ISSN : 2548 - 4613
Vol. 5. Desember 2020

Proceedings

The 5th Annual
INTERNATIONAL SEMINAR on Transformative Education and Educational Leadership

Theme : Education Innovation in Globalization Practice

22 September 2020
Postgraduate School - Universitas Negeri Medan

Supported by :

Committee

Advisors

Dr. Syamsul Gultom, S.KM.,M.Kes (Rector of Unimed)
Prof. Dr. Bornok Sinaga, M.Pd (Director of Postgraduate Program of Unimed)
Prof. Dr. Sahyar, MS.,MM (Vice Director 1 of Postgraduate School of Unimed)
Dr. Darwin, M.Pd (Vice Director 2 of Postgraduate Program of Unimed)

Conference Chair : Dr. Rahmad Husein, M.Ed
Secretary : Dr. Juniastel Rajagukguk, M.Si
Trasurer : Dedi Agus Syahputra, SE
Secretariat : Vivi Emilawati, SE.,M.Si

1. Erika, S.Pd.,M.Pd
2. Amir Husin Sitompul, S.Pd.I
3. Azizi Apri Indaya, S.Pd
4. Agus Harriyanto

Papers and Proceedings :

1. Dr. R. Mursid, ST.,M.Pd
2. Dr. Anni Holila Pulungan, M.Pd
3. Dr. Saronom Silaban, M.Pd
4. Dr. Tumiur Gultom, M.Si
5. Mangaratua Simanjorang, M.Pd.,Ph.D

Program/Event :

1. Dr. E. Elvis Napitupulu, M.Si
2. Dr. Rachmat Mulyana, M.Si
3. Dr. Elmanani Simamora, M.Si

Plenary Session :

1. Prof. Amrin Saragih, M.A.,Ph.D
2. Prof. Dr. Abinus Silalahi, M.S
3. Prof. Dr. Abdul Hasan Saragih, M.Pd

Parallel Sessions:

1. Prof. Dr. Edi Syahputra, M.Pd
2. Prof. Dr. Anita Yus, M.Pd
3. Prof. Dr. Nasrun,MS
4. Dr. Edy Surya, M.Si
5. Dr. Ashar Hasairin, M.Si.
6. Dr. Rahmatsyah, M.Si
7. Dr. Arif Rahman, M.Pd
8. Dr. Ir. Nurfajriani, M.Si
9. Dr. Hidayat, M.Si
10. Dr. Fitrawaty, SP.,M.Si
11. Dr. Albadi Sinulingga, M.Pd
12. Dr. Wisman Hadi, M.Hum
13. Dr. Rahma Dewi, M.Pd.
14. Dr. Arfan Ikhsan, M.Si
15. Dr. Saidun Hutasuhut, M.Si
16. Dr. Jubliana Sitompul, M.Hum

Evaluator :

1. Dr. Anni Holila Pulungan, M.Hum
2. Dr. Syamsidar Tanjung, M.Pd
3. Dr. Yuniarto, M.Pd
4. Dr. Ajat Sudrajat, M.Si
5. Dr. Ratih Baiduri, M.Si
6. Dr. Muhammad Fitri Ramadhana, M.Si
7. Dr. Mulyono, S.Si.,M.Si

8. Dr. Daulat Saragi, M.Hum
9. Dr. Tumiur Gultom, SP.,MP
10. Dr. Derlina, M.Si
11. Dr. Elly Prihasti Wuriyani, M.Pd.
12. Dr. Nurhayati Simatupang, M.Kes
13. Dr. Amir Supriadi, M.Pd
14. Anggriyani, SE., M.Si.
15. Dr. Thamrin, M.Si
16. Dr. Junita Friska, S.Pd.,M.Pd

Public relations :
1. Muhammad Surip, S.Pd.,M.Si
2. Jihan Siska

Accommodation :
1. Ater Budiman Sinaga, M.Si
2. Hendry Dalimunthe, MA
3. Reza Destya, S.Pd
4. Jasmi Assayuti, SHi

Equipment :
1. Nur Kholila Harahap, M.Pd
2. Sofianto Gultom
3. Suhana Nasution
4. Farid Ma'ruf Harahap
5. Isachar Adry Utomo
6. Diky Arisandi
7. Herianto Samosir, S.Pd
8. Hizrah Saputra Harahap, S.Pd
9. Muhammad Isnaini, M.Pd
10. Nasiruddin, S.Pd

IT & ICT :
1. Jerry S. Pauned, S.Si
2. Mulyanto Duha

Transportation :
1. Hisar P. Sianturi, SH
2. Sari Purnamawati Siregar, M.Hum
3. Yutia Hafwenny, S.KM

Consumption :
1. Susiani, S.Sos
2. Siti Rohana, M.Pd
3. Yutia Hafweny, S.KM
4. Tiarma Nova, M.Pd.

