

The Influence of Local Own-Source Revenue, Labor Force Participation Rate, Human Development Index, and Population Size on Regional Inequality in Bali Province

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ABSTRACT

Regional development disparities remain a major issue in Bali Province, where economic growth is driven by tourism and concentrated in the southern region. This condition is suspected to widen development gaps between southern and other areas. This study analyzes the influence of Local Own-Source Revenue, Labor Force Participation Rate, Human Development Index, and population size on regional inequality in Bali Province. The research uses a quantitative approach with panel data regression for nine regencies/cities during the 2018–2024 period. Regional inequality is measured using the Williamson Index and analyzed with the Fixed Effect Model using STATA software. The results show that LOSR, LFPR, and HDI positively affect regional inequality, while population size has a significant negative effect in Bali Province.

INTRODUCTION

Every country, especially developing countries, prioritizes economic development, which is an effort to improve the general welfare of society. The concept of welfare includes qualitative aspects such as improving quality of life, equalizing access to basic resources and services, reducing social and economic disparities, and increasing per capita income and GDP (Sarpina et al., 2021). Economic development is expected to create a situation where every segment of society and region can enjoy the benefits of progress equally. Often, this goal serves as the philosophical basis for different development policies, both at the national and regional levels. However, empirical reality in many countries, including Indonesia, often shows a gap between the ideal development goals and actual achievements. Continuous interregional development disparities are one of the important issues that continue to hinder the development process. This phenomenon shows that there are significant differences in economic, social, and infrastructure progress between regions of a country (Uken Sutisna et al., 2025).

The history of Indonesia's development shows that economic activity and investment tend to be concentrated in certain areas, particularly on the island of Java and several other growth centers. As a result, areas outside these growth centers often lag behind in terms of economic and social development (Suthanaya & Suwarningsih, 2023). With this uneven pattern of development, there are "centers" that are developing and "peripheries" that are lagging behind. As a result, the gap is widening. For example, Regional Gross Domestic Product (RGDP) per capita data often shows striking differences between provinces in eastern and western Indonesia. Differences in the availability of natural resources and the quality of human resources, as well as the financial capacity of local governments, exacerbate this inequality (Akita et al., 2021). The inequality that occurs at the national level is also evident at the provincial level, one of which is in Bali Province, which has an economy that is highly dependent on tourism. A study by Sarpina S et al. (2021) shows that tourism has become a major component driving Bali's economic growth, increasing income, creating jobs, and contributing significantly to local revenue. However, this strong dependence on tourism poses new challenges, particularly in relation to regional development disparities.

Jayanthi & Utama (2021) found that tourism infrastructure and activities are most concentrated in southern Bali, particularly in Denpasar, Badung, Gianyar, and Tabanan, which constitute the Sarbagita region that accounts for more than 70% of all tourism infrastructure in Bali. On the other hand, the northern and eastern regions of Bali, such as Buleleng, Bangli, Karangasem, and Klungkung, are still lagging behind with significantly lower tourist visitation numbers and a lack of supporting facilities and infrastructure. This disparity indicates that while tourism drives overall economic growth, equitable development across regions remains a major challenge in Bali.

Based on data from Statistics Indonesia, Bali Province's GRDP ADHK 2018-2024 shows significant economic inequality between regions. During this period, Denpasar City always had the highest GRDP compared to other cities. This value increased from IDR 34,166 billion in 2018 to IDR 38,001.2 billion in

2024. This shows that the economy is still concentrated in cities, especially in the service, trade, tourism, and government administration sectors. In contrast, Bangli Regency has consistently had the lowest GRDP. It was only Rp4,350.14 billion in 2018 and will increase to Rp4,876.68 billion in 2024. This small increase shows that, although mountainous central regions such as Buleleng, Tabanan, and Karangasem are showing moderate economic growth, their GRDP values are still far below the three main coastal and urban regions (Denpasar, Badung, and Gianyar). Meanwhile, the regions with the largest GRDP contributions in Bali are still Klungkung and Bangli.

