International Journal of Finance, Economics and Business
Vol. 2, No. 3, September 2023, pp.218-225
e-ISSN: 2948-3883

DOI: 10.56225/ijfeb.v2i3.186

Original Article

Analysis of Government Rice Absorption in Indonesia

Hamdani Hamdani [1], Sofyan Syahnur [1] and Suriani Suriani [1,*]

[1] Department of Economics, Faculty of Economics and Business, Universitas Syiah Kuala, 23111 Syiah Kuala, Kota Banda Aceh, Aceh Province, Indonesia; st.hamdani3@gmail.com (H.H.), kabari_sofyan@usk.ac.id (S.F.S.)
* Correspondence: suriani@usk.ac.id (S.S.)

Citations: Hamdani, H., Syahnur, S., & Suriani, S. (2023). Analysis of Government Rice Absorption in Indonesia. *International Journal of Finance, Economics and Business*, 2(3), 218-225.

Received: 25 March 2023 Revised: 16 August 2023 Accepted: 1 Sept 2023 Published: 30 Sept 2023

Abstract: This study analyzes the government's absorption of rice in Indonesia. The government's rice absorption has decreased in the last three years (2018-2020). The decrease in absorption is in line with the decline in farmer production and the difference between the government's purchase price of rice and the market price. The purpose of this study was to test and analyze the difference between government rice prices and market prices (PBR) and the amount of rice production circulating in the community (JPB) on the government's rice absorption capacity (DBP) in 34 Indonesian Provinces for the 2011-2020 period. Regression results with the Panel Model show that (PBR) and (JPB) have a significant positive effect on (DBP). Government policies and roles are urgently needed, especially in setting purchase prices for government rice and sustainably increasing the amount of production by facilitating agricultural facilities and infrastructure so that they can affect the government's rice absorption capacity in Indonesia.

Keywords: absorption capacity; price difference; production quantity.

1. Introduction

Rice is the staple food of most Indonesian people. In addition to strategic economic commodities from the producer and consumer sectors, rice also has a role in strengthening a country's food security/stability, economy, and politics (Ramadhani et al., 2020). Dependence on the staple food rice is also very high in Indonesia, even though it is an agricultural country. With the large demand for rice in Indonesia, the government through Bulog must maintain the availability of government rice or Government Rice Reserves (CBP) in all Bulog operational warehouses in all regions from Sabang to Merauke. The government's rice stocks are stored in Bulog warehouses to anticipate food crises due to crop failures, rice price stabilization, and emergency response (Ohyver & Pudjihastuti, 2018). Since the Poor People's Program (Raskin) began to be released in 2019 and was transferred to the BPNT (Non-Cash Food Assistance) program, Bulog has only carried out price stability, an emergency response whose distribution cannot be predicted normally or measured every month. Meanwhile, to strengthen the Government's Rice Reserves (CBP), Bulog continues to absorb from producers (farmers) every year to maintain stock availability throughout the year at the level of 1.2 – 1.6 tons (Mahmuda et al., 2021).

According to Sartiyah & Suriani (2020), food security is essential for a country because it is the government's responsibility to meet the basic needs of its population. There is no certainty or policy from the government as a substitute for the Raskin program, so Bulog, in terms of government rice absorption, is

carried out in a measurable manner in all regions in Indonesia so that rice stored in warehouses is not stored for too long which could result in damage or decreased quality. So, to meet the availability of government rice in Bulog's operational warehouses in all regions of Indonesia where absorption capacity is low, Bulog must move to the National level (Shift between Regions) or import from abroad (import). In terms of rice absorption, the Bulog government also faces many obstacles due to the difference in government rice prices being lower than the market price of rice, so the government's absorption of rice is not evenly distributed in the production center, resulting in minimal availability of government rice in the regions. It is hazardous if there is a rice price fluctuation in the market. Natural disasters and others occur because shifting or moving stock is not easy and takes time, especially between islands.

