

**THE EFFECT OF POPULATION, GDP, CONSUMPTION AND  
FOREIGN EXCHANGE RESERVES TOWARDS RICE  
IMPORT IN INDONESIA**



Undergraduated Thesis

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Economics*

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EDUCATION**

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**2023**

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EXCHANGE RESERVES TOWARDS RICE IMPORT IN INDONESIA**

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## PREFACE

All thanks, bless, and gratitude delivered to Allah SWT for the grace and gifts to me, so the writer able to finished my writing on undergraduate thesis. The title is “The Effect of Population, GDP, Consumption and Foreign Exchange Reserves toward Rice Import in Indonesia”. The thesis is to fulfill one of the requirements in obtaining a bachelor's degree in Economics from Faculty of Economics Sriwijaya University.

Hopefully, this thesis can give positive contribution for those who read it as additional reference material for future researchers in the purpose of developing writing related to rice imports.

The writer also would like to thank for all the help and guidance from various parties who have contributed in the completion of this thesis to completion. This thesis is still far from perfection, hoped that the further research will be able to complete the flaws and limitation in this research.

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All praises to Allah SWT for His mercy and grace so that I can complete this thesis research entitled “The Effect of Population, GDP, Consumption and Foreign Exchange Reserves toward Rice Import in Indonesia”. Therefore, researcher would like to give full thanks to whoever contributed in this thesis, especially to:

1. Lovely family, thank you for encouraging me in all of my pursuits and inspiring me to follow my dreams, especially grateful to my parents who supported me emotionally and financially. I always knew that you believed in me and wanted the best for me. Thank you for teaching me that my job in life was to learn, to be happy, and to know and understand myself; only then could I know and understand others.
2. Mrs. Dr. Hj. Anna Yulianita, S.E.,M.Si and Mrs. Sri Andaiyani, SE., M.SE as the thesis advisor and academic advisor, for her help, instruction, guidance, time, and support in correcting and helping me for finish my thesis.
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A handwritten signature in black ink, appearing to read 'Rista', with a stylized flourish underneath.

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## ABSTRAK

### FAKTOR POPULASI, GDP, KONSUMSI, DAN CADANGAN DEvisa TERHADAP IMPOR BERAS DI INDONESIA

Oleh :

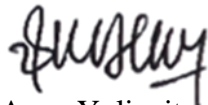
**Rista Handayani; Anna Yulianita; Sri Andaiyani**

Penelitian ini bertujuan untuk menguji secara empiris populasi, *GDP*, konsumsi dan cadangan devisa terhadap impor beras di Indonesia. Data penelitian yang digunakan merupakan data sekunder dengan model time series selama 20 puluh tahun, yakni dari tahun 2001 sampai dengan 2020. Hasil dari penelitian ini menunjukkan bahwa populasi memiliki pengaruh positif dan tidak signifikan terhadap impor beras di Indonesia selama 20 tahun terakhir, *GDP* memiliki pengaruh negative dan signifikan terhadap impor beras di Indonesia, konsumsi beras memiliki pengaruh signifikan terhadap impor beras di Indonesia, dan cadangan devisa memiliki pengaruh positif dan signifikan terhadap impor beras di Indonesia selama 20 tahun terakhir.

**Kata Kunci :** *Cadangan Devisa, GDP, Impor Beras, Konsumsi, Populasi*

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## ABSTRACT

### ***THE EFFECT OF POPULATION, GDP, CONSUMPTION AND FOREIGN EXCHANGE RESERVES THROUGH RICE IMPORT IN INDONESIA***

By :

**Rista Handayani; Anna Yulianita; Sri Andaiyani**

*The purpose of this study is to empirically compare Indonesia's population, GDP, consumption, and foreign exchange reserves to rice imports. The research data used in this study is secondary data with a time series model that spans 20 years, from 2001 to 2020. According to the findings of this study, population has had a positive and insignificant impact on rice imports in Indonesia over the last 20 years, GDP has had a negative and significant impact on rice imports in Indonesia, rice consumption has had a significant impact on rice imports in Indonesia, and foreign exchange reserves have had a positive and significant impact on rice imports in Indonesia over the last 20 years.*