Receptions :
1. Nisa Ansyari Gultom, S.Pd
2. Desi Yulian, S.Pd
3. Siti Rohana, S.Pd.,M.Pd

eISSN: 2548-4613

Schedule of The 5th Annual Internatioanal Seminar on Transformative Education and Educational Leadership (AISTEEL) 2020
Postgraduate School, Universitas Negeri Medan

22 September 2020

(Indonesian time)	**Activities**	**PIC/Moderator**
07.00 – 08.30 (am)	Preliminaries	committee
08.30 - 08.45 (am)	**Opening Ceremony** 1. MC Speech 2. Indonesian National Anthem 3. Pray 4. Chairperson Report 5. Welcoming speech of Director of Postgraduate School 6. Welcoming speech and official opening of Rector of Universitas Negeri Medan 7. Photo session	MC (Dr. Anni Holila Pulungan, M.Hum & Sofianto Gultom, S.Pd)
08.45 – 09.25 (am)	Keynote Speech 1: **Prof. Dr. Syawal Gultom, M.Pd** (Universitas Negeri Medan– Indonesia)	Dr. Rahmad Husein, M.Ed
09.25 – 10.05 (am)	Keynote Speech 2 **Prof. Emmanuel Manalo** (Graduate School of Education, Kyoto University, Japan)	Prof. Amrin Saragih, PhD
10.05 – 10.45 (am)	Keynote Speech 3 **Dr. Susan Ledger** (Head of Education, Murdoch University - Australia)	
10.45 – 11.25 (am)	Keynote Speech 4 **Prof. Dr. Ekkarin Sungtong** (Dean of Faculty of Education Prince of Songkla University - Thailand)	Mangara Simanjorang, PhD
11.25 – 12.05 (am)	Keynote Speech 5 **Assoc. Prof. Yuri Uesaka** (The University of Tokyo - Japan)	
12.05 – 13.30	**Break**	
13.30 – 15.30 (pm)	**Parallel Session 1 (divided to 19 parallel rooms)**	Moderator/Operator
15.30 – 15.35 (pm)	Break	
15.35 – 17.00 (pm)	**Parallel Session 2 (divide to 19 parallel rooms)**	Moderator/Operator
17.00 – 17.10 (pm)	Cloossing	committee

eISSN: 2548-4613

Proceedings of the 5th Annual International Seminar on Transformative Education and Educational Leadership (AISTEEL 2020)

Preface

The fifth Annual International Seminar on Transformative Education and Educational Leadership (AISTEEL 2020) was held by virtual seminar on 22 September 2020. This seminar is organized by Postgraduate School, Univesitas Negeri Medan and become a routine agenda at Postgraduate program of Unimed now.

The AISTEEL is realized this year with various presenters, lecturers, researchers and students from universities both in and out of Indonesia participating in, the seminar with theme “Educational Innovation in Globalization Practice”.

The fifth AISTEEL presents 4 distinguished keynote speakers from Universitas Negeri Medan - Indonesia, Kyoto University - Japan, Murdoch University – Australia, Prince of Songkla University – Thailand and from The University of Tokyo - Japan. In addition, presenters of parallel sessions come from various Government and Private Universities, Institutions, Academy, and Schools. Some of them are those who have sat and will sit in the oral defence examination. The plenary speakers have been present topics covering multi disciplines. They have contributed many inspiring inputs on current trending educational research topics all over the world. The expectation is that all potential lecturers and students have shared their research findings for improving their teaching process and quality, and leadership.

There are 180 articles submitted to committee, some of which are presented orally in parallel sessions, and others are presented through posters. The articles have been reviewed by double blind reviewer and 104 of them were accepted for published by Atlantis Press indexed by International Indexation, while 54 papers are published by digital library indexed by google scholar..
The Committees of AISTEEL invest great efforts in reviewing the papers submitted to the conference and organizing the sessions to enable the participants to gain maximum benefit.

