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ANALYSIS OF LEADING SECTORS AND THEIR EFFECT ON ECONOMIC GROWTH IN JEMBRANA REGENCY

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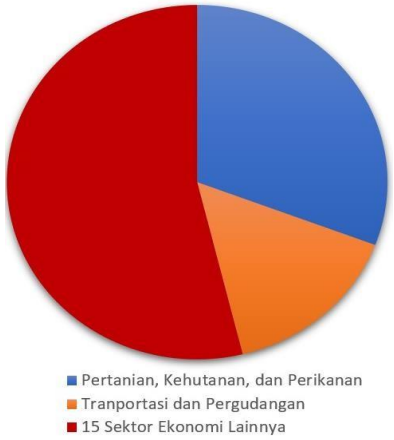
Abstract: Regional economic growth is an important indicator for evaluating development performance. This study analyzes leading sectors and examines the effect of the agriculture, forestry, and fisheries sector, as well as the transportation and warehousing sector, on economic growth in Jembrana Regency, with the Labor Force Participation Rate (LFPR) as a moderating variable. This study uses secondary data, including the Gross Regional Domestic Product (GRDP) of Jembrana Regency and Bali Province, as well as labor statistics from the Central Bureau of Statistics (BPS) for the period 2010–2024. The methods used are Location Quotient (LQ), descriptive analysis, multiple linear regression, and Moderated Regression Analysis (MRA). The results show that the agriculture, forestry, and fisheries sector, as well as the transportation and warehousing sector, are categorized as leading sectors in Jembrana Regency. Simultaneously, these two sectors have a significant effect on economic growth. Partially, the agriculture, forestry, and fisheries sector has a positive and significant effect, while the transportation and warehousing sector also provides a positive contribution. The moderation analysis reveals that the LFPR strengthens the effect of the transportation and warehousing sector on economic growth but does not moderate the relationship between the agriculture, forestry, and fisheries sector and economic growth. These findings suggest that the local government should strengthen the productivity of base sectors, particularly agriculture and transportation, and enhance labor force participation to support sustainable economic growth in Jembrana Regency.
Keywords: leading sectors, economic growth, labor force participation rate

INTRODUCTION

Economic growth is an important indicator that reflects the economic performance of a country, in which increasing production capacity and national income signal an improving economic condition. Factors that affect this process include economic elements such as natural resources, labor, capital, and technology, as well as non-economic factors such as social institutions and political conditions. In a regional context, economic growth is reflected in rising per capita income and increasing Gross Regional Domestic Product (GRDP), which indicate development success and enhanced community welfare. The contribution of productive leading economic sectors becomes a key driver of such growth, particularly through base sectors capable of generating added value and export-oriented output. The economic structure consisting of primary, secondary, and tertiary sectors plays a role in creating employment opportunities, strengthening regional competitiveness, and expanding the production of goods and services. Optimizing leading sectors requires adequate and competent labor support,

consistent with the views of Keynes and Boserup's theory, which emphasize the importance of full resource utilization and innovation in driving economic growth. Previous studies indicate that the agriculture sector, trade, transportation, information and communication, and real estate are base sectors with development priority potential. Thus, synergy between regional governments, communities, precise development planning, and the utilization of leading sectors becomes an essential foundation for realizing sustainable economic growth and improving community welfare.

Figure 1. Contribution of Gross Regional Domestic Product (GRDP) at Constant Prices 2010 for 2010–2024 by Business Field in Jembrana Regency (Million Rupiah)



Source: Central Statistics Agency of Jembrana Regency 2024

Based on Figure 1, the Gross Regional Domestic Product (GRDP) at constant 2010 prices by business field in Jembrana Regency from 2010 to 2024 shows that the two main sectors contributing the largest share to the regional economy of Jembrana Regency are the Agriculture, Forestry, and Fisheries sector with a contribution of 24 percent, and the Transportation and Warehousing sector with a contribution of 14 percent.

The agricultural sector, to this day, still holds a strategic position as an aggregate economic contributor through increases in the Gross Regional Domestic Product (GRDP). The agricultural sector provides food, clothing, and shelter, as well as employment for a large portion of the population and regional foreign exchange (Ito et al., 2021). Agricultural growth in a region is influenced by competitive advantages, regional uniqueness, and agricultural potential. The existence of agricultural potential has no meaning for agricultural growth if efforts are not made to optimally utilize and develop such potential.