**Keywords: Consumption, Foreign Exchange, GDP, Population, Rice Imports,**

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# **CHAPTER I**

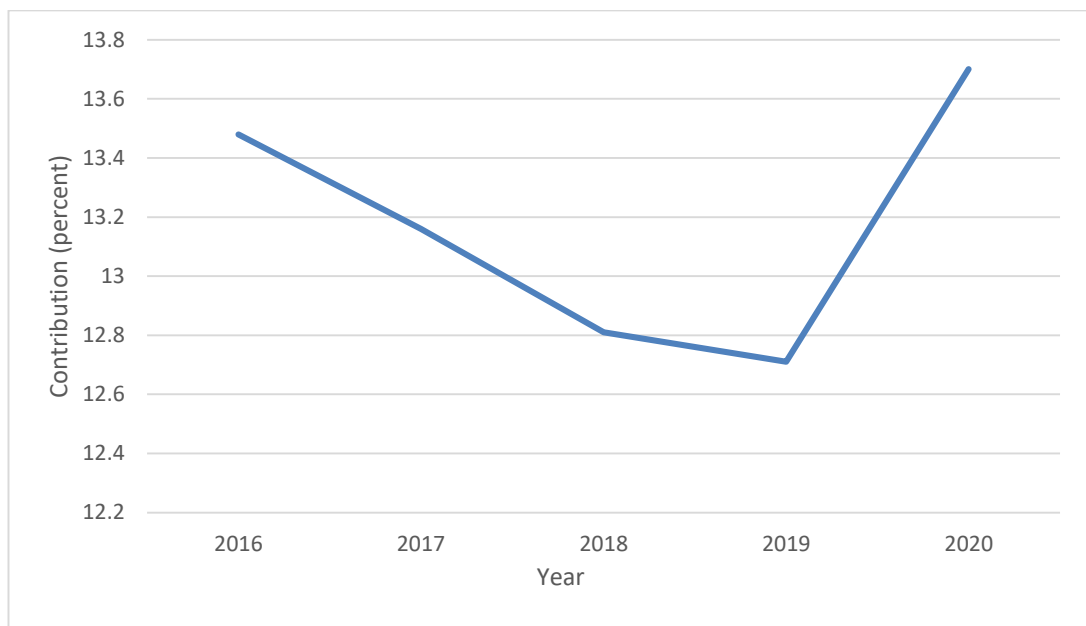
## **INTRODUCTION**

### **1.1 Background**

Global business competition forces each country to conduct international trade in the era of free trade. Indonesia has to join free trade in order to compete optimally in a global business market. This way will give advantage to Indonesian economic interests. Improve relations and relations between related countries. Increase job opportunities, increase the country's foreign exchange earnings, the country's trade productivity is increasing, reducing unemployment, the prosperity of the nation is getting better, make easier for consumers to meet their needs, create production specialization. Strategy development export need strived by Indonesia to penetrate free trade in order to be competitive. According to Jhingan (2003), one way to sustain a country's economic growth is increasing development in agricultural sectors.

Indonesia is known as an agricultural country with many of agricultural commodity. Indonesia also known as agricultural country because most of the population of the citizens has a live hood as farmers. As an agricultural country, Indonesia has many natural resources, both on land and across. The agricultural sector also plays an important role in increasing Indonesia economy. The contribution of the agricultural sector on the national GDP in 2020 was recorded to have increase by 0,99 percent compared to the previous year which only 12,71 percent. It happened because of pandemic COVID-19 and the condition is getting

better on 2020. There are many of agricultural commodity that can give the positive impact to economy, such as rice as the staple food for Indonesia's citizens.



**Figure 1.1 Agriculture Contribution to Indonesia 2016-2020**

*Source: BPS, Laporan Distribusi PDB Tahunan (2021)*

Rice is the main commodity in Indonesia, and one of the biggest rice producers. In 2014, Indonesia became the largest rice producer in the world after China and India. It proved on the table 1 below. But, even Indonesia is one of the rice highest producer, Indonesia still import rice annually, mainly from Thailand, Vietnam, and China to secure the country's rice reserves every year.

Figure 1.1 above shows rice biggest import in Indonesia which always fluctuate every year. As it figures, Indonesia still import rice every year from others country. It is very contradictory because domestic production has increased which should be able to cope with domestic rice consumption needs. It can be concluded

that the higher rice production in Indonesia does not determine the total volume of rice imports in Indonesia in aggregate.

