305	1.232208	1.460229	0.230086	0.995478

Source: International Trade Center (ITC)

The data shows the Revealed Comparative Advantage (RCA) Index for Japan, the USA, and Malaysia from 2012 to 2021. The RCA index is used to measure a country's comparative advantage in exporting a product. An RCA value greater than 1 indicates that the country has a comparative advantage in that product.

For Japan, the RCA tends to fluctuate and has decreased from 0.847897738 in 2012 to only 0.02957667 in 2021. This indicates that Japan's comparative advantage in the analyzed product has decreased significantly over the period.

The USA shows a relatively low RCA value throughout the period with the highest value of 0.187340464 in 2013 and the lowest of 0.004138745 in 2019. This indicates that the USA does not have a strong comparative advantage in the analyzed product compared to other countries.

Malaysia had very high RCA values in 2013 and 2014, namely 7.529774318 and 8.376372564, indicating a very strong comparative advantage in the products analyzed during the period. However, this value decreased drastically in the following years, although it still showed a comparative advantage until 2018. In 2020, Malaysia's RCA value decreased to 0.23008585 but then increased again to 0.995477663 in 2021.

Overall, these data suggest that Malaysia has a strong comparative advantage in the products analyzed at the beginning of the period, although it declines over time. Japan shows a significant decline in comparative advantage, while the United States does not show a strong comparative advantage in the products over the period analyzed.

CONCLUSION

Indonesia is able to compete in exporting spices, especially ginger, which exports ginger to 3 countries, namely Japan, the USA, Malaysia, which shows a comparative advantage in 2012-2021, where the xij data shows different trends from 2012 to 2021. Japan experienced significant fluctuations, with export values increasing from 451,078 in 2012 to a peak of 667,710 in 2018, before experiencing a sharp decline in 2019 and 2020, and dropping sharply to 26,907 in 2021. This may reflect major disruptions or significant changes in trade patterns. The USA showed high volatility with a spike in exports in 2013 (87,300) and a peak in 2020 (100,642), before experiencing a drastic decline in 2021 (50,783). This study shows a shift in market dynamics and Indonesia's competitiveness in ginger farmers, which may be influenced by various factors such as changes in global demand, trade policies, and economic conditions in destination countries.

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