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Spending Smart: The Role of Government Expenditure in Boosting Provincial Economic Performance in Indonesia

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Abstract

This study aims to determine the impact of local government spending (expenditure) for the agricultural and industrial sectors on the economic performance of provinces in Indonesia. This study uses secondary data from the World Bank, the Central Bureau of Statistics, and the Ministry of Finance. The research data is in the form of panel data for 8 years for 33 provinces in Indonesia. The data was analyzed using an econometric model with a simultaneous equation system consisting of 9 structural and four identity equations. The results of the study revealed that the previous year's budget largely determined local government spending for the agricultural and industrial sectors and was not based on the development needs of the sector. In order to achieve the goals of economic development, namely increasing economic growth and reducing income inequality, local governments should implement policies by increasing the proportion of the budget for the agricultural sector. Increasing local government spending for the agricultural sector can also attract non-agricultural investment through increasing GRDP in the agricultural sector and reducing poverty.

Keywords: agricultural sector, government spending, industrial sector, provincial economic performance

1. Introduction

Indonesia is a country with high economic potential. As the country with the largest economy in Southeast Asia, Indonesia has several characteristics that put it in a good position to experience rapid economic development. In addition, in recent years, there has been strong support from the central government to reduce Indonesia's dependence on raw commodity exports while increasing the role of the manufacturing industry in the economy [1] [2]. Infrastructure development is also a significant goal of the Indonesian government, which will multiplier the economy.

Indonesia is administratively divided into 38 provinces with diverse natural and human resource potential. Each region has diverse economic potential and continues to be developed by the central and local governments. In line with the context of development in a country, regions as part of a nationally integrated subsystem also contribute to the national development pattern. Regional development is a process carried out by the government and society to manage all existing resources and form a partnership pattern between local governments and the private sector in order to create new jobs or opportunities and to encourage the development of economic activities (economic growth) in the relevant development area [3] [4]. This is in line with the mandate of *Undang-undang No 22 Tahun 1999 / Nomor 32 Tahun 2004 tentang Otonomi Daerah* and *Undang-undang Nomor 25 Tahun 1999 / Nomor 33 Tahun 2004 tentang Perimbangan Keuangan Pusat dan Daerah*. Another substance of the two laws is the section on granting authority for affairs, human resources, and financing. Regarding financing affairs, the most important meaning is that regions can explore and enjoy potential economic and natural resources without too much intervention from the central government. This will accelerate regional development so that regional progress is achieved more quickly.

Since the implementation of fiscal decentralization, the opportunity for regional governments to further explore regional potential in increasing their revenues has increased. Regarding expenditure, with the availability of the existing budget, regional governments are expected to allocate the budget to the right sectors and spend it on the community's priority needs. Thus, government expenditure is expected to provide externalities to the growth of private investment and community economic activities, increasing community income and reducing poverty [5]. So far, in determining the amount and structure of expenditure allocations in each development sector, some regional governments have not conducted in-depth studies on their impact on the economy. The allocation of

expenditures in each development sector is more based on equality in each sector or the political interests of regional officials.

Kaldor's hypothesis states that manufacturing is a region's economic growth engine [6] [7]. In contrast, Mellor states that, empirically, countries that adopt development policies focusing on the agricultural sector tend to be more successful in driving economic growth than development strategies emphasizing the non-agricultural sector [8] [9] [10]. A reliable agricultural sector is a prerequisite for developing the industrial and service sectors. Empirical observations show that most countries can only reach the take-off stage towards sustainable economic development driven by the industrial and service sectors after being preceded by progress in the agricultural sector. Thus, the question arises: to achieve relatively high economic growth, should current development policies in Indonesia focus on the agricultural or non-agricultural sectors?