Grateful thanks to all of members of The 5th Annual International Seminar on Transformative Education and Educational Leadership (AISTEEL 2020) for their outstanding contributions. Thanks also given to Atlantis Press for producing this volume.

The Editors

Bornok Sinaga
Rahmad Husein
Juniastel Rajagukguk

eISSN: 2548-4613

Table of Content

Analysis of Factors Affecting Rice Imports in North Sumatera

Adiguna Dwirusandi
Student of Economics Postgraduate
Universitas Negeri Medan (Unimed)
Medan, Indonesia
adiguna.dwirusandii@gmail.com

Dr. Arwansyah, M.Si.
Lecturer of Department Economics
Universitas Negeri Medan (Unimed)
Medan, Indonesia

Dr. Fitrawaty, M.Si.
Lecturer of Department Economics
Universitas Negeri Medan (Unimed)
Medan, Indonesia

***Abstract*— North Sumatra is one of the provinces in Indonesia as a rice producer, has a fairly good food security. However, as the population continues to increase, it is accompanied by an increase in the need for food, especially rice. The increasing need for rice can lead to reduced availability and ultimately threatens food security in the region. For this reason, an import policy is needed to increase its availability. However, in reality, rice imports were still carried out when statistical data showed that North Sumatra was experiencing a rice surplus. This study aims to determine what factors influence rice imports in North Sumatra. The analysis method used is multiple linear regression analysis with the Error Correction Model (ECM) model. Based on the results of the study, it is concluded that partially the variables of rice production, rice consumption and domestic rice prices have a significant effect on rice imports in the long run. Meanwhile, in the short term, only rice production and consumption variables have a significant effect on rice imports. together in the long run the variables of production, consumption, price and exchange rate do not have a significant effect on rice imports. On the other hand, in the short term all the independent variables collectively have a significant effect on rice imports in North Sumatra.**

Keywords*— Rice imports, Production, Consumption, Domestic rice prices, Exchange rates

I. Introduction

Indonesia is an agricultural country where most of the people depend on and work in the agricultural sector. Therefore the agricultural sector has an important role, especially to maintain food security in Indonesia. The main food ingredient or staple food in Indonesia is rice produced from rice. The need for rice food in Indonesia always experiences growth every year in line with population growth which is also increasing. The population growth which continues to increase is allegedly able to disrupt food security in Indonesia, for this reason an import policy is implemented to increase rice stocks and stabilize the national rice price.

According to the Ministry of Trade, the Government imports rice with the aim of: (1) as a necessity for price stabilization, emergency response to the poor and food insecurity is the procurement of rice from abroad as a reserve that the government can use at any time, (2) to meet certain needs related to health / dietary factors, where this type of rice cannot be produced domestically, (3) to fulfill the need for grant rice or what is called RASKIN, where the government provides it to the community not to be traded.

Based on Fig. 1, it shows that the amount of rice imports entering North Sumatra in the last 30 years has continued to fluctuate.

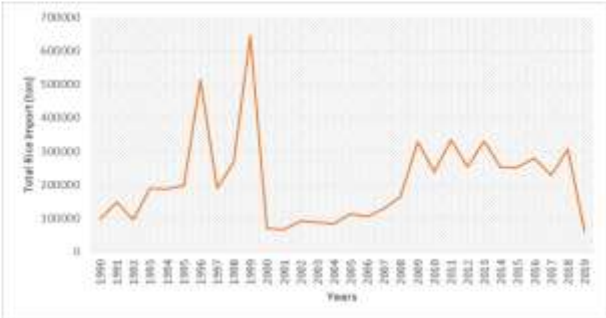

Fig.1 Total Imports of Rice in North Sumatra 1990-2019

Import activity carried out by a country is closely related to the movement of a country's exchange rate (exchange rate). According to Syarifuddin [1], the exchange rate affects the economy and business activities through direct and indirect channels. Directly, the exchange rate will affect a country's economy through the prices of a country's exports and imports of goods. Meanwhile, indirectly, the exchange rate can affect the economy through a country's export and import activities.

North Sumatra is one of the largest rice-producing provinces in Indonesia. Based on Fig. 2 below, it shows that the amount of rice and rice production in North Sumatra from 2000 to 2017 has continued to increase. Whereas in the last two years, namely, in 2018 to 2019 it has decreased.