**Table 1.1 Rice Biggest Import in Indonesia**

Year	Vietnam	Thailand	China	India	Pakistan	Myanmar
2011	1778480.6	938695.7	4674.8	4064.6	14342.3	1140
2012	1084782.8	315352.7	3099.3	259022.6	133078	11819.6
2013	171286.6	94633.9	639.8	107538	75813	18450
2014	306418.1	366203.5	1416.7	90653.8	61715	15616
2015	509374.2	126745.7	479.9	34167.5	180099.5	8775
2016	535577	557890	1271.9	36142	134832.5	16650
2017	16599.9	108944.8	2419	32209.7	87500	57475
2018	767180.9	795600.1	227.7	337999	310990.1	41820
2019	33133.1	53278	24.3	7973.3	182564.9	166700.6
2020	88716.4	88593.1	23.8	10594.4	110516.5	57841.4

*Source: Badan Pusat Statistik, Laporan Impor Beras Indonesia 2011-2020 (2021)*

The rice issue urged the Indonesian government to implement open market operations throughout Indonesia through the Public Logistics Agency when prices uncontrollably. The low reserves of rice are due to the blog's improper functioning. It includes not buying grain directly from farmers or leaving the role to an intermediary. The various rice cultivation policies adopted by the government are basically not in the interests of farmers. Which is: (1) Lower import tariffs on rice, thereby encouraging excess imported rice that exceeds domestic needs (2) Development of new land. (3) The government still uses inflation indicators to curb wholesale-level rice prices and control food prices. (Sembiring, 2016).

**Table 1.2 Rice Production of Indonesia 2001-2020**

Year	Production (ton)
2001	34615970
2002	33557350
2003	34343630
2004	36077010
2005	36118780
2006	36321440
2007	38124010
2008	40187460
2009	42954060
2010	44335080
2011	43859850
2012	46060440
2013	47543570
2014	44257787
2015	47101031
2016	49572923
2017	50693527
2018	37900182
2019	34957502
2020	35356017

*Source: Worldbank, Data Rice Production of Indonesia (2021)*

Based on the achievement of Indonesian rice production it is not impossible for Indonesia to be rice exporting country. But the height population growth followed the amount of rice consumption makes the demand for rice is increasing so that things it still cannot be realized because increase in the amount of rice production is intended to compensate for the increase in the number people who consume rice.

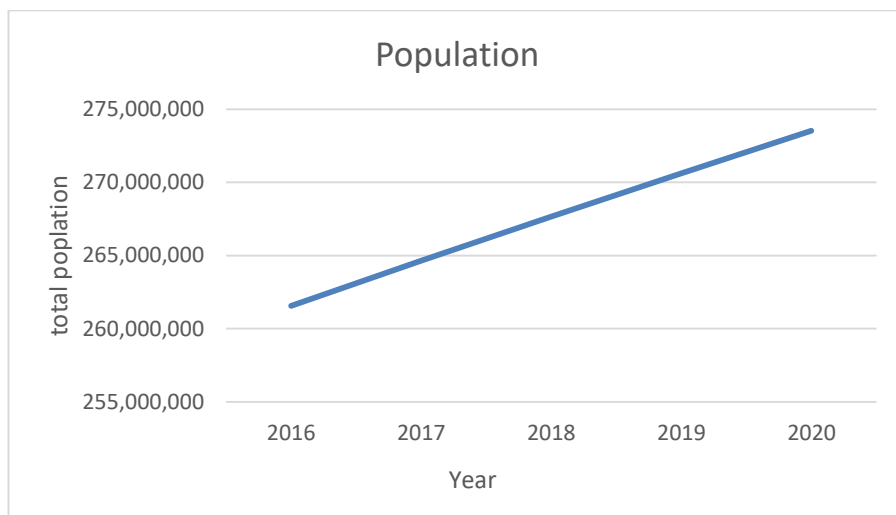
The complexity of the problems associated with increased agricultural production makes increased production a long-term and costly project. Increased food production cannot be achieved immediately. But little by little. Also, in order to increase agricultural production as a long-term project, the continuity of government policy is necessary. It means that future governments are willing and

determined to continue the policies of the previous government (which has launched a project to increase agricultural production). On the other hand, choosing an import route is more prone to the problems faced by the government. Importing is an immediate method, as the government receives a certain amount of rice as soon as it spends money. More simply, imports do not require as complex inter-sectoral (cross-generational) planning as production increase projects. Under normal conditions, the laws of supply and demand apply to the market. As soon as there is a shortage of rice, the price of rice goes up. The government has intervened in the market to keep rice prices at desirable levels. When the price of rice in the market began to rise, the government carried out market manipulation, that is, selling large quantities of government-supplied rice. The government closed the market after prices gradually fell. It means that rice prices are always stable at the levels the government wants. It shows that the availability (inventory) of domestic rice strongly determines the ability to intervene in the market.