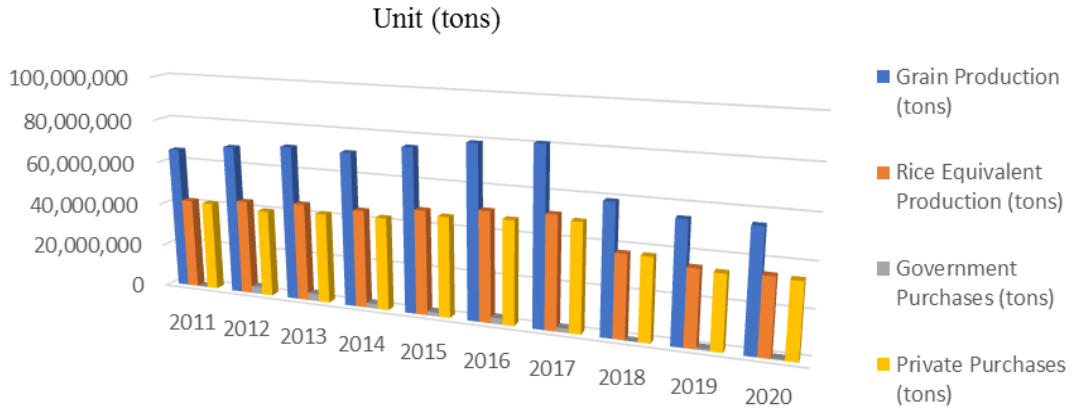

Figure 1. Total Rice Production Against Government and Private Rice Absorption in Indonesia
Source: Central Bureau of Statistics (2022)

According to Hossain & Jahan (2019), in the broad logistics process, the flow of rice production denoted by supply-manufacturing-distribution, upstream and downstream transportation, and related logistics processes can represent the largest single cost item in the logistics process. Therefore, Perum Bulog as a State-Owned Enterprise (BUMN) considers the costs incurred in strengthening the government's rice from the absorption side, the shift from production surplus to minus production, and maintenance to maintain quality. So that the guarantee of rice availability for the Indonesian people in the long term can be maintained and its availability is also evenly distributed throughout Bulog's operational warehouses from Sabang to Merauske with due regard to the upstream, middle, and downstream sides.

According to Rachman et al. (2019), the government has generally implemented rice and grain price policies for a long time. The price of medium rice is predicted to increase towards the upper limit of the HET for medium rice. In contrast, the price of premium rice (particularly in the modern market) will decrease towards the upper limit of the premium HET. Asrin et al. (2022) examined the setting of the highest retail price (HET) to avoid high rice prices when grain production was reduced. HET determination is enforced at the level of final traders, both in traditional and modern markets, selling rice in retail to consumers. Meanwhile, Wijayanti & Mutmainah (2012) set the basic price aims to allow farmers to increase income from rice farming as one of the incentives to boost national rice production.

Siswanto et al. (2018) and Suriani et al. (2018) examine government policies and interventions in full to achieve self-sufficiency in rice, but the supply, demand, and price of rice are dynamic. These dynamics resulted in unbalanced domestic rice market conditions, making it difficult for the government to realize the welfare of rice producers and consumers in Indonesia. Therefore, the increase in domestic rice production must be supported by the government through effective policies so that increasing rice production can increase the welfare of producers and consumers. Rahayu & Febriaty (2019) concluded that despite data on rice production increases yearly, rice prices continue to fluctuate. It can signal that production has been less than total consumption, while rice consumption will continue to increase as the population increases. The government's efforts to increase rice production so far have always faced obstacles such as pest attacks, climate change, conversion of paddy fields, reduced soil fertility, and limited water resources, which hinder increased rice production.

Meanwhile, Bashir & Yuliana (2019) increased production can help increase income and food security for the majority of the population in Indonesia, especially people whose main livelihoods are rice farmers. It is important for the government in making appropriate program policies such as developing irrigation

systems and better water management. The description above provides a clear picture of the phenomena that affect the government's rice absorption, in which the price of rice and the amount of rice production have a positive and significant effect on the government's rice absorption in Indonesia. The systematics of this research is after the introduction, materials and methods, results, discussion, and finally, the conclusion.