Overall, the data shows that Bali Province still has a fairly high level of regional inequality; the southern region (Denpasar, Badung, Gianyar) has a strong economic concentration, while the central and eastern regions (Bangli, Klungkung, Karangasem) have lower economic activity. This shows that Bali's economic growth is not yet evenly distributed and is still influenced by the focus on tourism in certain areas. The Williamson Index value shows disparities between regions, indicating convergence or divergence in development. A lower index value indicates less inequality, while a higher value indicates greater inequality (Aldy Purnomo et al., 2025). Based on the calculation of the Williamson Index value in 2024, the value for Bali Province reached 0.5094, an increase from 0.4797 in 2021. An index value close to 0.5 indicates a fairly large level of inequality. This increase in the index shows that certain areas in Bali continue to experience rapid growth even though other areas are experiencing a slowdown.

The development gap in Bali affects not only the economy but also social and community life. Differences in fiscal capacity between regions, reflected in variations in local revenue, are one of the main factors believed to increase development disparities between regions. Regencies or cities with high local revenue usually have more funds to build infrastructure, improve education and health services, and provide adequate public facilities for their communities (Akita et al., 2021). Conversely, regions with low Local Own-Source Revenue face significant fiscal constraints, which limit their ability to provide public facilities and promote economic growth, and enhance local competitiveness to attract investment and local economic growth (Sukwika, 2018).

According to data from the Bali Provincial Ministry of Finance's DJPK for 2018–2024, there are significant differences in the contribution of Local Own-Source Revenue from each city or regency in Bali Province. Badung Regency has consistently contributed the highest Local Own-Source Revenue, increasing dramatically from IDR 4,835.19 billion in 2018 to IDR 6,536.79 billion in 2024. This reflects the high regional revenue from the tourism sector, especially in areas such as hotels, restaurants, and entertainment. Meanwhile, Local Own-Source Revenue in areas such as Bangli, Klungkung, and Jembrana is very low in 2024. For example, Bangli's Local Own-Source Revenue is only Rp223.33 billion in 2024, and Jembrana's Local Own-Source Revenue is only Rp184.58 billion in 2024, indicating that they have limited fiscal capacity because they do not have many businesses that depend on tourism and industry.

Regions with high Local Own-Source Revenue are usually able to allocate more budget for education, job training, and infrastructure that can improve the quality of the workforce (Amal et al., 2025). Ultimately, improvements in human resource quality encourage community participation in the labor market, thereby increasing the labor force participation rate (LFPR). Conversely, a high LFPR can also strengthen Local Own-Source Revenue through increased economic activity and the local tax base, so that the two are positively correlated with each other to accelerate regional development.

The labor force participation rate (LFPR) in Bali Province shows quite clear variations between regions, according to BPS data for 2018–2024. Karangasem Regency had the highest LFPR during this period, reaching 86.01 percent in 2023 and continuing to increase to 83.74 percent in 2024. This figure indicates the high level of involvement of the working-age population in economic activities, especially in the agriculture and trade sectors. In contrast, Denpasar City had the lowest LPR, only 68.67 percent in 2021 and 69.71 percent in 2024, which shows differences in the level of involvement of the working-age population in economic activities in various regions. Karangasem and Bangli Regencies have higher LFPR than Denpasar City, but labor productivity in these areas is low due to the absence of industry and formal employment. If not balanced with inclusive development policies, equitable employment opportunities, and improved human resource quality, the LFPR disparity between regions with concentrated economic activity, such as southern Bali, and northern regions with traditional economies will persist (Central Statistics Agency, 2024).

In this situation, the Labor Force Participation Rate serves as a measure of labor engagement and also as a measure of geographical inequality in the distribution of economic opportunities. As a result, Bali's development policies do not only focus on increasing the Labor Force Participation Rate but also on improving the quality of education, vocational training, and developing productive sectors outside of tourism to create more equitable growth and boost the Human Development Index. Conversely, a low Labor Force Participation Rate can limit opportunities to improve the quality of life of the community because there are not many job opportunities and income can be earned. Ultimately, this will hinder the increase in the Human Development Index.

Based on BPS data from 2018–2024, the Human Development Index (HDI) of Bali Province continues to increase across all districts or cities, despite differences in development levels between regions. One of the main causes of regional inequality in Bali is the difference in HDI between districts or cities. Denpasar City has consistently had the highest HDI, rising from 83.3 in 2018 to 85.11 in 2024. Badung Regency has the highest HDI, 83.73 in 2024, and Karangasem Regency has the lowest HDI, 70.91 in 2024, despite an increase from 66.49 in 2018. The low human development index (HDI) value indicates that human development in this region is slower compared to other regencies or cities. This difference reflects disparities in education, health, and purchasing power among the population. Areas with high HDI, such as Denpasar City and Badung Regency, usually have better access to education services, health facilities, and economic opportunities (Hariyanto & Pramitha Purwanti, 2020).