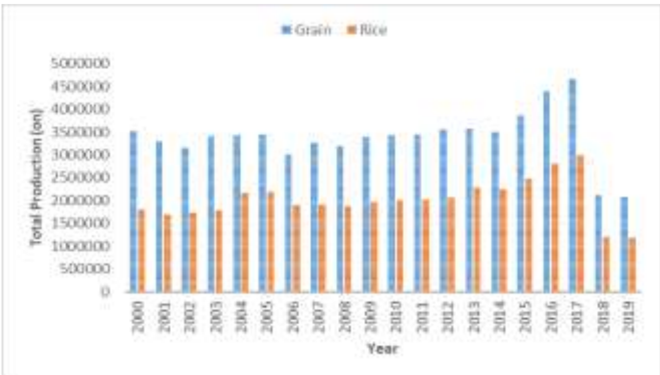

Fig 2. Total Production of Grain and Rice in North Sumatra

Viewed from the level of consumption, North Sumatra is recorded to have a high level of rice consumption in Indonesia. According to the North Sumatra Food Security Agency (BKP / Badan Ketahanan Pangan), the level of rice consumption per capita of North Sumatra in 2015 was 126.32 kg per capita, when compared to 2011 which was 134.8 kg per capita, in 2012 there was only 132.6 kg per capita, then in 2013 it fell to 130.61 kg per capita and 2014 amounting to 128.65 kg per capita. On a per capita basis, the level of rice consumption in North Sumatra has decreased and will strengthen food security in this area. However, when viewed from the total consumption of rice, its value continues to increase along with the increase in population.

II. REVIEW OF LITERATURE

A. *Import Theory*

Import is the activity of bringing goods into the customs area. Import transactions are trades by entering goods from abroad into Indonesian customs areas by complying with the provisions of the applicable statutory regulations [2].

According to Susilo [3], imports can be interpreted as activities to enter goods from one country (abroad) into the customs territory of another country. This definition means that import activities mean involving two countries. In this case it can be represented by the interests of the two companies between the two countries, which are different and of course also the regulations and act as suppliers and the other acts as the receiving country.

B. *Previous Research*

Research conducted by Christianto [4] shows that rice production has no significant effect on the volume of rice imports in Indonesia. The world rice price factor shows that the world rice price does not have a significant effect on the volume of rice imports in Indonesia and the rice consumption per capita per year of the Indonesian people has a positive and significant effect on the volume of rice imports in Indonesia. Meanwhile, Kurniyawan [5] shows that rice production in the short and long term has a negative and significant effect on Indonesia's rice imports. And Kumala [6] shows from the results of his research that partially or jointly rice production, rice consumption, domestic rice prices and the rupiah exchange rate against the US dollar have a significant and significant effect on rice imports in Indonesia.

III. RESEARCH METHOD

This research is based on time series data. The time period used in this research is in annual form starting from 1990 - 2019. The type of data used in this study is secondary data obtained from several sources by taking existing statistical data and other related documents. and as needed. In this case, the North Sumatra Central Statistics Agency (BPS / Badan Pusat Statistik).

The author uses the Error Correction Model (ECM) analysis method to process the data in this study. The reason for using this ECM analysis method is to find out how long-term and long-term relationship between independent variables and the dependent variable in this study.

This study uses the following equation:

$$Impt = \beta 0 + \beta 1\ Konst + \beta 2\ Prodt + \beta 3\ Hrgt + \beta 4\ Krt + Ut \qquad (1)$$

Equation (1) above is the equation of the ECM model in the long run, where, Imp (North Sumatra rice import volume), Kons (rice consumption), Prod (rice production), Hrg (domestic rice price) and Kr (exchange rate).

From equation (1) an equation is made in the short term. ECM is characterized by including the Error Correction Term (ECT) element in the model. ECT, which is stationary in long-term equations, is not only used to determine whether there is cointegration (long-term relationship) but is also used as a variable in the short-term equation. Then a short-term equation can be formulated in this study which is shown in equation (2) below:

$$DImpt = \beta 0 + \beta 1\ DKonst + \beta 2\ DProdt + \beta 3\ DHrgt + \beta 4\ DKrt + ECT + Ut \qquad (2)$$

(1)

IV. RESULT AND DISCUSSIONS

A. *Stationarity Test*

The concept used to test the stationary time series data is the unit root test with the Augmented Dickey Fuller test method. If a time series of data is not stationary, it can be said that the data is facing a unit root problem.