Kemendong et al. (2021) explain the meaningful relationship between the agricultural sector and labor. The agricultural sector is considered a leading sector because it can encourage equity and contribute to economic growth, allowing for labor absorption from the surrounding population. Furthermore, the economic potential of the transportation and warehousing sector is highlighted by Raintung et al. (2021), who state that leading sectors can provide greater leverage for economic growth with the support of contributing factors, one of which is the labor absorbed within a region.

The utilization and development of high-potential agriculture must become a primary priority to be understood and developed in the process of realizing regional economic growth in general (Osly et al., 2020). The agricultural sector plays an important role in the economy, especially in agrarian countries, as it constitutes a source of

livelihood for many communities and provides significant contributions to regional and national economic growth (Wahab, 2023). In general, this sector includes various subsectors such as food crops, plantations, livestock, forestry, and fisheries. However, in a narrower sense, agriculture is often associated only with cultivating food crops; viewed more broadly, agricultural activities also include the production of crops and livestock that play roles in meeting human needs (Wahyuningtias, 2021).

The study conducted by Yundari et al. (2022), which analyzed the potential of the agricultural sector in economic development in Jembrana Regency, showed that based on LQ analysis techniques, the leading commodities in Jembrana Regency for the food crop subsector include rice, soybeans, and mung beans. Leading commodities in the horticulture subsector include long beans, large chilies, cucumbers, eggplants, watermelons, melons, bananas, rambutans, pineapples, duku, and soursop.

The transportation and warehousing sector is a subsector included in the second development priority. This sector, part of transportation and warehousing services, has low growth but holds comparative advantages and is the second-largest GRDP contributor in Jembrana Regency. Therefore, improvements in transportation provision and warehousing facilities in Jembrana Regency are necessary (Devi et al., 2024).

Transportation and warehousing constitute a function in the process of offering better opportunities and reducing waste throughout the logistics system. Transportation can be a factor that affects GRDP growth because every region certainly requires transportation. Many transportation companies operate across various regions, and transportation usage public or private is widely observed. This can affect and may even help economic growth in a region. Aside from transportation, warehousing is also a sectoral factor affecting GRDP growth. Warehousing is a place used for storage purposes. Warehousing is increasingly found in several regions because more companies require facilities to store goods safely and properly without disrupting operations (Abushaikha et al., 2018).

The transportation and warehousing sector experienced an increase in 2022, with a total of 1,107,542 vehicles, rising to 1,502,896 the following year. The number of transportation units mobilizing within Jembrana Regency can support production activities in the region. The increase in transportation data indicates that the transportation sector is one of the relied-upon sectors, used for population mobility, business activities, and transporting food or products from warehouses to product placement locations in Jembrana.

Research related to the analysis of leading sectors in supporting economic growth planning has been widely conducted, including the study by Devi et al. (2024) on leading sector analysis and economic growth potential as a basis for regional development planning in Jembrana Regency. The study shows that from 2019 to 2023, sectors categorized as leading in Jembrana Regency include: the agriculture, forestry, and fisheries sector; wholesale and retail trade, repair of motor vehicles and motorcycles; the transportation and warehousing sector; the information and communication sector; and the real estate sector, with an LQ value of 1.09.

The urgency of this study lies in the importance of identifying and developing leading sectors capable of driving regional economic growth, particularly in Jembrana Regency, which demonstrates relatively low economic growth compared to other regencies/cities in Bali Province. The dominance of the agriculture, forestry, and fisheries sector, along with the transportation and warehousing sector, in the regional economic

structure indicates that these two sectors have strategic roles in sustaining economic activities within the community.

The selection of these two sectors was made because previous analysis results indicate that the agriculture, forestry, and fisheries sector and the transportation and warehousing sector are base sectors in Jembrana Regency, with LQ values above 1. This indicates that both sectors have greater contributions and competitiveness compared to other sectors. Furthermore, the agricultural sector absorbs a large amount of labor, while the transportation and warehousing sector holds a strategic position as the main distribution route for goods in Bali through Gilimanuk Port. Therefore, these sectors are considered to have strong development potential and are relevant as main variables in the research.