2. Materials and Methods

In this study, the research aims to analyze the Bulog Public Corporation Office, where the scope of this research tries to explore the absorption of rice by the government in Indonesia, namely what is the effect of the difference between the government's rice price and the price of rice in the market, the influence of the amount of rice production circulating in the community and its influence on the strengthening of government rice between regions in Indonesia. Commodity price volatility, unexpected supply chain disruptions, and unpredictable weather changes are important risks for the food market. They can hinder government efforts to ensure consistent and regular food availability, threatening food security (Bashir & Yuliana, 2019). The data used in this study is secondary data, combining cross-section data from 34 Indonesian Provinces and times series from the 2011-2020 period. The data collection method used in this study is the documentation method. The authors collect officially published data from related agencies and BULOG Public Companies. To find out the response of the government's rice absorption rate (GRA) to the difference between the government's rice price and the market price of rice (PBR), the amount of rice production circulating in the community (JPB), short and long term, the relationship model of the dependent variable and the independent variable represented as follows:

$$GRA = f(DRP, TRP) \tag{1}$$

GRA is the government rice absorption rate, DRP is the difference between government and rice market prices, and TRP is the total rice production circulating in the community. According to Gujarati (2022), panel data is obtained by combining cross-section and time series data. Panel data linear regression analysis is one of the statistical techniques used to determine the effect of two or more linear independent variables on one dependent variable. The general model of multiple linear regression is as follows:

$$LGRA_{it} = \beta_1 + \beta_2 LDRP_{it} + \beta_3 LTRP_{it} + \mu_{it} \tag{2}$$

Where LGRAP is the government's rice absorption variable, β_0 is constant, LDRP is the difference between the government rice price and the market price of rice, and LTRP is the amount of rice production circulating in the community, μ is an Error term, i is a unit cross-section, and t is the time. From the explanation above, there are 3 test methods commonly used, namely: Common Effect Model (CEM) or Pooled Ordinary Least Square (PLS), Fixed Effect Model (FEM) and Random Effect Model (REM). So, to determine the best model, the Chow, Hausman, and Lagrange Multiplier tests can be performed.

3. Results

3.1. Descriptive Statistics

The statistics in the table below provide a descriptive analysis of DBP as the dependent variable from 2011-2020, with RBB and JPB growth rates as independent factors in 34 provinces in Indonesia. The descriptive statistical test in Table 1 shows the average value of the growth rate of GRA (55286.28), DRP (3536.047), and TRP (1279946.). Among the independent variables, the amount of rice production reached the highest standard deviation value (1975221.), then the absorption capacity of government rice (148698.4) and the difference between the government price of rice and the market price of rice (1269.149). It indicates that the amount of rice production impacts the government's rice absorption volatility in Indonesia.

Table 1. Result of Descriptive Statistics (N=338)

Test Statistic	DBP	PBR	JPB
Mean	55286.28	3536.047	1279946.
Median	2552.000	3391.000	471163.5
Maximum	1097493.	7428.000	8657400.
Minimum	0.000000	-100.0000	398.0000
Std. Dev.	148698.4	1269.149	1975221.
Skewness	4.041399	0.187317	2.260476

Test Statistic	DBP	PBR	JPB
Kurtosis	21.10587	2.943584	7.197779

Note: DBP = Government Rice Absorption Rate, PBR = Difference in Government Rice Prices With the market price of rice, JPB = Amount of Circulating Rice Production in society

3.2. Diagnostics

3.2.1. Normality Testing

The normality test aims to test whether the confounding or residual variables have a normal distribution in the regression model. A good regression model should have a normal or close-to-normal distribution. According to Prawoto & Basuki (2016), the Jarque-Bera (J-B) test is used to determine whether the data is normally distributed.

Table 2. Result of Normality Test

Test	Statistic
Jarque-Bera	4.593791
Probability	0.100571

Table 2 captures the results of the normality test; it is known that the probability value obtained is 0.10, greater than 0.05 (0.10 > 0.05). Thus, we concluded that the data is normally distributed.