TABLE I. (ADF TEST) 1ST DIFFERENCE

Variabel	Prob.
D (IMP)	0.0000
D (PROD)	0.0036
D (KONS)	0.0001
D (HRG)	0.0080
D (KR)	0.0000

Source: Eviews Output

Table I shows that the prob. All variables are less than alpha 0.05, which means that at the 1st difference level, all variable data are stationary.

B. *Cointegration Test*

The cointegration test is a method to indicate the possibility of a long-term equilibrium relationship between the independent and dependent variables. Requirements needed to show that the variables studied are co-integrated by looking at the residual behavior of the regression equation used. With the root test it is stated that the ECT (residual) is stationary at the level. Thus the results of stationary test data on residuals reinforce that among the variables used there is cointegration.

TABLE II. COINTEGRATION TEST

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-5.411729	0.0001
Test critical values:	1% level	-3.679322	
	5% level	-2.967767	
	10% level	-2.622989	

Source: Eviews Output

The residual (ECT) must be stationary at the level to be said to be stationary. from the results above the ADF t-value of -5.41 (Prob 0.0001), the stationary residual (ECT). And it shows that there is long-term cointegration between the dependent variable and the independent variable.

C. ECM Model Estimation

The Error Correction Model in the long run used is as in equation (1). And after estimating, the following results are obtained:

TABLE III. LONG-TERM REGRESSION RESULT

Variabel	Koefisien	Std.Error	Prob
C	-815053.5	435656.7	0.7896
PROD	0.017799	0.065984	0.0319
KONS	0.716552	0.315328	0.0188
HRG	-28.68077	21.19441	0.0338
KR	-29.43711	13.11016	0.0731

Source: Processed Data

Meanwhile, equation (2) is used to explain the Error Correction Model in the short term. After estimating, the following results were obtained:

TABLE IV. SHORT-TERM REGRESSION RESULT

Variabel	Koefisien	Std.Error	Prob
C	-7752.227	43631.55	0.8605
D (PROD)	-0.005459	0.071737	0.0094
D (KONS)	0.615967	0.602051	0.0316
D (HRG)	-4.530122	66.13365	0.9460
D (KR)	-27.32175	16.90242	0.1196
ECI (-1)	-1.037749	0.235425	0.0002

Source: Processed Data

D. Classic Assumption Test

1) Normality Test,

The normality test aims to test whether in the regression model, variables (both independent and dependent) have a normal distribution or not. Done through the histogram test - normality test and see the probability value. Where, based on the normality test obtained a prob value of 0.782585 in the short-term model and a prob value of 0.048961 in the long-term model. Where the two values are greater than alpha 10 percent, which means, both in the short and long term, the data in the equation model is normally distributed.

2) Multicollinearity Test,

To test can use a correlation matrix. It can be seen that if the correlation between the independent variables is high above 0.90, it can be concluded that there is no multicollinearity between the independent variables [7].

By using a correlation matrix, the correlation value between independent variables in the long and short term models does not show the correlation value of each independent variable above 0.90 which indicates that the independent variables in the ECM equation model in the short and long term are free from multicollinearity.

3) Heteroscedasticity Test

To test the presence or absence of heteroscedasticity in this study using the White test. By looking at the p value of the Obs * R-squared value.

The hypotheses proposed in White's test are: (1) Ho: there is no heteroscedasticity, (2) Ha: there is heteroscedasticity. If the p value of the Obs * R-squared value is statistically significant (less than 0.05) then Ho (no heteroscedasticity) is rejected. In other words Ha (there is heteroscedasticity) is accepted [7].

The test results show the Chi-square probability value of 0.1619 in the short-term model and 0.3180 in the long-term model. Where the p value is greater than the significance level of 0.05, which means that Ho is accepted, which shows no heteroscedasticity symptoms in the equation model.

4) Autocorrelation Test

This test is used to determine the presence of autocorrelation in this study, namely the Breusch-Godfrey Serial Correlation LM Test statistical test.

The hypotheses proposed in the LM test are: (1) Ho: no autocorrelation, (2) Ha: no autocorrelation. If the p value of the Obs * R-squared value is statistically significant (less than 0.05) then Ho (no autocorrelation) is rejected. In other words, Ha (autocorrelation) is accepted [7].

The autocorrelation test results show that in the short and long term that the ECM model used is free from autocorrelation problems. This is indicated by the probability value Obs * R-squared of p = 0.8629 for the short-term model and p = 0.9356 for the long-term model. Where the two values are greater than 0.05, which means that Ho is accepted (no autocorrelation).