Indonesia has 38 provinces with diverse natural and human resource potentials. The agricultural sector in most regions still plays a vital role in the economy regarding its contribution to the Gross Regional Domestic Product (hereinafter referred to as GRDP), economic growth, foreign exchange earnings, food needs fulfillment, and labor absorption. However, in some other regions, the agricultural sector is less dominant in the economy. Based on this description, the question arises: Do regional or provincial governments need to increase public spending (government spending) for the agricultural and/or industrial sectors to be more effective in achieving economic development goals? According to the World Bank, in countries that have successfully experienced economic transformation, namely, when agriculture still makes a significant contribution to GDP, public spending in the agricultural sector in these countries is quite large, namely around 10 percent, while in Indonesia, it is still below 5%.

The study aims to determine the impact of regional government spending (expenditure) for the agricultural and industrial sectors on the economic performance of provinces in Indonesia. Specifically, the study aims to (1) Determine the impact of regional government spending for the agricultural sector and the industrial sector on the economic performance of provinces, including employment opportunities, economic growth, and poverty, and (2) Conduct policy simulations related to regional government spending for the agricultural and industrial sectors in order to achieve economic development goals. This study is expected to be useful as input for decision-makers in determining the allocation of government spending. On the other hand, this study is also expected to enrich the development of agricultural economics with a more in-depth study of the allocation of government spending for the agricultural and industrial sectors as drivers of economic activity.

2. Research Methods

2.1. Types and Sources of Data

This study uses secondary data from the World Bank, the Central Statistics Agency, and the Ministry of Finance. The research data is in panel data, a combination of cross-section and time series data. The data includes data on local government revenue and expenditure, indicators of economic development success: GRDP, employment opportunities, poverty, and other related data. The data period collected is 8 years for 33 provinces in Indonesia.

2.2. Model Specifications

The study uses an econometric model, starting with model specification, estimation, verification/evaluation, and policy implications based on the estimated parameters. In the model specification, mathematical equations are formulated to describe the relationship between various economic variables. The econometric model specification is based on economic theory and the existence of information related to the phenomenon being studied. The next step is to estimate the specified model and the obtained parameter results; statistical verification is still carried out to test the estimation results.

The model is arranged in a system of simultaneous and dynamic equations. The model is grouped into blocks, consisting of 13 equations (9 structural and four identity equations). The fiscal block examines regional government expenditure and revenue, which includes the allocation of expenditure and sources of regional government income. The employment opportunity block examines the absorption of labor in the agricultural and industrial sectors. The output block explains the production value of the agricultural and industrial sectors. Meanwhile, the poverty block examines the number of poor people. Thus, the economic performance of the provinces studied is an indicator of the success of economic development, consisting of economic growth, employment opportunities, and poverty.

Fiscal Block

A. Regional Government Revenue (Income)

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1. Total regional government revenue:
   $TRED_{it} = PAD_{it} + TRANS_{it} + PDLL_{it}$
2. Local Own-source Revenue:
   $PAD_{it} = a_0 + a_1\ TGE_{it} + a_2\ TPDRB_{it} + a_3\ POP_{it} + u_{it}$
3. Transfers from the central government:
   $TRANS_{it} = b_0 + b_1\ TPDRB_{it} + b_2\ POP_{it} + b_3\ LTRANS_{it} + u_{it}$

Description: TRED is the total real local government revenue (Rp), PAD is the amount of real local own-source revenue (Rp), TRANS is the amount of real central government transfers (Rp), PDLL is the amount of real other income (Rp), POP is the number of residents (people), TPDRB is the total real gross regional domestic product (Rp million), LTRANS is the amount of real central government transfers in year t-1 (Rp). Expected estimated parameter signs and magnitudes (hypothesis): $a_1, a_2, a_3 > 0$; $b_1, b_2, b_3 > 0$

B. Local Government Expenditure (Spending)

4. Total local government expenditure:
   $TGE = PLA_{it} + PLIND_{it} + PSL_{it}$
5. Agricultural sector expenditure:
   $PLA_{it} = c_0 + c_1\ TRED_{it} + c_2\ LLS_{it} + c_3\ LPLA_{it} + u_{it}$
6. Industrial sector expenditure:
   $PLIND_{it} = d_0 + d_1\ TRED_{it} + d_2\ LPLIND_{it} + u_{it}$