Based on this background, the researcher is interested in further examining the contribution of the agriculture, forestry, and fisheries sector and the transportation and warehousing sector, with the Labor Force Participation Rate (LFPR) as a moderating variable, to determine whether these sectors are leading sectors and how their effect contributes to economic growth in Jembrana Regency. Therefore, this study is titled "Analysis of Leading Sectors and Their Effect on Economic Growth in Jembrana Regency".

METHOD

This study employs a quantitative descriptive and associative approach to analyze leading sectors and the causal relationships among economic variables in Jembrana Regency. The descriptive approach is used to explain the condition of economic sectors based on Gross Regional Domestic Product (GRDP) data, while the associative approach is applied to determine the causal influence among variables, particularly the contribution of the agriculture, forestry, and fisheries sector and the transportation and warehousing sector on economic growth. The research was conducted in Jembrana Regency with the economic sectors and the Labor Force Participation Rate (LFPR) as the moderating variable that influences the direction and strength of relationships among variables (Narbuko, 2015; Sugiyono, 2014; Sugiyono, 2007).

The data used in this study are secondary data in the form of time series from 2010–2024 obtained from the Jembrana Regency Statistics Office and the Bali Provincial Statistics Office. The analyzed variables include economic growth, the contribution of the agriculture, forestry, and fisheries sector (X1), the contribution of the transportation and warehousing sector (X2), and the LFPR as the moderating variable (Z). All variables are operationally defined using indicators of GRDP at constant 2010 prices and labor statistics. Data collection was conducted through non-participant observation and documentation by reviewing official publications from BPS, Bappeda, and supporting literature (Sugiyono, 2007; BPS Jembrana, 2024; BPS Bali, 2024).

Data analysis consists of Location Quotient (LQ) analysis to determine base sectors, descriptive analysis, and a series of classical assumption tests, including normality, multicollinearity, heteroscedasticity, and autocorrelation tests. Hypothesis testing is carried out using the F-test to examine simultaneous effects, the t-test to analyze partial effects, and Moderated Regression Analysis (MRA) to determine whether the LFPR strengthens or weakens the influence of independent variables on economic growth. The results are interpreted based on statistical significance and regression

coefficients to comprehensively identify the patterns of relationships among variables (Ghozali, 2014; Wiguna & Budhi, 2019; Jumiyanti, 2018).

RESULTS AND DISCUSSION

General Overview of Jembrana Regency

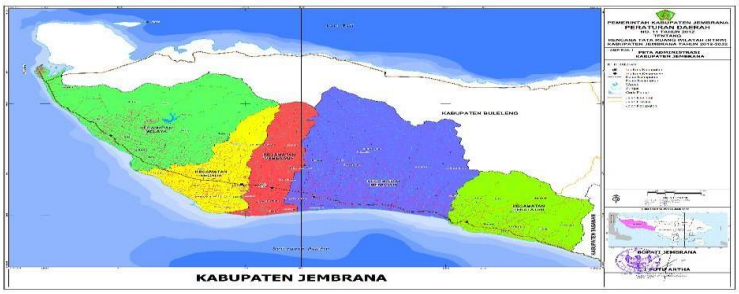
Geographical Conditions

Bali Province is geographically located in the central part of Indonesia, between 8°3'40"–8°50'48" South Latitude and 114°25'53"–115°42'40" East Longitude. The province is bordered by the Bali Sea to the north, the Lombok Strait to the east, the Indian Ocean to the south, and the Bali Strait to the west. One of the regencies within the province is Jembrana Regency, located on the western part of Bali Island, stretching from west to east between 8°09'30"–8°28'02" South Latitude and 114°25'53"–114°56'38" East Longitude. The administrative boundaries of Jembrana Regency are as follows:

1) North : Buleleng Regency
2) East : Tabanan Regency
3) South : Indian Ocean
4) West : Bali Strait

The total area of Jembrana Regency is 84,180 hectares, or 14.96% of the total area of Bali Province. It is administratively divided into five districts, namely Melaya, Negara, Jembrana, Mendoyo, and Pekutatan. The geographical location of Jembrana Regency is visually presented in Figure 2.