E. Statistic Test

1) t-Test

The individual parameter significance test (t test) was conducted to see the significance of the effect of the independent variable on the dependent variable individually and to consider other variables constant.

Partially, the rice production, rice consumption and domestic rice price variables have a significant effect on rice imports in the long run. Meanwhile, in the short term, only rice production and consumption variables have a significant effect on rice imports because they have a probability of less than $\alpha = 5$ percent.

2) F-Test

The F test is used to prove whether the independent variables (production, consumption, domestic prices and exchange rates) together have a significant effect on the dependent variable (rice imports).

In the long run, it has an F-statistic of 0.1293 which value is greater than $\alpha = 0.05$. This means that in the long run the variables of production, consumption, price and exchange rate together do not have a significant effect on rice imports in North Sumatra. Meanwhile, in the short term the F-statistic value obtained is 0.0019, which value is greater than $\alpha = 0.05$. This means that in the short term the independent variables (production, consumption, price and exchange rate) together have a significant effect on the dependent variable (rice imports) in North Sumatra.

3) Coefficient of Determination (R^2)

The coefficient of determination is used to explain how much influence the independent variable has on the dependent variable.

The coefficient of determination or R-squared in the long run is 0.240059. This means that the explanatory variables are only able to explain the import variable by 24 percent, while the remaining 76 percent is explained by other variables outside the model. The short-term coefficient of determination or R-squared is 0.541011. This means that the explanatory variables are able to explain the import variable by 54% while 46% is explained by other variables outside the model.

V. Conclusion

Based on the quantitative and descriptive analysis that has been carried out in the previous section, the following conclusions can be drawn:

- Rice production in North Sumatra has a significant effect on rice imports in North Sumatra. In the long run, rice production has a positive effect on rice imports. That is, if production increases, it will increase imports in the long run and vice versa. Meanwhile, in the short term, rice production has a negative effect on rice imports in North Sumatra. This means that if rice production increases, it will reduce the volume of rice imports in the short term and vice versa.
- Rice consumption in North Sumatra has a significant effect on the amount of rice imports. in the short and long term, rice consumption in North Sumatra has a positive effect on the volume of rice imports in North Sumatra. This means that if the total rice consumption of the people of North Sumatra increases, it will have an impact on increasing the volume of rice imports in North Sumatra and vice versa.
- The domestic rice price only has a significant effect on imports in the long run. The domestic rice price in the long run has a negative effect on the volume of rice imports in North Sumatra. This means that if the domestic rice price rises, the volume of rice imports entering North Sumatra will decrease and vice versa.
- Meanwhile, the value of the rupiah exchange rate against the US dollar has no significant effect on the volume of imports in North Sumatra, both in the short and long term because the probability value is above $\alpha = 0.05$.

Acknowledgment

Thanks to the supervisors in the Universitas Negeri Medan postgraduate program of economics for their role in providing the best support for this research, and for organizing the 5th AISTEEL conference.

References

[1] F. Syarifuddin, Konsep, Dinamika Dan Respon Kebijakan Nilai Tukar Di Indonesia, Seri Kebanksentralan, Jakarta: Bank Indonesia Institute, 2015.

[2] M. Tandjung, Aspek dan Prosedur Ekspor – Impor, Jakarta: Salemba Empat, 2011.

[3] A. Susilo, Buku Pintar Ekspor Impir, Jakarta: Transmedia Pustaka, 2008.

[4] E. Christianto, "Faktor yang Mempengaruhi Impor Beras di Indonesia," Jurnal JIBEKA, vol. 7 (2), pp. 38-43, Agustus 2013.

[5] H. Kurniyawan, Faktor-faktor yang Mempengaruhi Impor Beras di Indonesia Tahun 1980-2009, Fakultas Ekonomi Universitas Negeri Semarang, 2013.

[6] R.K. Sari, "Analisis Impor Beras di Indonesia," Economics Development Analysis Journal, vol. 3 (2), pp. 320-326, Juni 2014.

[7] Ghozali dan D. Ratmono, Analisis Multivariat dan Ekonometrika, 2nd ed, Semarang: Badan Penerbit Universitas Diponegoro, 2017.

UNIVERSITAS NEGERI MEDAN
PASCASARJANA

AISTEEL