

ANALYSIS OF EFFECT OF CONSUMPTION, PRODUCTION, AND INFLATION LEVELS ON THE IMPORT OF MILK IN INDONESIA

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ABSTRACT

Despite the low level of milk consumption per capita in Indonesia, in fact domestic milk production has not been able to meet the national needs. The government is trying to meet domestic milk needs through imports. This study aims to analyze 1) the effect of domestic milk consumption, domestic milk production, and simultaneous inflation rates on milk imports in Indonesia. 2) The effect of domestic milk consumption, domestic milk production, and partial inflation rates on milk imports in Indonesia 3) variables that have a dominant influence between domestic milk consumption, domestic milk production, and inflation rates on milk imports in Indonesia. The study uses a quantitative approach, using time series data from 1991-2017. The data analysis technique used is multiple regression analysis. The conclusions obtained from this study are simultaneous domestic consumption of milk, domestic milk production, and inflation rates have a significant effect on milk imports in Indonesia. Partially, consumption has a positive and significant effect on milk imports in Indonesia, production has no negative and significant effect on milk imports in Indonesia, and the inflation rate has no positive and significant effect on milk imports in Indonesia.

KEYWORDS: import, consumption, production, inflation

1. INTRODUCTION

Based on data from the Pusat Data dan Sistem Informasi Pertanian (2016), the value of Indonesia's milk import export ratio in 2015 was 10.82%, this indicates that the national milk needs of more than 80% are met by imported production. A temporary solution to the problem of the inability of national milk production to meet domestic milk needs is Import. Bourgeois & Kusumaningrum (2008) state that most of the existing projection models predict that Indonesia will be a net importer of an increase in the amount of basic cereals.

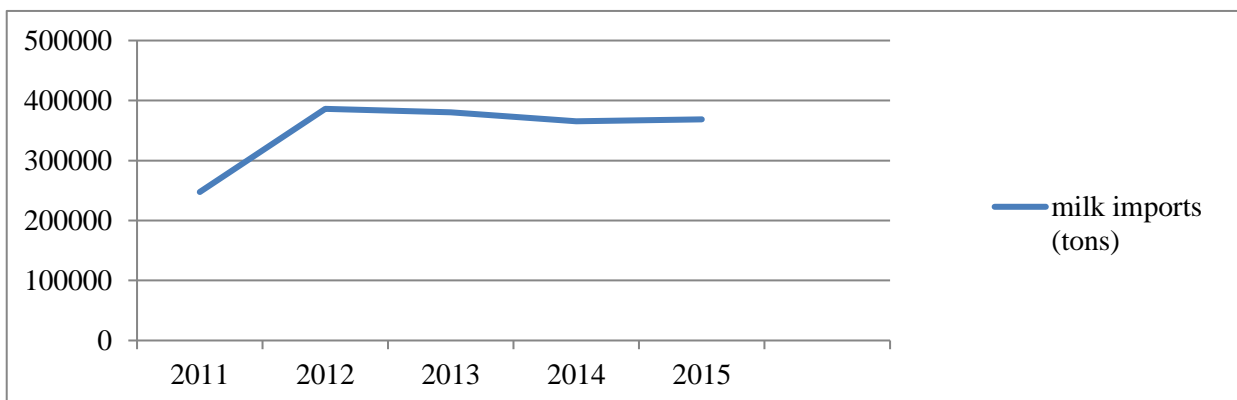
Restrictions on the entry of imports will provide impetus for the growth of value-added industries in the country, as well as encourage the nation's willingness to be more independent (Batubara & Saskara, 2015). The low milk production is due to inefficient farming of the people. Usually, people also only have 2-3 dairy cows, while their productivity is still low. Cahya Ningsih & Indrajaya (2015) production is directly affected by capital, then Aldillah (2015) concluded that production was significantly affected by productivity and area size. Productivity can be defined as the ratio of output to input used in production (Fuglie, 2004).

Judging from the state of the country, Indonesia is actually very good for increasing milk production through people's livestock, because Indonesia itself has a large population or human resources, as stated by Setyari (2017) that in some developing countries, production activities are concentrated in industries that are labor intensive. Despite the low level of milk consumption per capita in Indonesia, in fact domestic milk production has not been able to meet the national milk needs.