Conversely, regencies with low HDI, such as Karangasem and Bangli, still face problems in providing these basic services to all levels of society in all regions.

The development process of a region is greatly influenced by its population. Wicaksono's (2022) research shows that the population of Bali Province tends to increase every year. This increase causes an imbalance between the population and the availability of public services and living facilities. This imbalance can increase pressure on development needs, increase the risk of unemployment, and exacerbate poverty in situations where the region's fiscal capacity is unable to accommodate population growth. There are significant variations between districts or cities in Bali Province from 2018 to 2024, according to BPS data. Denpasar City has always had the highest population, with 930.4 thousand in 2018. However, in 2024, its population will drop to 755.6 thousand. Population mobility can affect this situation, especially as a result of the COVID-19 pandemic, which has impacted the tourism and business sectors in urban areas. Conversely, Klungkung Regency has the lowest population in Bali Province. In 2018, its population was 211,500, and in 2024 it will be 222,700.

Different population sizes affect development needs and levels of inequality in each region. Areas with large populations, such as Denpasar City and Badung Regency, require improvements in public facilities such as schools, hospitals, transportation, and other basic infrastructure. Increasing the population without balancing the increase in public service capacity can exacerbate inequality (Rumani et al., n.d.). In Bali, cities and regencies with high population densities tend to place greater pressure on existing infrastructure. On the other hand, areas with smaller populations, such as Bangli and Karangasem, face difficulties in providing adequate services due to budget and resource constraints (Setiawan et al., 2022).

Therefore, development policies in Bali must take into account population distribution and regional fiscal capacity. Financial decentralization must be strengthened with a more equitable formula, prioritizing regions with high populations but low fiscal capacity, and establishing new growth centers outside the Sarbagita region (Denpasar, Badung, Gianyar, Tabanan) to reduce concentrated economic and demographic pressures (Jyanthi & Utama, 2021).

According to previous studies on regional inequality in Indonesia still show inconsistent empirical results regarding the determinants of inequality, particularly related to the influence of Local Own-Source Revenue (PAD), Labor Force Participation Rate (LFPR), Human Development Index (HDI), and population size. Some studies find significant relationships, while others report insignificant or even opposite effects. In addition, most empirical studies on regional inequality in Indonesia tend to focus on Java or the western regions of Indonesia. For example, research by Lestari and Perdana (2024) on development inequality in the Java region with variables such as the influence of Local Own-Source Revenue (PAD), Labor Force Participation Rate (LFPR), Human Development Index (HDI), and population size for the period 2022-2024 shows that PAD and population size have a positive effect, while HDI and LFPR have a significant negative effect on inequality, while research specifically examining regional disparities in Bali Province remains limited. Existing studies on Bali also tend to analyze inequality

using limited indicators such as HDI or GRDP per capita, without comprehensively examining the combined influence of fiscal capacity, labor participation, human development, and demographic factors. Therefore, there is still a research gap in understanding how these variables simultaneously influence regional inequality in Bali, particularly using recent data that capture economic dynamics before the COVID-19 pandemic, during the pandemic, and in the post-pandemic recovery period (2018–2024). This study aims to fill this gap by analyzing the influence of Local Own-Source Revenue, Labor Force Participation Rate, Human Development Index, and population size on regional inequality across regencies and cities in Bali Province (Purwanti & Setyari, 2021).

In terms of research urgency, this study is very important to improve our understanding of the factors that influence regional inequality in Bali, especially since the seven-year period (2018–2024) is considered long enough to describe changes in economic and social conditions between regions in Bali Province. This period covers the pre-COVID-19 pandemic phase, the pandemic period, and the economic recovery period that began after 2021. Therefore, this study can describe the dynamics of regional inequality in greater depth. In addition, the 2024 data is the most recent data released by official institutions at the time of the study. By collecting data up to 2024, the analysis results will be more relevant, up-to-date, and reflect the current economic development of Bali Province. The results of this study are expected to contribute empirically to the development of regional development economics literature, as well as provide consideration for regional development economics literature and serve as a basis for local government policy in formulating more inclusive and equitable development strategies between regions.