Description: TGE is total real local government expenditure (Rp), PLA is expenditure for the real agricultural sector (Rp), PLIND is direct expenditure for the real industrial sector (Rp), PSL is expenditure for other sectors (Rp), TRED is total real local government revenue (Rp), LLS is the area of rice fields (hectares), LPLA is expenditure for the real agricultural sector in year t-1 (Rp), LPLIND is expenditure for the real industrial sector in year t-1 (Rp), PLSLL is direct expenditure for other real sectors (Rp). Signs and magnitudes of expected estimation parameters (hypothesis): $c_1, c_2, c_3 > 0$; $d_1, d_2 > 0$.

Output Block

7. Total output:
   $TPDRB_{it} = PDRBA_{it} + PDRBI_{it} + PDRBLL_{it}$
8. Agricultural sector output:
   $PDRBA_{it} = e_0 + e_1\ PLA_{it} + e_2\ LLS_{it} + e_3\ TKSA_{it} + u_{it}$
9. Industrial sector output:
   $PDRBI_{it} = f_0 + f_1\ PLIND_{it} + f_2\ TKSI_{it} + f_3\ LPDRBI_{it} + u_{it}$

Description: TPDRB is the total real gross regional domestic product (Rp million), PDRA is the real agricultural sector GRDP (Rp million), PDRBI is the real industrial sector GRDP (Rp million), PDRBLL is the real other sector GRDP (Rp million), PLA is expenditure for the real agricultural sector (Rp), PLIND is direct expenditure for the real industrial sector (Rp), LLS is the area of rice fields (hectares), TKSA is the number of agricultural sector workers (people), TKSI is the number of industrial sector workers (people), LPDRBI is the real GRDP of the industrial sector t-1 (Rp million). Expected estimated parameter sign and magnitude: $e_1, e_2, e_3 > 0$; $f_1, f_2, f_3 > 0$

Employment Block

10. Total labor absorption:
    $TTK_{it} = TKSA_{it} + TKSI_{it} + TKSLL_{it}$
11. Labor absorption in the agricultural sector:
    $TKSA_{it} = g_0 + g_1\ PLA_{it} + g_2\ PDRBA_{it} + g_3\ UMP_{it} + u_{it}$
12. Labor absorption in the industrial sector:
    $TKSI_{it} = h_0 + h_1\ PLIND_{it} + h_2\ PDRBI_{it} + h_3\ UMP_{it} + h_4\ LTKSI_{it} + u_{it}$

Description: TTK is total labor absorption (people), TKSA is the number of agricultural sector workers (people), TKSI is the number of industrial sector workers (people), TKSLL is the number of other sector workers (people), PLA is expenditure for the real agricultural sector (Rp), PLIND is direct expenditure for the real industrial sector (Rp), PDRA is real GRDP in the agricultural sector (Rp million), PDRBI is real GRDP in the industrial sector (Rp million), UMP is provincial minimum wage (Rp), LTKSI is the number of industrial sector workers t-1 (people). Expected estimated parameter signs and magnitudes (hypothesis): $g_1, g_2, g_3 > 0$; $h_1, h_2, h_3 > 0$

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Poverty Block

13. Number of poor people:

$$JPM_{it} = i_0 + i_1\ PDRBA_{it} + i_2\ JGUR_{it} + i_3\ PE_{it} + i_4\ LJPM_{it} + u_{it}$$

Description: JPM is the number of poor people (people), PDRBA is the real GRDP of the agricultural sector (Rp million), JGUR is the number of unemployed (people), PE is economic growth (percent), LJPM is the number of poor people t-1 (people). Expected estimated parameter sign and magnitude: $i_1, i_3, i_4 < 0$; $i_2 > 0$

2.3. Model Simulation

After model identification, estimation, and validation are carried out, a policy simulation is then carried out. The policy simulation analysis is intended to determine the impact of government spending on the agricultural and industrial sectors on economic performance. During the implementation of fiscal decentralization, government spending on the agricultural sector averaged less than 5 percent. In competition for use with other sectors, an increase in the agricultural sector budget is expected to increase productivity and improve economic development indicators.