The increase in prices will generally be reflected in the inflation rate. It can be said that inflation affects the exchange rate, which has a negative relationship with the domestic currency so that it can affect import activity. Inflation in Indonesia itself in the long run can be influenced by the money supply and world oil prices (Maggi & Saraswati, 2013). Amid the uncertainties in the global economy and fluctuations in world oil prices, the Indonesian economy faces external pressures and slowing economic growth (Damuri & Day, 2015)

Beginning in 2014, BPS data showed that there were five largest countries supplying cow's milk to the country, namely the United States (US), Australia, New Zealand, Belgium and Canada (Ariyanti, 2014). The US is recorded to be the highest importer of these countries with a realization of US \$ 16.37 million and a weight of 3.80 million kg this January. Australia imported fresh cow milk worth US \$ 12.34 million with milk weight of 2.64 million kg. New Zealand followed with a supply of milk weighing 2.11 million kg valued at US \$ 10.87 million. Belgium and Canada each imported milk to Indonesia with a value of US \$ 4.44 million and US \$ 3.21 million. And for other countries supplying milk worth US \$ 7.41 million and weighing 1.74 million kg at the beginning of this year. Figure 1. presents data on milk imports in Indonesia from 2011 to 2015.

Figure 1. Milk Imports in Indonesia from 2011-2015



Source: Data Results, 2018

In 2011 to 2015 for five years Indonesia's milk imports tended to increase. The volume of milk imports from 2011 amounted to 247,495 tons which experienced a high increase in 2012 to 386,116 tons, which is also the highest number of Indonesian milk imports in those five years. The purpose of

this study is to analyze: 1) The effect of consumption and domestic milk production, as well as the simultaneous inflation rate on milk imports in Indonesia. 2) The effect of consumption, and domestic milk production, as well as partial inflation rates on milk imports in Indonesia. 3) Variables that have a dominant influence between consumption and domestic milk production, as well as inflation rates on milk imports in Indonesia.

2. LITERATURE REVIEW

Export and import activities, are part of international trade which is defined as trade activities between countries or cross-countries (Tambunan, 2001:1). Imports can also be said as trade by entering goods from abroad into Indonesian territory by fulfilling applicable regulations. Mankiw (2007) states that consumption is the expenditure of goods and services by households. What is meant by goods are durable household items, including equipment, vehicles and non-durable goods, for example food and clothing. Spending services in question are goods that are not tangible, for example education. Khan & Hussain (2011) in their study stated that the consumption per capita per year of the Indonesian people had a positive and significant effect on the volume of Indonesian imports.

Production is the end result of an economic process or activity by utilizing several inputs (Nicholson, 2003:50). Amaliah & Fahmi (2007) state that if the volume of imports decreases with a commodity, it is assumed that the country has increased production, whereas if imports of a commodity increase, it is suspected that the country has decreased production. Inflation, according to Samuelson & William (1992), is a condition where the prices of goods and services as a whole rise, resulting in the value of money going down. Bank Indonesia (2018) states, inflation is simply interpreted as an increase in prices in general and continuously within a certain period. In general, inflation occurs when the amount of money circulating in the community is more than needed. Inflation (inflation) is a symptom in which the general price level has increased continuously (Nanga, 2005:237).

3. METHODS

The writing of this research uses a quantitative approach that is associative in nature, using time series data from 1991 to 2017, obtained from the Central Statistics Agency, Bank Indonesia and the Directorate General of Animal Husbandry and Animal Health, as well as other related sources. This research was conducted in Indonesia, because Indonesia is still a country that still imports milk as much as 80 percent of its total needs. The type of data used in this study is secondary data collected using non-behavioral observation methods. The dependent variable in this study is milk import in Indonesia (Y) and the independent variable is domestic milk consumption (X1), domestic milk production (X2), and inflation rate (X3). Milk Imports in Indonesia (Y), in this study is the total quantity of milk purchased or imported from abroad to Indonesia, which is stated in tons per year. Domestic Milk Consumption (X1), in this study is the entire amount of milk purchased or spent as a fulfillment of the needs of the community or individuals in Indonesia expressed in units of kilograms (kg) per capita. Domestic Milk Production (X2), in this study is the amount of milk produced from

producing or adding value to an item or object through a certain process, which is produced in Indonesia expressed in tons per year. The level of inflation (X3) in this study is the level of price increases in general and continuously in a certain period of time, which occurs in Indonesia each year expressed in percent.