THEORETICAL REVIEW

Persistent structural problem in the regional economic development process is regional development inequality, especially in areas where economic growth is concentrated in certain sectors and locations. The tourism industry in Bali Province has developed mainly in the southern part, especially in Badung Regency and Denpasar City. Fiscal capacity, employment, human resource quality, and demographic dynamics between cities and regencies have changed due to this uneven growth pattern. Ultimately, this leads to regional development disparities.

The Core-Periphery Theory, proposed by Friedmann in 1966, is the main theoretical basis for explaining this inequality. According to this theory, core regions with better infrastructure, access to capital, and human resources tend to attract economic activity, while peripheral regions lag behind due to more limited production factors. The backwash effect, whereby resources are drawn from peripheral regions to growth centers, occurs when growth is concentrated in core regions, widening the gap between regions. Although a diffusion effect may occur in the long term, development evidence shows that the diffusion process is often slow and uneven, as seen in the development structure of the Bali region (Champion, 2008). This pattern reflects the tendency for economic activities to concentrate in certain regions, which can lead to uneven

development between core and peripheral areas. Similar patterns have also been observed in many international studies, which suggest that the concentration of economic activities in specific sectors and locations often becomes a major factor driving regional inequality, particularly in regions that rely heavily on sectoral specialization such as tourism-based economies (Iammarino et al., 2019; Rodríguez-Pose, 2020).

One of the main factors causing regional inequality is regional fiscal capacity. The ability of local governments to finance development independently is demonstrated by their own-source revenue. According to Oates' (1972) theory of fiscal decentralization, granting fiscal authority to local governments aims to improve the effectiveness of resource allocation because local governments are considered to have a better understanding of the needs of their communities. However, the effectiveness of fiscal decentralization is highly dependent on how equal fiscal capacity is across the country. Regions with high Local Own-Source Revenue can accelerate infrastructure development and public services, while regions with low Local Own-Source Revenue lag behind. This condition raises the possibility that fiscal decentralization actually increases disparities in regional development (Kaneva et al., 2023).

From an employment perspective, regional inequality is also influenced by labor market dynamics. According to Lewis's economic dualism theory (1954), economic growth in developing countries usually focuses on modern sectors in certain areas, attracting labor from traditional or less developed areas (Ghosh et al., 2007). Higher labor force participation rates (LFPR) in developed areas indicate more job opportunities and labor absorption. Conversely, regions with limited economic structures tend to have fewer productive jobs. As a result, an increase in LPR does not always lead to an increase in welfare. Due to differing labor market conditions in each region, regional inequality is increasing (Previta Ridha Putri et al., 2025).

The quality of human resources is an important factor in the formation of inequality in certain regions. The human development approach, first proposed by Sen (1985) and expanded by Boffa (2018), emphasizes that development is not only measured by economic growth but also by improvements in human capabilities. The quality of human resources is measured by the human development index (HDI), which is measured through aspects of health, education, and decent living standards. Areas with a high HDI tend to attract investment, have better productivity, and have the ability to accelerate economic growth. When the increase in HDI is not evenly distributed across all regions, then the gap between income and productivity will widen, which in turn will increase development inequality (Abreu et al., 2024). Inequality in some regions is also influenced by demographics. According to demographic transition theory (Thompson, 1929; Notestein, 1945; Frejka 2016), population growth can serve as both an opportunity and a challenge for development, depending on the region's ability to provide public services and employment. If fiscal and economic capacity is insufficient to keep pace with population growth, this can increase pressure for development. However, population concentration can actually encourage regional economic integration in areas with good economic linkages

and labor mobility. In the case of Bali, population dynamics show that population mobility towards growth centers plays a role in strengthening economic linkages between regions, so that population size can contribute to reducing inequality if supported by effective regional integration.

Overall, this theoretical review shows that the interaction between regional fiscal capacity, labor market dynamics, human resource quality, and population distribution causes regional inequality in Bali Province. As explained in the Center-Periphery Theory framework, the variables of Local Own-Source Revenue, Labor Force Participation Rate, Human Development Index, and population size influence regional inequality through different but interrelated mechanisms. To analyze the influence of these four factors on regional inequality among districts and cities in Bali Province, we use this theoretical basis.

METHODOLOGY

This study uses a quantitative approach to systematically analyze the relationship between variables. This approach was chosen because it is suitable for testing the influence of Local Revenue, Labor Force Participation Rate, Human Development Index, and population size on regional inequality in Bali Province. The units of analysis in this study include nine districts or cities in Bali Province, namely Jembrana, Tabanan, Badung, Gianyar, Klungkung, Bangli, Karangasem, Buleleng, and Denpasar City, with an observation period from 2018 to 2024.