Figure 2. Administrative Map of Jembrana Regency



Source: Jembrana, in figures 2024

1) Melaya District : 197.19 km2
2) Negara District : 126.50 km2
3) Jembrana District : 93.97 km2
4) Mendoyo District : 294.49 km2
5) Pekutatan District : 129.65 km2

Demographic Conditions

Table 1. Population, Population Growth Rate, Population Percentage and Population Density by District in Jembrana Regency in 2024

District	Population (Thousands)	Annual Population Growth Rate (%)	Population Percentage (%)	Population Density per km²
Melaya	64.2	-0.14	19.49	280
Negara	100.1	0.40	30.39	1,026
Jembrana	64.0	0.10	19.43	714
Mendoyo	70.0	-0.32	21.25	235
Pekutatan	31.1	-0.50	9.45	231
Jembrana Regency Total	**329.4**	**0.00**	**100.00**	**388**

Based on Table 1, the population of Jembrana Regency in 2024 was recorded at 329.4 thousand people, with an overall population growth rate of 0.00 percent, indicating a stagnant demographic trend. Negara District has the largest population, reaching 100.1 thousand people or 30.39 percent of the total population, and also has the highest population density of 1,026 people per km², reflecting its role as the population center of the regency. Conversely, Pekutatan District has the smallest population, totaling 31.1 thousand people or 9.45 percent, with the lowest growth rate at -0.50 percent, which may indicate population movement to other areas. Several other districts also experienced negative population growth, such as Mendoyo (-0.32 percent) and Melaya (-0.14 percent), while Jembrana District recorded a low but positive growth rate (0.10 percent).

Description of Research Variables

The description of the research variables illustrates the dynamics of economic development in Jembrana Regency through indicators such as Gross Regional Domestic Product (GRDP), economic growth, contributions of leading sectors, and the labor force participation rate. GRDP data for Jembrana Regency and Bali Province show significant economic growth from 2010 to 2024, despite a decline caused by the COVID-19 pandemic in 2020–2021. The agriculture, forestry, and fisheries sector remains the main contributor to GRDP, showing a renewed upward trend after a period of decline, reaffirming its role as a primary and strategic sector for the regional economy. Meanwhile, the transportation and warehousing sector also contributes substantially, reaching its peak in 2015, before declining due to reduced mobility during the pandemic. However, this sector remains relevant given Jembrana's position as a key logistics corridor connecting Bali and Java. Economic growth in Jembrana Regency displayed a stable trend prior to the pandemic, followed by a sharp contraction in 2020, and subsequently recovered gradually, reaching notable positive growth in 2024. Similar fluctuations are seen in the labor force participation rate (LFPR), which experienced several periods of decline but increased again, particularly after the pandemic, signaling a recovery in economic activities and improved labor absorption. Overall, the development of these variables

confirms that the economic structure of Jembrana Regency is dynamic and resilient to external pressures, with leading sectors and labor availability acting as key determinants supporting sustainable economic growth.

Classical Assumption Test

1) Normality Test

The normality test is used to determine whether the residual values of the regression model are normally distributed. This assumption is essential because if the residuals are not normally distributed, the regression estimates may become inefficient. The criteria used in this study are.

a) If the significance value α > 0.05, the residuals are normally distributed.
b) If the significance value α ≤ 0.05, the residuals are not normally distributed.

Table 2. Normality Test Results

Parameter	Unstandardized Residual
N	15
Normal Parameters[ab]	
Mean	0.0000000
Std. Deviation	0.55744493
Most Extreme Differences	
Absolute	0.175
Positive	0.122
Negative	-0.175
Test Statistic	0.175
Asymp. Sig. (2-tailed)	0.200[cd]

Source: Processed Data, 2025

In this study, the Kolmogorov-Smirnov test was used to test for normality. Based on the results of the normality test, as shown in Table 2, a significance value (p-value) of 0.200 was obtained. Because the p-value is greater than 0.05, it can be concluded that the residuals are normally distributed.