In order to improve economic development indicators, policy alternatives are needed. The determination of alternative policy simulations is based on the possibilities carried out by policymakers. Therefore, the scenarios carried out are: *SIM-1*: Simulation of a policy of increasing regional government spending on the agricultural sector by 100 percent, the funds for which come from loans or grants (does not reduce spending on other sectors); *SIM-2*: Simulation of a policy of increasing regional government spending on the industrial sector by 100 percent, the funds for which come from loans or grants (does not reduce spending on other sectors).

The selection of various policy simulations is intended to provide quantitative information for the government when formulating policy. The main criteria that are the basis for assessing the performance of the policy simulations carried out are increasing employment absorption, economic growth, and decreasing the total number of poor people.

3. Results and Discussions

3.1. Model Estimation Results

The model estimation results show that each equation's coefficient of determination (R^2) value is significant. No structural equation has a coefficient of determination value of less than 0.75. Thus, the explanatory variables in the equation can explain the endogenous variables well.

The F statistic value is quite significant with a prob. F value <0.0001 means that the variation of the explanatory variables in each equation can explain the variation of its endogenous variables well at the level of $\alpha = 0.0001$. In addition, most of each structural equation has parameter magnitudes and signs according to the economic theory criteria. The t statistic value tests whether each explanatory variable significantly affects its endogenous variables. The results of the t-statistical test show that most of the explanatory variables have a significant effect on their endogenous variants at the level of $\alpha = 0.05$ and 0.10.

3.2. Model Validation Results

Policy simulation aims to analyze the impact of various policy alternatives by changing the value of policy variables, in this case, the allocation of local government spending for the agricultural and industrial sectors. However, before conducting alternative policy simulations, model validation is first carried out to evaluate whether the estimated value is by the actual value of each endogenous variable.

The statistical validation indicator used in this study compares the actual mean and predicted mean values of endogenous variables to determine the value of each endogenous variable estimated following its actual data value during the observation period. In addition, the proportion bias (UM), proportion distribution (UD), and Theil's inequality coefficient (U) statistics are used to evaluate the model's ability to perform historical simulation analysis. The smaller the difference between the actual and predicted mean and the smaller the U-Theil's value, the better the model estimation (Jónsson & Snorrason (2018). Theil coefficient value (U) ranges between 1 and 0. If U = 0, then the model estimation is perfect; if U = 1, then the model estimation is naive.

The results of the model validation are presented in Table 1. The table shows that, in general, the statistical value of the bias proportion (UM) is close to zero, and the value of the distribution proportion (UD) is close to one, meaning that the model does not have systemic bias. Theil's U-value is also generally relatively small and close to 0. In addition, the model validation results also show that almost all equations have an R-square value of more

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than 0.75. Thus, based on the validation results, this model is suitable for simulating alternative policies when viewed as a whole.

Table 1. Results of Validation of the Economic Performance Model of Provinces in Indonesia

No	Variable		Bias (UM)	Dist (UD)	U Coeff	R-Square
Fiscal Block						
1	TRED	Regional government revenue	0.00	0.97	0.0829	0.9539
2	PAD	Local own-source revenue	0.00	1.00	0.1167	0.9293
3	TRANS	Transfers from the central government	0.00	1.00	0.1008	0.7981
4	TGE	Total local government expenditure	0.01	0.97	0.0414	0.9885
5	PLA	Agricultural sector expenditure	0.00	1.00	0.1690	0.7843
6	PLIND	Industrial sector expenditure	0.00	1.00	0.1206	0.9070
Output Block						
7	PDRBA	Total output	0.00	0.72	0.0320	0.9942
8	PDRBA	Agricultural sector output	0.00	0.91	0.2700	0.6104
9	PDRBI	Industrial sector output	0.03	0.96	0.0189	0.9981
Employment Block						
10	TTK	Total labor absorption	0.00	0.55	0.0894	0.9574
11	TKSA	Labor absorption in the agricultural sector	0.00	0.83	0.2603	0.6701
12	TKSI	Labor absorption in the industrial sector	0.03	0.96	0.0262	0.9966
Poverty Block						
13	JPM	Number of poor people	0.00	1.00	0.0313	0.9944