4. RESULTS AND DISCUSSION

Table 1. Results of Multiple Linear Regression Analysis

Model	Unstandardized Coefficient		Standardized Coefficient		
	B	Std. Error	Beta	t	Sig
1 (Constant)	-0,140	5,327		-0,026	0,979
Consumption	0,116	0,038	0,561	3,085	0,005
Production	0,830	0,425	0,348	1,956	0,063
Inflation Rates	-0,006	0,005	-0,104	-1,206	0,240

Source: Research Results, 2019

Table 2. F test

Model	Sum of Squares	Df	Mean Square	F	Sig.
1 Regression	13,530	3	4,510	43,102	,000 ^b
Residual	2,407	23	,105		
Total	15,937	26			

Source: Research Results, 2019

F table seen in degrees of freedom (k-1); (n-k) = (3-1); (27-3) = (2; 24), with <0.05, the F table is 3.40. Because F table (3.40) <F count (43.10) with a probability of 0.000 <0.05, then H0 is rejected and H1 is accepted. This means that, there is a simultaneous influence of domestic milk consumption variables (X1), domestic milk production (X2), and inflation rate (X3) on milk imports in Indonesia (Y). The results of this study have the meaning that the amount of domestic milk consumption, domestic milk production, and inflation rates can affect the amount of milk imports in Indonesia.

Domestic milk consumption partially has a positive and significant effect on milk imports in Indonesia. The regression coefficient of domestic milk consumption of 0.116 with a probability of

0.005 is significant, if domestic milk consumption increases by 1 kg / capita resulting in an increase in the volume of milk imports in Indonesia by 11.6 percent assuming other variables are constant. Partial domestic milk production has no effect on milk imports in Indonesia. The regression coefficient of domestic milk production of 0.830 is significant, if domestic milk production increases by one percent resulting in an increase in the volume of milk imports in Indonesia by 0.830 percent, assuming the other variables are constant.

The inflation rate partially has no effect on milk imports in Indonesia. The regression coefficient of the inflation rate of -0.006 is significant if the inflation rate increases by one percent resulting in a decrease in the volume of milk imports in Indonesia of 0.6 percent, assuming the other variables are constant. The results of the coefficient of determination or R Square with a value of 0.849, means that 84.9 percent of variations in milk imports in Indonesia are influenced by variations in domestic milk consumption, domestic milk production, and inflation. The remaining 15.1 percent is influenced by other factors not included in the model.

Table 3. Standardized Coefficient Beta

Variable	Standardized Coefficient
	Beta
Consumption	0,561
Production	0,348
Inflation Rate	-0,104

Source: Research Results, 2019

The Standardized Coefficient Beta value of the domestic milk consumption variable of 0.561 is the highest compared to other independent variables, namely domestic milk production of 0.348 and an inflation rate of -0.104. So, it can be said that domestic milk consumption is the independent variable that has the most dominant influence on milk imports in Indonesia.

5. CONCLUSION

Domestic milk consumption, domestic milk production, and inflation rates simultaneously have a significant effect on milk imports in Indonesia. Domestic milk consumption partially has a positive and significant effect on milk imports in Indonesia. The regression coefficient of domestic milk consumption of 0.116 with a probability of 0.005 is significant, if domestic milk consumption increases by 1 kg / capita resulting in an increase in the volume of milk imports in Indonesia by 11.6 percent assuming other variables are constant.

Partial domestic milk production has no effect on milk imports in Indonesia. The regression coefficient of domestic milk production of 0.830 is significant, if domestic milk production increases by one percent resulting in an increase in the volume of milk imports in Indonesia by 0.830 percent, assuming the other variables are constant. The inflation rate partially has no effect on milk imports in Indonesia. The regression coefficient of the inflation rate of -0.006 is significant if the inflation rate increases by one percent resulting in a decrease in the volume of milk imports in Indonesia of 0.6 percent, assuming the other variables are constant. The dominant influential variable between domestic milk consumption, domestic milk production, and the inflation rate on milk imports in Indonesia is the domestic milk consumption variable with a Standardized Coefficient Beta value of 0.561.

Indonesian people should be more aware of the importance of consuming milk and love domestic milk products more than imported milk to reduce the volume of milk imports in Indonesia. The government should provide assistance in the form of capital and training for domestic milk producers to improve the quality and quantity of domestic milk and to compete with imported milk. The government should continue to control the volume of milk imports that enter Indonesia with appropriate policies, so that the market share of local dairy products increases. Indonesian milk producers should improve the quality and quantity of milk produced so as not to compete with the quality of imported milk and be able to meet domestic milk needs so there is no deficit in the availability of domestic milk.

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