2) Multicollinearity Test

The multicollinearity test aims to detect whether there is a correlation among the independent variables in the regression model. A regression model is considered free from multicollinearity if it has a tolerance value > 0.10 or a VIF value < 10.

Table 3. Multicollinearity Test Results

Variable	Collinearity Statistic	
	Tolerance	VIF
Contribution of the Agriculture, Forestry, and Fisheries Sector (X_1)	0.763	1.311
Contribution of the Transportation and Warehousing Sector (X_2)	0.763	1.311

Source: Processed Data, 2025

Based on the multicollinearity test results, it can be concluded that there is no multicollinearity issue in the regression model. All VIF values are < 10 and all tolerance values are > 0.10.

3) Heteroscedasticity Test

The heteroscedasticity test is used to determine whether there is an inequality in the variance of residuals across observations in the regression model. A regression model is considered free from heteroscedasticity if the significance value is greater than 0.05.
The criteria are:.

1) If If the significance value ≤ 0.05, heteroscedasticity is present.
2) If the significance value ≥ 0.05, heteroscedasticity is not present.

Table 4. Heteroscedasticity Test Results

Variable	Significance
Contribution of the Agriculture, Forestry, and Fisheries Sector (X_1)	0.070
Contribution of the Transportation and Warehousing Sector (X_2)	0.111

Source: Processed Data, 2025

From Table 4, the significance value of the agriculture, forestry, and fisheries sector contribution variable is 0.070, while the transportation and warehousing sector contribution variable has a significance value of 0.111. Since both significance values are > 0.05, it can be concluded that the regression model is free from heteroscedasticity.

4) Autocorrelation Test

Table 5. Autocorrelation Test Results

Model	Durbin-Watson Value
Contribution of the agriculture, forestry, and fisheries sector, and contribution of the transportation and warehousing sector to economic growth	1.804

Source: Processed Data, 2025

Based on Table 5, the autocorrelation test using the Durbin–Watson (DW) value yields a score of 1.804. This value is then compared with the lower bound (DU) of 1.5432 and the upper bound (4–DU) of 2.4568. Since the DW value lies between DU and 4–DU (1.5432 < 1.804 < 2.4568), it can be concluded that the regression model does not experience autocorrelation.

Results of the Multiple Linear Regression Analysis

Table 6. Results of the Multiple Linear Regression Analysis

Variable	Regression Coefficient	Calculated t-Value	Significance (t)
Constant	-59.466	-3.652	0.003
Contribution of the Agriculture, Forestry, and Fisheries Sector (X_1)	11.586	3.003	0.011
Contribution of the Transportation and Warehousing Sector (X_2)	9.201	3.657	0.003

Source: Processed Data, 2025

Based on the results of the multiple linear regression analysis in Table 6, the following regression equation is obtained:

$Y = -59.466 + 11.586X_1 + 9{,}201X_2 + e$ (4.1)

The results of the multiple linear regression equation in Table 6 can be explained as follows:

a. Constant (α) = -59.466

This means that if the variables Contribution of the Agriculture, Forestry, and Fisheries Sector (X_1) and Contribution of the Transportation and Warehousing Sector (X_2) are assumed to be zero percent, the Economic Growth (Y) is estimated to be –59.466 percent. This constant value indicates the baseline level of economic growth without the effect of the two independent variables.

b. Coefficient X1 = 11.586

This means that if the Contribution of the Agriculture, Forestry, and Fisheries Sector increases by one percent, Economic Growth will increase by 11.586 percent, assuming other independent variables remain constant.

c. Coefficient X2 = 9.201

This means that if the Contribution of the Transportation and Warehousing Sector increases by one percent, Economic Growth will increase by 9.201 percent, assuming other independent variables remain constant.

Results of the Coefficient of Determination Test (R^2)

Table 7. Results of the Coefficient of Determination Test (R^2)

Model	R	R Square	Adjusted R Square	Standard Error of the Estimate
	0.749[a]	0.561	0.488	0.60211

Source: Processed Data, 2025

The coefficient of determination (R^2) is used to measure the extent to which the independent variables can explain the dependent variable. Based on the regression results, the Adjusted R^2 value is 0.488 or 48.8%. This means that 48.8% of the Economic Growth in Jembrana Regency can be explained by the contribution of the agriculture, forestry, and fisheries sector, as well as the contribution of the transportation and warehousing sector. Meanwhile, the remaining 51.2% is explained by other variables that were not examined in this study.