3.2.2. Multicollinearity Testing

The multicollinearity test determines whether the regression model finds a high or perfect correlation between the independent variables. A good regression model should not correlate with the independent variables. The multicollinearity test between variables can be identified by using the correlation value between the independent variables (Kurniasari & Ghozali, 2013). Each variable has a correlation coefficient value smaller than 0.8, so it can be concluded that the model does not experience multicollinearity problems, namely the absence of multicollinearity between independent variables in the regression model (see Table 3).

Table 3. Result of Multicollinearity

Variable(s)	LDBP	LPBR	LJPB
LDBP	1.0000	-0.2095	0.3341
LBPR	-0.2095	1.0000	-0.2171
LJPB	0.3341	-0.2171	1.0000

3.2.3. Heteroscedasticity Testing

The heteroscedasticity test determines whether there is a deviation from the classical assumptions. Heteroscedasticity is the variance of the residuals for all observations in the regression model. The prerequisite that must be met in the regression model is the absence of symptoms of heteroscedasticity.

Table 4. Result of Heteroscedasticity

Variable(s)	Coefficient	Std. Error	t-Statistic	Prob.
LPBR	0.0296	0.1853	0.1597	0.8732
LJPB	-0.0528	0.0375	-1.4067	0.1604
C	2.2801	1.6736	1.3624	0.1740

In the heteroscedasticity test using Glejser in this study (refer to Table 4), the probability value of each independent variable was greater than 0.05. Thus, we concluded that, the regression model are free from heteroscedasticity problems.

3.2.4. Autocorrelation Testing

The autocorrelation test determines whether there is a correlation between the confounding errors in a certain period and the errors in the previous period in the linear regression model. If there is a correlation, then it is called an autocorrelation problem. A good regression model is a regression that is free from autocorrelation. According to Pramesti (2018), the method used to detect the presence or absence of autocorrelation can be done by using the Durbin-Watson test (DW test).

Table 5. Result of the Autocorrelation Test

N	K	dL	dU	4 - dL	4 - dU	DW	Conclusion
340	2	1.81618	1.82799	2.18382	2.17201	1.97205	No Autocorrelation

Table 5 shows the autocorrelation test using the Durbin-Watson (DW) test. It indicates that the DW value is 1.97205. While the value of 4 less the upper limit (4 - dU) is 2.17201 and the value 4 minus the lower limit (4 - dL) is 2.18382. From the basis of predetermined decision-making, the DW value is between the values of 4 - dU and 4 - dL, namely $2.17201 \leq 1.97205 \leq 2.18382$ ($4 - dU \leq dw \leq 4 - dL$). Based on these results, it can be concluded that there is no autocorrelation in the regression model.

3.2.5. Model Selection for Panel Data Regression

To choose the best model between the Common Effects and Fixed Effects model. The significance of the intercept αi is tested by the Chow test, which evaluates whether there is a variation with the individuals tested (as in the Fixed Effect model) or whether it remains constant across individuals (as in the Common Effect model).

Table 6. Result of Chow Test

Effects Test	Statistic	d.f.	Prob.
Cross-section F	24.57712	(33.301)	0.0000
Cross-section Chi-square	440.4071	33	0.0000

The Chow test results show that the probability value of the Chi-Square cross section is 0.0000, which is smaller than the significance value of 5 percent ($0.000 < 0.05$). As a result, H0 is rejected. It means that the best model selected based on the Chow test is the Fixed Effect Model (FEM). In other words, FEM is superior to CEM. Furthermore, the Hausman test is used to evaluate which model is the best regression model between the Fixed Effect Model (FEM) and the Random Effect Model (REM).