According to Ramadhan ( 2019) Rice production variables have no long-term impact on rice import variables. It contradicts the theoretical hypothesis that rice production should affect rice imports. The main reasons are distribution issues and the possibility of storage to prevent rice from reaching consumers quickly from farmers. However, it has a negative impact in the short term, as domestic rice production can meet the needs of local consumers in the short term.

One of the main reasons Indonesia still importing rice is huge population. The Indonesian population is the largest rice consumer in the world with a rate of consumption of 154 kg per person per year which compared to the average in China

which only 90 kg, India 74 kg, Thailand 100 kg and the Philippines 100 kg. It results in Indonesia's rice needs will not be fulfill if it only relies on production domestically and have to import them from other countries (Febriaty, 2016).



**Figure 1.2 Population in Indonesia 2016-2020**

*Source: Worldbank, Total Population (Thousand People) 2016-2020 (2021)*

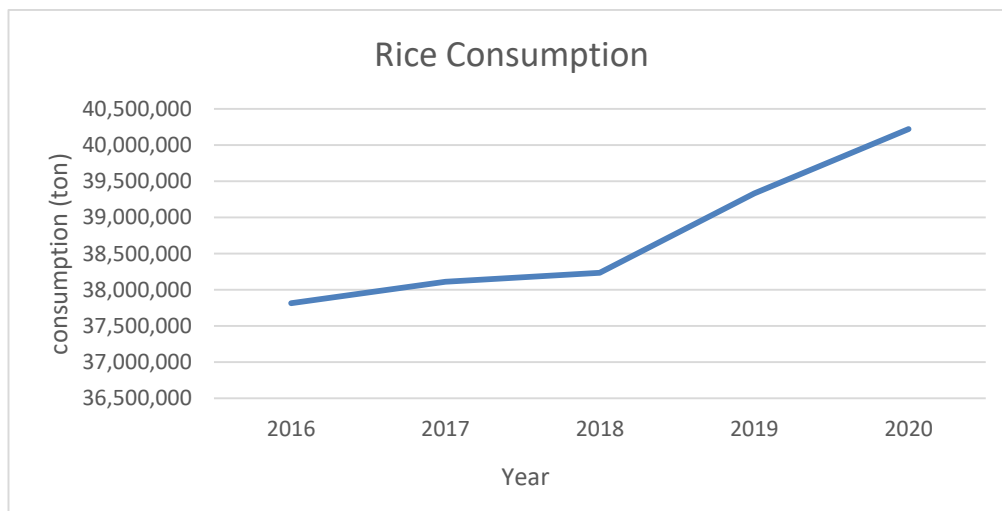
Indonesia is the world's fourth most populous country. It indicates that population of Indonesia require a lot of natural resources to meet their demands. The rate of increase in the Indonesian population, as well as improvements in the Indonesian population's living standards and changes in consumer tastes, will encourage an increase in food needs and household food consumption. Indonesian population increased from 211,513 million in 2000 to 273,523 million in 2020 (Worldbank, 2021). It showed on the chart below how population increasing every year from 2016-2020 which is increase about almost 12 million population. Huge population of Indonesia continuously increasing and it follow with the increasing of rice consumption. The height population growth followed the amount of rice consumption makes the demand for rice is increasing highly, it makes government

should import rice from other country to fulfil rice needs. It is being the reason that Indonesia can't be the exporter of rice .

The increasing of the population become a problem because between the population and the availability of foodstuffs in the form of rice will be inversely proportional, as quoted from an economist in classical times namely Thomas Maltus said that the population is calculated using arithmetic and food is counted geometrically, meaning every addition of the population is 1 (one) person, the food must increase by 2 (two) Kg rice, for every 2 (two) additional population, food must increase 4 (four) Kg of rice and so on. So with this concept, it is necessary to review whether in every certain areas require it so, so that if the population growth and the amount of food as well then the number of dividends between families increasingly guarantees life will food needs are available and fulfilled in the community at generally will be more prosperous. The conclusion is when the population is increasing, it will be increase the consumption of rice.

Rice consumption in Indonesia fluctuates even though tends to increase. In 2016 until 2020 rice consumption in the country is increasing every year in which rice consumption amounted to 27,519,182 tons to 40,330,612 tons in 2020. According to the Director General of Food Crops, Ministry of Agriculture, there are several regions experiencing a rice deficit, namely the Riau Islands, Bangka Belitung, North Kalimantan, Maluku, North Maluku, parts of West Papua, and parts of Papua. It is due to the uneven distribution of rice from the harvested provinces, resulting in delays in distribution in the 7 provinces. Suwandi said the handling of

the rice deficit in the province was carried out by consolidating the supply of rice in three provinces that experienced a surplus, namely East Java, South Sulawesi and East Kalimantan.