3.2. Impact of Increasing Regional Government Expenditure on the Agricultural Sector and the Industrial Sector

The first policy simulation (SIM-1) was conducted by increasing local government expenditure for the agricultural sector by 100% without reducing spending or expenditure for other sectors. In this first scenario, the government is assumed to obtain funds from loans or grants. The results of this first scenario simulation, as seen in Table 2, show that increasing local government expenditure for the agricultural sector by 100% will increase the absorption of agricultural sector labor by 22.78% and the overall workforce by 10.3%. This percentage is significant considering that there are still many workers whom the job market has not absorbed. The opportunity to work in the agricultural sector and other sectors can be an alternative to improve people's welfare [11] [12] [13] [14] [15] [16].

Table 2. Impact of Increasing Government Spending on the Agricultural Sector and the Industrial Sector by 100%

No	Endogenous Variables		Unit	Basic Value	Changes (%) SIM-1	SIM-2
Fiscal Block						
1	TRED	Regional government revenue	Rp	3,424,000,000,000	2.28	1.01
2	PAD	Local own-source revenue	Rp	1,647,000,000,000	4.74	2.08
3	TRANS	Transfers from the central government	Rp	596,000,000,000	-0.18	0.00
4	TGE	Total local government expenditure	Rp	3,447,000,000,000	4.25	2.87
5	PLA	Agricultural sector expenditure	Rp	152,200,000,000	100.00	0.07
6	PLIND	Industrial sector expenditure	Rp	102,400,000,000	0.97	100.00
Output Block						
7	PDRBA	Total output	Rp million	64,436,123	2.78	0.16
8	PDRBA	Agricultural sector output	Rp million	9,438,161	16.30	0.00
9	PDRBI	Industrial sector output	Rp million	15,917,229	0.01	0.63
Employment Block						
10	TTK	Total labor absorption	people	3,190,857	10.30	0.03
11	TKSA	Labor absorption in the agricultural sector	people	1,241,790	22.78	0.01
12	TKSI	Labor absorption in the industrial sector	people	414,029	0.00	0.19
Poverty Block						
13	JPM	Number of poor people	people	1,005,085	-0.32	0.00

An increase in government spending in the agricultural sector by 100% will also increase the agricultural sector's GRDP by 16.3% and the total GRDP by 2.78%. This condition shows that the agricultural sector can be a driver of economic growth in the region because it can increase the agricultural sector's GRDP and increase the overall economic output [17] [18]. This makes the role of government in agricultural development increasingly important, especially in creating conditions/environments that allow private agricultural sector activities to run well, improve things where the market fails to allocate resources efficiently, and minimize price distortions farmers and consumers face [19] [20] [21] [22] [23]. In practice, this is described in several dimensions: (1) improving

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externalities, (2) providing public goods, (3) improving information asymmetry, and (4) regulation of resistance to monopolistic activities that reduce social welfare.

In this study, increasing local government spending on the agricultural sector has been shown to increase employment opportunities in the agricultural sector, increasing agricultural sector output. Increasing employment opportunities and output in the agricultural sector will reduce the number of poor people, as seen in Table 2. Looking at the reality on the ground, where poverty is concentrated in rural areas, most of the poor depend on agriculture as a source of livelihood, both directly and indirectly. Therefore, encouraging more dynamic and inclusive agriculture will reduce rural poverty rates and help achieve the Sustainable Development Goals related to poverty and hunger.

The second policy simulation (SIM-2) was carried out by increasing local government spending on the industrial sector by 100% without reducing spending or expenditures on other sectors. As in the first scenario, the government is assumed to obtain funds from loans or grants in this second scenario. The results of the second scenario simulation show that increasing local government spending on the industrial sector by 100% will increase the absorption of labor in the industrial sector by 0.19% and overall labor by 0.3%. This figure is relatively low compared to the impact of increasing local government spending on the agricultural sector. An increase in government spending in the industrial sector by 100% was also only able to increase the industrial sector's GRDP by 0.63% and the total GRDP by 0.16%, as seen in Table 2. From the two policy scenarios, the results show that increasing government spending for the agricultural sector (SIM-1) significantly impacts regional economic performance regarding employment opportunities, economic growth, and poverty.