Table 7. Result of the Hausman Test

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	23.8065	2	0.0000

The Hausman test results show that the probability value of the random cross-section is 0.0000, which is less than the 5 percent significance level ($0.0000 < 0.05$), and H0 is rejected. That is, the Fixed Effect is better than the Random Effect Model. The Lagrange multiplier test is unnecessary because the Fixed Effect was re-elected as the best model in the Hausman test. The Fixed Effect Model (FEM) was chosen as the best panel data analysis model in this study after going through the Chow test and Hausman test. The result of panel data regression using FEM is as follows:

Table 8. Result of Hypothesis Testing

Variable(s)	Coefficient	Std. Error	t-Statistic	Prob.
LPBR	0.7373	0.2270	3.2487	0.0013
LJPB	1.5238	0.2856	5.3349	0.0000
C	-16.3124	3.7657	-4.3319	0.0000
R-squared	0.7649			
Adjusted R-squared	0.7375			
F-statistic	27.9742			

Variable(s)	Coefficient	Std. Error	t-Statistic	Prob.
Prob(F-statistic)	0.0000			
Durbin-Watson stat	1.9720			

Table 8 indicates the direct effect of the difference between the government's rice price and the market price of rice and the amount of rice production circulating in the community on the government's rice absorption rate. On the basis of the Fixed Effect Model (FEM) regression data, it shows a constant value of -16.3124 with a probability number of 0.0000. The regression equation at an R2 value of 0.7649 explains that the probability level of the government's rice absorption by the difference between the government's rice price and the market price of rice and the amount of rice production circulating in the community is 76.49 percent and the remaining 23.51 percent is influenced by other factors that are not included in this research. The result of the F-test was carried out to see the effect simultaneously between the difference between the price of government rice and the market price of rice (LPBR) and the amount of rice production circulating in the community (LJPB) on the level of government rice absorption (LDBP). Testing is done by comparing the value of the F-stat with the F-table. Next is to look at the coefficient of determination (Adjusted R2) value, which aims to measure the extent to which the model can explain variations in the dependent variable. The value of the coefficient of determination is between 0 (zero) and 1 (one). The small coefficient of determination means that the ability of the independent variables to explain the variation in the dependent variable is very limited. It is known that the Adjusted R-squared value in this study is 0.7375 or 73.75 percent. It means that 73.75 percent of the dependent variable on the government's rice absorption rate can be explained by variations in the LPBR and LJPB variables. In contrast, other variables outside the model explain the remaining 26.25 percent (100% 73.75%).

4. Discussion

This research shows that government policy in improving food governance in setting prices between producer and consumer levels is very important so that the government's absorption of rice in Indonesia to meet domestic supply can be fulfilled in all Bulog operational warehouses in Indonesia. Pricing must be done wisely not to harm both producers and end consumers. If the Government Purchase Price (GPP) is greater than the market price, the purchase of rice to increase government rice reserves tends to increase. In the FAO approach (Vysochyna et al., 2020), food security has four dimensions: availability, access, stability, and utilization. Farmers cause this because the government price is relatively higher than the market price, a pretty good opportunity to make a profit and vice versa. If the HPP price is lower than the market price, it causes producers (farmers), collectors, or processors to tend to sell to the market (private sector). This will cause the government's absorption of rice to be smaller. Government policies and business models are considered key elements for the transition to a circular economy (Wasserbaur et al., 2022). The results of this study are supported by research conducted by Iftina (2020) analyzing agricultural economic policies from time to time and the consequences that each actor must bear. Zariyawati et al. (2009) analyze the effect of rice producer price levels, retail prices, imports, production, population, and the previous year's stock on rice stocks controlled by the government.

The results of research conducted by Roy et al. (2016) describe the development of rice policies that the government has carried out and evaluate the results of policies that have been implemented. Cornejo & Cornejo (2022) investigate the impact of government support on domestic rice production, arguing that the less likely the government is to impose obstacles taxes and price controls in the rice sector, the greater the possibility of increasing rice production (Guritno et al., 2021) the activities of intermediaries with an overly dominant role in market prices, are overemphasized, leading to inefficient supply chains Mansaray & Jin (2020) explains the adoption of superior rice varieties has a significant positive effect on food security. Meanwhile, the study showed that the LPBR and LJPB variables positively affected LDBP. From each of the LPBR and LJPB variables, one that has a greater influence on LDBP is LJPB. This implication shows that the central and regional governments need to increase production continuously throughout the year to maintain optimal absorption of government rice in 34 provinces in Indonesia. By providing agricultural facilities and infrastructure as well as price guarantees to farmers. This will make farmers more enthusiastic about farming or cultivating their agricultural land so that farmers do not change professions or change land functions which affect the government's absorption of rice.