**Figure 1.3 Rice Consumption in Indonesia 2016-2020**

*Source: Ditjenbun Pertanian, Konsumsi Beras Menurut Komoditi Makanan (2021)*

The stock used to cover the deficit is the rest of the national rice stock which is spread across traders, rice mills and the State Logistics Agency (BULOG). The deficit was also caused by limited domestic rice production, while domestic demand was high. Rice imports are considered by the government as an unavoidable policy, because rice import activities are one of the steps taken by Indonesia to be able to fulfill national food needs.

Foreign exchange reserve can affect import of Rice Indonesia, foreign exchange needed to finance imports and pay off foreign debt. The volume of a country's imports is influenced by one of them foreign exchange reserves in the country. In terms of rice imports too the government besides seeing the need for



how much is needed also look at foreign exchange reserves first to determine how much the amount of imports that can be done by the government.

Based on research that conducted by Christianto (2013) during 2000 – 2009 state that population will increase the demand of rice. The population that represent by the income per capita show the positive effect to the rice import that might impact for the short-term and long-term to rice import. This is related to an increase in population in Indonesia, this will result in an increase in demand for staple food needs, which is rice. Another research by Naufal (2019), state different result of the relation between population and rice import. The result show that population has no impact to the rice import. The research that conducted during 2007 – 2017 explain that there is changes on society consumption, many people who consume bread, wheat, instant food as substitute for rice. This changes might effect to the demand of rice and this will not give any impact to the rice import.

Other factor that might impact the rice import is GDP. Sani et al. (2020) that conduct research during 1998 – 2017 state that GDP has negative impact to rice import in Indonesia. This result related to the sector that contribute to the GDP is agriculture sector after industry and trade sector. This of course will impact to the rice import. Different result conducted by Safitri (2017) during 1980 – 2015 that explain, rice import will increase if the GDP increase. GDP continues to increase reflects that the income of a country's population increases. But when the domestic market supply of goods and services is smaller than demand. The government will import these goods either consumer goods or raw materials so that it will increase production his country.

Darwanto & Rahayu (2017) That conduct research during the period 2006 – 2020 state that consumption has positive effect on rice import. This because mostly Indonesia's population consumes large amounts of rice and accounts for half of total income are spent on foodstuffs. The high population growth followed by the large consumption of rice makes the demand for rice increase which requires it to import rice. While research by Ammani (1981) that conducted in Nigeria during 1986 – 2010 state that consumption has negative impact to rice import. Increase of consumption in Nigeria will decrease the rice import because there are other food that might change the rice function in Nigeria.

Another variable that might effect the rice import is foreign exchange. Based on previous research by Dwipayana & Kesumajaya (2014) during 1997 – 2012 period, foreign exchange reserve had positive effect on rice import. Foreign exchange reserves are a monetary tool that is not only capable of stimulating economy but can also stabilize exchange rates and debt. Increase in foreign exchange means the to stability of economy that might help the country to import. Foreign exchange reserves must be able to finance import needs as well as payment of Indonesia's foreign debt. a decrease in foreign exchange reserves can lead to difficulties in importing, the increase in rice imports that occurs indicates an increase in foreign exchange reserves and vice versa.

Import in Indonesia will give an impact to economic growth in Indonesia, when the value of import is high, it will decrease the value of GDP too. So, it's really important to decreasing the import of rice for the better economic growth.

## **1.2 Research Objective**

Based on the background above can be explain that the research question is how population, rice consumption, GDP and foreign exchange reserves affecting Indonesian import of rice?

## **1.3 Research Purpose**

Based on the background above can be explain that the research question is how population, rice consumption, GDP and foreign exchange reserves affecting Indonesian import of rice.

## **1.4 Research Benefits :**

### **1.4.1 Theoretical Purposes**

- a. Gaining insight into the economic sector, especially regarding the factors that affect rice imports in Indonesia
- b. Contributing in adding to the treasury of science and education.
- c. As a vehicle for training in applying the knowledge gained in lectures
- d. To know the effects of rice domestic price, rice consumption, and production of rice against the volume of Indonesia rice imports.

### **1.4.2 Research Development**

The result of this research is expected to provide benefits to add information, description, and can be used as a reference for any party who wants to discuss or deepen the problem of the effect of rice domestic prices, foreign exchange reserves, and rice production on rice imports in Indonesia.

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