On the one hand, government spending for agricultural sector development increases intermediate inputs, such as fertilizers, insecticides, tractors, and others supplied by other sectors [24] [25]. This linkage is called backward linkage. However, on the other hand, the agricultural sector increases the output supply for other sectors (the agricultural industry also creates investment opportunities) in addition to some used by the agricultural sector. This linkage is called forward linkage. So, the two linkages are known as inter-industry linkages that lead backward and forward.

In addition, agricultural sector development will increase employment opportunities and income in the agricultural sector, increasing demand for consumer goods produced by other sectors (increasing production in the non-agricultural sector). The desire to consume these goods is an encouragement to increase productivity in the agricultural sector. This relationship is known as the employment linkage effect and income generation linkage effect. The existence of a correlation between income creation in an economy is shown by Priyarsono's study, which, using 1999 data, concluded that every Rp 1 billion injection into the food agriculture subsector will increase gross output for the Indonesian economy by Rp 7.1539 billion, increase income in other sectors by Rp 4.6521 billion, provide added value of Rp 2.3087 billion, and increase household income by Rp 1.9849 billion [26]. Several other studies also show that the agricultural sector is the most effective for reducing poverty in rural and urban areas [27] [28] [29] [30].

4. Conclusion

The study results revealed that local government revenues derived from local own-source revenue are determined by total local government expenditures (spending), total GRDP, and population, while total GRDP and population determine the transfer value from the central government. Local government spending for the agricultural and industrial sectors is more determined by the previous year's budget and is not based on the development needs of the sector. Increasing local government spending with loans or grant funds for the agricultural sector will increase employment opportunities in the agricultural, industrial, and other sectors and increase GRDP in the agricultural, industrial, and other sectors. In addition, it will reduce the number of poor people. Increasing local government spending with loans or grant funds for the industrial sector will increase employment opportunities in the industrial, agricultural, and other sectors and increase GRDP in the industrial sector. However, the economic performance increase is smaller than the increase due to government spending in the agricultural sector. In order to achieve the goals of economic development, namely increasing economic growth and reducing income inequality, local governments should implement policies by increasing the proportion of the budget for the agricultural sector. Increasing local government spending for the agricultural sector can also attract non-agricultural investment through increasing GRDP in the agricultural sector and reducing poverty. In addition, local governments should focus more on specific economic sectors according to regional potential to produce product specialization. This can be done through a budget reallocation policy. In other words, local governments should allocate their spending to larger priority development economic sectors, not just equalizing each economic sector.