5. Conclusions

In conclusion, this study has investigated the difference between the purchase price of government rice and the price of rice in the market, the amount of rice production simultaneously has a positive and significant effect on the government's rice absorption. In addition, the researchers found that the amount of production had a greater effect on the government's absorption of rice when compared to the difference between the purchase price of the government's rice and the price in the market. The results of this study can be used as material for consideration or input in making decisions for the central and regional governments that rice production needs to be increased because it will have implications for the government's absorption of rice. It means that the higher the rice production produced by producers, the greater the opportunity for absorption. Thus, so that the amount of rice production can increase each year, the government's efforts to absorb rice must be able to think about expanding land for planting and ensure the availability of seeds, fertilizers, pesticides, and irrigation water channels to remain smooth to increase absorption.

Author Contributions: Conceptualization, H.H. and S.F.S.; methodology, H.H.; software, H.H.; validation, S.F.S., and S.S.; formal analysis, H.H.; investigation, H.H.; resources, H.H.; data curation, S.F.S. and S.S.; writing—original draft preparation, H.H. and S.F.S.; writing—review and editing, H.H., S.F.S. and S.S.; visualization, H.H.; supervision, S.F.S. and S.S.; project administration, H.H.; funding acquisition, H.H. All authors have read and agreed to the published version of the manuscript.

Funding: This research received no external funding.

Institutional Review Board Statement: Not applicable.

Informed Consent Statement: Not applicable.

Data Availability Statement: Not applicable.

Acknowledgments: The authors would like to thank Universitas Syiah Kuala, Banda Aceh, Indonesia, for supporting this research and publication. We also thank the reviewers for their constructive comments and suggestions.

Conflicts of Interest: The authors declare no conflict of interest.

References

Asrin, S., Putri, T. A., & Utami, A. D. (2022). Transmission of rice prices in Indonesia during the COVID-19 pandemic. *Jurnal Agribisnis Indonesia*, *10*(1), 159–168.

Bashir, A., & Yuliana, S. (2019). Identifying factors influencing rice production and consumption in Indonesia. *Jurnal Ekonomi Pembangunan: Kajian Masalah Ekonomi Dan Pembangunan*, *19*(2), 172–185. https://doi.org/10.23917/jep.v19i2.5939

Cornejo, A. J., & Cornejo, A. (2022). Effect of Government Intervention on Rice Production in the Philippine Economy. *SSRN Electronic Journal*, *2*(6), 1–14. https://doi.org/10.2139/ssrn.4126425

Gujarati, D. N. (2022). *Basic econometrics*. Prentice Hall.

Guritno, A. D., Kristanti, N. E., & Tanuputri, M. R. (2021). Collaborative Strategy for the Supply Chain of Rice: A Case Study on Demak and Sukoharjo Regency, Central Java, Indonesia. *AgriTECH*, *41*(1), 1–7. https://doi.org/10.22146/agritech.48929

Hossain, M., & Jahan, R. (2019). Rice chain flow modelling for optimised supply and distribution network: the case of specialised rice mill zones in Bangladesh. *International Journal of Logistics Systems and Management*, *32*(2), 147. https://doi.org/10.1504/IJLSM.2019.097582

Iftina, H. D. (2020). *Rice Policy Analysis in Indonesia: Then and Now*.

Kurniasari, C., & Ghozali, I. (2013). *Analisis pengaruh rasio CAMEL dalam memprediksi financial distress perbankan Indonesia* (pp. 1–10). Fakultas Ekonomika dan Bisnis.