Hypothesis Testing

Simultaneous Effect Test (F-Test)

Table 8. Results of the Simultaneous Effect Test (F-Test)

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	5.559	2	2.779	7.666	0.007[b]
Residual	4.350	12	0.363		
Total	9.909	14			

Source: Processed Data, 2025

Based on Table 8, the test results show that the calculated F-value is 7.666 with a significance value smaller than α = 0.05 (0.007 < 0.05), indicating that the model in this study is feasible. Since the significance value is smaller than α = 0.05 (0.007 < 0.05), it can be concluded that H_0 is rejected, meaning that the contribution of the agriculture, forestry, and fisheries sector and the contribution of the transportation and warehousing sector simultaneously have a significant effect on economic growth in Jembrana Regency.

Partial Effect Test (t-Test)

Table 9. Results of Partial Effect Test (t-Test)

Variable	Regression Coefficient	Calculated t-Value	Significance (t)
Contribution of the Agriculture, Forestry, and Fisheries Sector (X_1)	11.586	3.003	0.011
Contribution of the Transportation and Warehousing Sector (X_2)	9.201	3.657	0.003

Source: Processed Data, 2025

1. **The effect of the contribution of the agriculture, forestry, and fisheries sector on economic growth in Jembrana Regency**

   The significance value of the contribution variable of the agriculture, forestry, and fisheries sector is 0.011. This significance value is smaller than α = 5% (0.011 < 0.05), which means that H0 is rejected. Therefore, the contribution of the agriculture, forestry, and fisheries sector has a positive and significant effect on economic growth in Jembrana Regency.

2. **The effect of the contribution of the transportation and warehousing sector on economic growth in Jembrana Regency**

   The significance value of the contribution variable of the transportation and warehousing sector is 0.003. This significance value is smaller than α = 5% (0.003 < 0.05), which means that H0 is rejected. Therefore, the contribution of the transportation and warehousing sector has a positive and significant effect on economic growth in Jembrana Regency.

Moderated Regression Analysis (MRA)

Moderated Regression Analysis (MRA) or interaction test is a special application of multiple linear regression in which the regression equation contains interaction elements (multiplication of two or more independent variables).

Table 10. Results of Partial Effect Test (Moderated Regression Analysis)

Variable	Regression Coefficient	Calculated t-Value	Significance (t)
Contribution of the Agriculture, Forestry, and Fisheries Sector (X_1)	24.799	0.594	0.566
Labor Force Participation Rate (LFPR) (Z)	7.839	0.275	0.789

Variable	Regression Coefficient	Calculated t-Value	Significance (t)
X_1 * LFPR (Interaction Effect)	-4.250	-0.442	0.668

Source: Processed Data, 2025

Based on Table 10 of the partial regression test, the t-value obtained is -0.442 with a regression coefficient (beta) of -4.250 and a significance value (p) = 0.668. Based on the data analysis results, where the significance value (p) > 0.05, it can be concluded that the contribution of the agriculture, forestry, and fisheries sector has no effect on economic growth when moderated by the Labor Force Participation Rate. The Labor Force Participation Rate is not able to moderate the effect of the agriculture, forestry, and fisheries sector on economic growth.

Table 11. Results of Partial Effect Test (Moderated Regression Analysis)

Variable	Regression Coefficient	Calculated t-Value	Significance (t)
Contribution of the Transportation and Warehousing Sector (X_2)	-25.892	-1.954	0.079
Labor Force Participation Rate (LFPR) (Z)	-16.340	-2.010	0.072
X_2 * LFPR (Interaction Effect)	6.627	2.519	0.030

Source: Processed Data, 2025

Based on the partial regression test, the t-value obtained is 2.519 with a regression coefficient (beta) of 6.627 and a significance value (p) = 0.030. Based on the data analysis results, where the significance value (p) ≤ 0.05, it can be concluded that the contribution of the transportation and warehousing sector has a positive and significant effect on economic growth when moderated by the Labor Force Participation Rate. The Labor Force Participation Rate is able to moderate the effect of the transportation and warehousing sector on economic growth.