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Reference

[1] H. Setiani, R. Valennia, and N. K. Rusni, "Nickel Export Ban Policy in Indonesia - A Path to Sustainable Economic Development?," *EcoProfit*, vol. 1, no. 2, 2024, doi: 10.61511/ecoprofit.v1i2.2024.468.
[2] A. Setyagama, W. Susilo, P. Purwanto, E. Wahyono, and M. Su'ud, "Indonesian Government Policy Prohibits the Export of Nickel Ore in the Form of Raw Materials," *Journal of Law and Sustainable Development*, vol. 12, no. 2, p. e1163, 2024, doi: 10.55908/sdgs.v12i2.1163.
[3] H. Sumarsono, L. A. Qodri, and P. H. Prayitno, "Government Spending, Domestic Investment, Human Development Index and Indonesian Gross Domestic Product,", *JPEB*, vol. 10, no. 2, pp. 150–157, 2022, doi: 10.21009/jpeb.010.2.5.
[4] Y. Aprianti, M. Muliati, and A. Sulindrina, "The Impact of Fiscal Variables on Economic Growth in Indonesia," *Economics Development Analysis Journal*, vol. 12, no. 1, pp. 71–83, 2023, doi: 10.15294/edaj.v12i1.58537.
[5] H. Kuncoro, "The Impact of Government Consumption on the Private Expenditures in Developing Country: The Case of Indonesia," *Business and Economic Horizons*, vol. 14, no. 1, pp. 1–16, 2018, doi: 10.15208/beh.2018.1.
[6] G. Ángeles-Castro, C. S. Domínguez-Blancas, and C. A. Fraga-Castillo, "Kaldor-Verdoorn Laws in the Latin American Countries, 1992-2021," *Invest Econ*, vol. 82, no. 326, pp. 156–184, 2023, doi: 10.22201/fe.01851667p.2023.326.86163.
[7] F. J. Karaki, "The Impact of Manufacturing, Investment, Labor Force and Technology on Economic Growth in Palestine," *Journal of Economics Finance and Accounting Studies*, vol. 5, no. 3, pp. 164–173, 2023, doi: 10.32996/jefas.2023.5.3.13.
[8] M. Nasir, N. Faizun, and Mohd. N. Syechalad, "Agricultural Sector Investment Need in Increasing Economic Growth," *Jejak*, vol. 10, no. 2, pp. 372–384, 2017, doi: 10.15294/jejak.v10i2.11302.
[9] S. B. Zaman, M. İshaq, and M. A. Niazi, "Contribution of Agriculture Sector in Economic Growth of Pakistan: An Empirical Analysis," *Journl of Applied Economics and Business Studies*, vol. 5, no. 2, pp. 103–120, 2021, doi: 10.34260/jaebs.527.
[10] E. K. Ceesay and M. M. Fanneh, "Economic Growth, Climate Change, and Agriculture Sector: ARDL Bounds Testing Approach for Bangladesh (1971-2020)," *Economics Management and Sustainability*, vol. 7, no. 1, pp. 95–106, 2022, doi: 10.14254/jems.2022.7-1.8.
[11] M. Fauzan, "Pendapatan, risiko dan efisiensi ekonomi usahatani bawang merah di Kabupaten Bantul," *AGRARIS: Journal of Agribusiness and Rural Development Research*, vol. 2, no. 2, pp. 107–117, 2016, doi: 10.18196/agr.2231.
[12] S. P. Susanawati and M. Fauzan, "Risk of shallot supply chain: An analytical hierarchy process (AHP) model in Brebes Java, Indonesia," *Int. J Sup. Chain. Mgt*, vol. 8, no. 1, pp. 124–131, 2019, [Online]. Available: http://excelingtech.co.uk/
[13] M. Fauzan, U. Martinah, and L. Rahayu, "Curahan waktu kerja wanita tani sebagai buruh petik melati gambir dan kontribusinya terhadap pendapatan rumah tangga," *Mimbar Agribisnis: Jurnal Pemikiran Masyarakat Ilmiah Berwawasan Agribisnis*, vol. 6, no. 2, pp. 803–811, 2020.
[14] I. Rosyadi and C. Ratnasih, "The Economic Structure and Employment Opportunities (Cases in Bengkulu, Indonesia)," *European Journal of Business Management and Research*, vol. 6, no. 5, pp. 153–158, 2021, doi: 10.24018/ejbmr.2021.6.5.1074.
[15] O. A. Owolabi, C. H. Umehruo, B. Aderounmu, M. O. Rotimi, and E. Osabuohien, "Sustainable Socio-Economic Welfare and Agricultural Employment?," *IOP Conf Ser Earth Environ Sci*, vol. 1054, no. 1, 2022, doi: 10.1088/1755-1315/1054/1/012054.