Mahmuda, S., Sucipto, A., & Setiawansyah, S. (2021). Pengembangan Sistem Informasi Pengolahan Data Tunjangan Karyawan Bulog (TKB) (Studi Kasus: Perum Bulog Divisi Regional Lampung). *Jurnal Ilmiah Sistem Informasi Akuntansi*, *1*(1), 14–23. https://doi.org/10.33365/jimasia.v1i1.914

Mansaray, B., & Jin, S. (2020). Do the determinants of food security differ in improved rice variety adoption? Evidence from Sierra Leone. *Open Agriculture*, *5*(1), 466–484. https://doi.org/10.1515/opag-2020-0047

Ohyver, M., & Pudjihastuti, H. (2018). Arima Model for Forecasting the Price of Medium Quality Rice to Anticipate Price Fluctuations. *Procedia Computer Science*, *135*(1), 707–711. https://doi.org/10.1016/j.procs.2018.08.215

Pramesti, W. (2018). Analisis Pemeringkatan Sukuk: Perspektif Keuangan. *BISNIS : Jurnal Bisnis Dan Manajemen Islam*, *5*(1), 93–110. https://doi.org/10.21043/bisnis.v5i1.2948

Prawoto, N., & Basuki, A. T. (2016). Model Analisis Komposisi Pengeluaran Publik terhadap Pertumbuhan Ekonomi dalam Mendukung Good Governance: Studi Empiris Kabupaten Kota di Indonesia Tahun 2011-2014. *Buletin Ekonomi*, *14*(2), 177–192.

Rachman, B., Agustian, A., & Syaifudin, A. (2019). Implications of rice ceiling price policy to paddy farming profitability and rice price, quality, and procurement. *Analisis Kebijakan Pertonian*, *17*(1), 59–77.

Rahayu, S. E., & Febriaty, H. (2019). Analisis perkembangan produksi beras dan impor beras di Indonesia. *Prosiding Seminar Nasional Kewirausahaan*, *1*(1), 219–226.

Ramadhani, F., Sukiyono, K., & Suryanty, M. (2020). Forecasting of Paddy Grain and Rice's Price: An ARIMA (Autoregressive Integrated Moving Average) Model Application. *SOCA: Jurnal Sosial, Ekonomi Pertanian*, *14*(2), 224–239. https://doi.org/10.24843/SOCA.2020.v14.i02.p04

Roy, R., Chan, N. W., & Xenarios, S. (2016). Sustainability of rice production systems: an empirical evaluation to improve policy. *Environment, Development and Sustainability*, *18*, 257–278.

Sartiyah, S., & Suriani, S. (2020). The Determinant of Household Welfare Beneficiaries of Food Social Assistance. *Proceedings Aceh Global Conference-Business, Economics, and Sustainable Development Trends*, *2*, 55–62.

Siswanto, E., Marulitua Sinaga, B., & Harianto, . (2018). The Impact of Rice Policy on Rice Market and The Welfare of Rice Producers and Consumers in Indonesia. *Jurnal Ilmu Pertanian Indonesia*, *23*(2), 93–100. https://doi.org/10.18343/jipi.23.2.93

Suriani, D., Rizki, C. Z., & Majid, M. S. A. (2018). Analysis of food demand elasticity of rice for the poor in Aceh, Indonesia: an almost ideal demand system approach. *DLSU Business & Economics Review*, *27*(2), 179–189.

Vysochyna, A., Stoyanets, N., Mentel, G., & Olejarz, T. (2020). Environmental Determinants of a Country's Food Security in Short-Term and Long-Term Perspectives. *Sustainability*, *12*(10), 4090. https://doi.org/10.3390/su12104090

Wasserbaur, R., Sakao, T., & Milios, L. (2022). Interactions of governmental policies and business models for a circular economy: A systematic literature review. *Journal of Cleaner Production*, *337*, 130329. https://doi.org/10.1016/j.jclepro.2021.130329

Wijayanti, S., & Mutmainah, S. (2012). Pengaruh penerapan corporate governance terhadap kinerja keuangan pada perusahaan perbankan yang terdaftar di Bursa Efek Indonesia (BEI) tahun 2009-2011. *Diponegoro Journal of Accounting*, *1*(1), 135–149.

Zariyawati, M. A., Annuar, M. N., Taufiq, H., & Rahim, A. S. A. (2009). Working capital management and corporate performance: Case of Malaysia. *Journal of Modern Accounting and Auditing*, *5*(11), 47–54.