Discussion of Research Results

Location Quotient (LQ) Analysis for the Agriculture, Forestry, and Fisheries Sector and the Transportation and Warehousing Sector

The Location Quotient (LQ) analysis is a method used to determine the extent to which a region specializes in managing or utilizing its basic sectors or leading sectors. According to the basic economic theory, the economic growth of a region is primarily determined by the capacity of its basic sectors to generate income from outside the region, which subsequently creates a multiplier effect on the local economy. In other words, the greater the role of basic sectors, the stronger the stimulus they provide to non-basic sectors.

In this study, based on the fifteen-year average values, the agriculture, forestry, and fisheries sector and the transportation and warehousing sector both have LQ values greater than 1 (LQ > 1). This indicates that these sectors serve as basic or leading sectors in Jembrana Regency. These findings reinforce the assumptions of basic economic theory, suggesting that basic sectors can act as the main drivers of regional economic growth through the multiplier effects they generate.

The Effect of the Contribution of the Agriculture, Forestry, and Fisheries Sector and the Contribution of the Transportation and Warehousing Sector on Economic Growth in Jembrana Regency.

Based on the data analysis and hypothesis testing conducted in this study, the contribution of the agriculture, forestry, and fisheries sector, along with the transportation and warehousing sector, has a simultaneous effect (F-test) on economic growth in Jembrana Regency. This is evidenced by the F-statistic value of 7.666 and a significance value of 0.007, which is smaller than $\alpha = 0.05$. These results also indicate that the combination of both sectors plays an important role in simultaneously influencing economic growth in Jembrana Regency. This demonstrates that these leading sectors act as the primary drivers of the regional economy. The findings strengthen the understanding that the economic structure of Jembrana is largely supported by primary sectors and supporting service sectors such as transportation.

These findings are consistent with Putri et al. (2023), who, through an input–output analysis, showed that the transportation and warehousing sector has an output multiplier of 1.7852, higher than the agriculture sector's 1.2854. This indicates that strengthening transportation infrastructure can create multiplier effects for the agriculture sector. Similarly, Messakh et al. (2022) found that the development of transportation infrastructure particularly roads and ports plays a significant role in improving economic growth in eastern Indonesia.

Partial Effects

1) **The Effect of the Contribution of the Agriculture, Forestry, and Fisheries Sector on Economic Growth in Jembrana Regency**

The partial test results for the contribution of the agriculture, forestry, and fisheries sector to economic growth in Jembrana Regency show a t-value of 3.003 and a significance value of 0.011 (<0.05). These results indicate that the contribution of this sector has a positive and significant effect on economic growth in Jembrana Regency.

This positive effect can be explained by the fact that the agriculture, forestry, and fisheries sector remains the primary sector for labor absorption and the provider of essential goods for the community. Moreover, the sector significantly contributes to the Gross Regional Domestic Product (GRDP) of Jembrana Regency, as much of the region still relies on agricultural and fisheries activities. Thus, the development of this sector directly increases regional output, positively influencing economic growth.

These findings align with Himran & Buhang (2023), who found that the agriculture, forestry, and fisheries sector had a positive and significant effect on regional economic conditions in Banggai Regency. Similarly, Wahyujati et al. (2023) reported that the same sector contributed substantially to the GRDP in Bantul Regency.

2) **The Effect of the Contribution of the Transportation and Warehousing Sector on Economic Growth in Jembrana Regency**

The partial test results for the contribution of the transportation and warehousing sector to economic growth in Jembrana Regency show a t-value of 3.657 and a significance value of 0.003 (<0.05). These results indicate that this sector has a positive and significant effect on economic growth in the region.

The positive effect can be attributed to the role of the transportation and warehousing sector as a key facilitator of goods and services distribution an essential component of economic activity. Improved transportation infrastructure and

warehousing facilities help smooth the flow of goods and services in and out of the region, thereby increasing the added value within the local economy. Given Jembrana's strategic position as the land gateway to Bali, this sector significantly supports trade, tourism, and other economic activities.