[16] J. V Catéia, M. V. L. Bittencourt, T. S. Carvalho, and L. Savard, "Potential Economic Impacts of Agricultural Growth in Africa" *Journal of Agricultural and Applied Economics*, vol. 55, no. 3, pp. 492–515, 2023, doi: 10.1017/aae.2023.26.
[17] I. Ali *et al.*, "The Impact of Agriculture Trade and Exchange Rate on Economic Growth of Pakistan: An NARDL and Asymmetric Analysis Approach," *Ciência Rural*, vol. 50, no. 4, 2020, doi: 10.1590/0103-8478cr20190005.
[18] I. L. Hasan, M. Anis, A. Putri, I. Dwi, and R. N. Ilham, "Developing Sustainable Empowerment Model Through Technopreneur Farmers' Economy Sustainable," *Qas*, vol. 25, no. 199, 2024, doi: 10.47750/qas/25.199.44.
[19] A. Ariabod, R. Moghaddasi, Y. Zeraatkish, and A. M. Nejad, "Governance and Agricultural Growth: Evidence From Selected Developing Countries," *Economic Journal of Emerging Markets*, vol. 11, no. 1, pp. 73–80, 2019, doi: 10.20885/ejem.vol11.iss1.art7.
[20] Susanawati, M. Fauzan, and Widodo, "A strategy for development of shallot Agribusiness Sub Terminal (STA) in Brebes," in *IOP Conference Series: Earth and Environmental Science*, IOP Publishing Ltd, Sep. 2020. doi: 10.1088/1755-1315/518/1/012048.
[21] Susanawati, M. Fauzan, and I. M. C. Fanestia, "Supply Chain Resources of Red Chili Based on Food Supply Chain Network in Kulonprogo Indonesia," in *Proceedings of the 6th International Conference of Food, Agriculture, and Natural Resource (IC-FANRES 2021)*, Atlantis Press, 2022, pp. 174–183. doi: 10.2991/absr.k.220101.023.
[22] Y. J. Amuda, "Evaluation of Agricultural Policies and Programmes for Sustainable Future Farming Intensification in Nigeria," *IJSSMET*, vol. 13, no. 1, pp. 1–13, 2023, doi: 10.4018/ijssmet.316176.
[23] M. Fauzan and G. W. Tuga, "Enrichment: Journal of Management Strategies for sustainable livelihoods of shallot picking workers households in Brebes Regency," *Enrichment: Journal of Management*, vol. 13, no. 4, pp. 2561–5268, 2023, doi:10.35335/enrichment.v13i4.1619.
[24] T. G. Apata, "Effect of Public Spending on Agricultural Productivity in Nigeria (1981-2018)," *Revista Galega De Economía*, pp. 1–21, 2021, doi: 10.15304/rge.30.2.6862.
[25] G. Dincă, I.-C. Netcu, and A. El-Naser, "Analyzing EU's Agricultural Sector and Public Spending Under Climate Change," *Sustainability*, vol. 16, no. 1, p. 72, 2023, doi: 10.3390/su16010072.
[26] D. S. Priyarsono, *Dari Pertanian ke Industri: Analisis Pembangunan dalam Perspektif Ekonomi Regional*. Bogor: IPB Press, 2011.
[27] R. M. Elzaki, S. Abdalla, and M. Al-Mahish, "Small Ruminants as a Pathway to Reduce Urban Poverty: An Empirical Analysis of Sudan," *Vet World*, vol. 12, no. 12, pp. 2017–2024, 2019, doi: 10.14202/vetworld.2019.2017-2024.
[28] K. S. Imai, R. Gaiha, and F. Bresciani, "The Labor Productivity Gap Between the Agricultural and Nonagricultural Sectors, and Poverty and Inequality Reduction in Asia," *Asian Dev Rev*, vol. 36, no. 1, pp. 112–135, 2019, doi: 10.1162/adev_a_00125.
[29] F. Sikandar, V. Erokhin, X. Li, M. Sidorova, A. Ivolga, and A. Bobryshev, "Sustainable Agriculture and Rural Poverty Eradication in Pakistan" *Sustainability*, vol. 14, no. 22, p. 14751, 2022, doi: 10.3390/su142214751.
[30] M. Sassi, "Economic Connectiveness and Pro-Poor Growth in Sub-Saharan Africa: The Role of Agriculture," *Sustainability*, vol. 15, no. 3, p. 2026, 2023, doi: 10.3390/su15032026.

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