These findings are consistent with Prijayati (2021), who found that land, sea, and warehousing infrastructure positively and significantly influenced economic growth in emerging market countries in Asia. Kartiasih (2019) also noted that transportation indicators such as port cargo flow and passenger movement contribute positively to economic growth in Indonesia.

3) **The Effect of the Contribution of the Agriculture, Forestry, and Fisheries Sector Moderated by the Labor Force Participation Rate (LFPR) on Economic Growth in Jembrana Regency**

The results of the partial moderation test of the variable Contribution of the Agriculture, Forestry, and Fisheries Sector to Economic Growth moderated by the Labor Force Participation Rate (LFPR) in Jembrana Regency show a t-count value of -0.442 with a significance value of 0.668 (>0.05). This test result indicates that the contribution of the agriculture, forestry, and fisheries sector has no effect on economic growth in Jembrana Regency when moderated by the Labor Force Participation Rate (LFPR).

The insignificance of this effect can be explained by the characteristics of the agriculture, forestry, and fisheries sector in Jembrana Regency, which is still dominated by traditional production patterns with relatively low productivity levels. Although this sector is able to absorb a large number of workers, their presence is not yet supported by adequate human resource quality and the use of modern technology. As a result, an increase in the labor force does not automatically lead to a significant increase in economic output.

From a theoretical perspective, this result can be explained through Ester Boserup's Theory (1981), which states that population or labor force growth can drive economic growth if accompanied by innovation and modernization of production technology. Without innovation, an increase in the labor force is unable to improve productivity, particularly in traditional agricultural sectors. Therefore, in Jembrana Regency, although the LFPR is high, its contribution to economic growth through the agriculture, forestry, and fisheries sector remains limited.

This finding is consistent with the study of Rozmar et al. (2017), which states that the Labor Force Participation Rate (LFPR) has no significant effect on economic growth in Jambi Province. This may occur because although the agricultural sector absorbs a large workforce, labor productivity remains low due to limited technology, human resource quality, and traditional production patterns. Therefore, an increase in the labor force does not automatically increase economic output.

4) **The Effect of the Contribution of the Transportation and Warehousing Sector Moderated by the Labor Force Participation Rate (LFPR) on Economic Growth in Jembrana Regency**

The results of the partial moderation test of the variable Contribution of the Transportation and Warehousing Sector to Economic Growth moderated by the Labor Force Participation Rate (LFPR) in Jembrana Regency show a t-count value of 2.519 with a significance value of 0.030 (<0.05). This test indicates that the contribution of the transportation and warehousing sector has a positive and significant effect on economic

growth in Jembrana Regency when moderated by the Labor Force Participation Rate (LFPR).

The development of transportation infrastructure and warehousing systems encourages the smooth distribution of goods and services, thereby increasing the efficiency of supply chains and economic activity. When moderated by the Labor Force Participation Rate (LFPR), the effect of the transportation and warehousing sector on economic growth becomes stronger.

This shows that the increase in labor force participation provides a positive boost to the transportation and warehousing sector. A larger and more productive labor force is able to strengthen the contribution of this sector. The study by Berutu et al. (2022) also supports that positive economic growth can increase the Labor Force Participation Rate in a region.

CONCLUSION

1) Based on the Location Quotient (LQ) analysis, the contribution of the agriculture, forestry, and fisheries sector as well as the transportation and warehousing sector are classified as basic sectors in Jembrana Regency because they have values of (LQ>1).
2) Simultaneously, the contribution of the agriculture, forestry, and fisheries sector as well as the transportation and warehousing sector has a positive and significant effect on economic growth in Jembrana Regency.
3) The contribution of the agriculture, forestry, and fisheries sector as well as the transportation and warehousing sector partially has a positive and significant effect on economic growth in Jembrana Regency.
4) The Labor Force Participation Rate (LFPR) as a moderating variable is not able to moderate the contribution of the agriculture, forestry, and fisheries sector to economic growth in Jembrana Regency.
5) The Labor Force Participation Rate (LFPR) as a moderating variable can strengthen the effect of the contribution of the transportation and warehousing sector on economic growth in Jembrana Regency.

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