The type of data used is secondary data in the form of panel data, which is a combination of time series data and cross-sectional data. The data was obtained from official sources, including the Central Statistics Agency of Bali Province and the Directorate General of Fiscal Balance of the Ministry of Finance of the Republic of Indonesia. The variables used in this study include the Williamson Index as an indicator of regional inequality, Local Own-Source Revenue, Labor Force Participation Rate, Human Development Index, and the population of each regency or city.

Table 1. Description of Variable

Variable	Indicator	Source
Regional inequality	Index (without units)	Central Statistics Agency
Local Own-Source Revenue	Billions of Rupiah (Rp)	Directorate General of Fiscal Balance, Ministry of Finance
Labor Force Participation Rate	Percentage (%).	Central Statistics Agency
Human Development Index	Index (numbers 0-100)	Central Statistics Agency
Population	Thousands of people	Central Statistics Agency

Regional inequality is measured using the Williamson Index, which is calculated based on the difference in per capita GRDP between regions, taking into account the proportion of the population. The higher the Williamson Index

value, the higher the level of regional inequality. Mathematically, the Williamson Index is formulated as follows:

Index Wiliamson Equation:

$$IW = \frac{\sqrt{\frac{\sum (y_i - y)^2 \cdot f_i}{n}}}{y} \dots\dots(1)$$

Note:

Iw : Index Williamson

yi : GRDP Based on Constant Prices

y : GRDP Based on Constant Prices average for all regions

fi : Number of regions i

n : Total Population of all regions

A Williamson Index value between 0 and 0.34 indicates low regional inequality, while a value between 0.35 and 0.8 indicates moderate regional inequality. A Williamson Index value greater than 0.8 indicates high regional inequality.

FEM Equation:

This study uses panel data as the basis for analysis, which combines cross-sectional and time series dimensions, where a number of analysis units, such as nine districts/cities in Bali Province, are observed repeatedly in the 2018-2024 period. The model in this study is:

$$KW = \beta_0 + \beta_1 LOSR_{it} + \beta_2 LFPR_{it} + \beta_3 HDI_{it} + \beta_4 P_{it} + \epsilon_{it} \dots(2)$$

Keterangan:

KW : Regional inequality measured using the Williamson index

LOSR : Local revenue measured using actual revenue, in billions of rupiah

LFPR : Labor Force Participation Rate, measured in percent

HDI : Human Development Index measured on a scale of 0-100

P : Population, measured in thousands

β_0 : Constant

$\beta_1 \dots \beta_4$: Coefficients

i : crossection

t : time series

ϵ_{it} : eror

RESULTS

Chow Test

To determine the most appropriate panel data regression model, the Chow test was used to compare CEM and FEM. The cross-section Chi-square probability value with a significance level (α) of 0.05 was used as the basis for this test. If the probability value was > 0.05 , the null hypothesis was accepted, meaning that CEM was the most appropriate model. Conversely, if the probability value is < 0.05 , the null hypothesis is rejected, and FEM is considered the more appropriate model.

Table 2. Chow Test

Effect Test	Prob
Cross-section Chi-square	0.0006

Source: Author's calculating using Stata

Hausman Test

To compare FEM and REM, the Hausman test is used from the cross-section random prob. value with alpha 0.05. If the result is > 0.05 , then the best model is REM, but if the result is < 0.05 , then the best model is FEM.

Table 3. Hausman Test

Effect Test	Prob
Cross-section Chi-square	0.0061

Source: Author's calculating using Stata

Based on the results of the Chow and Hausman tests, it can be concluded that FEM is the most suitable model to use in this study. Therefore, the Lagrange Multiplier test is not used further because it is not necessary for the process of determining the best model.

Multicollinearity Test

Multicollinearity testing was conducted to detect high correlations between independent variables in the regression model. If the correlation coefficient between variables is less than 0.80, the model is considered free of multicollinearity. The test results for this study, in the form of a correlation matrix between independent variables, can be seen in Table 4.4. The correlation value between variable X1 and X2 is $-0.3347 < 0.80$, the correlation coefficient of X1 and X3 is $0.5910 < 0.80$, and the correlation coefficient of X1 and X4 is $0.3083 < 0.80$, while the correlation between X2 and X3 is $-0.6846 < 0.80$ and X2 and X4 is $-0.6846 < 0.80$, it can be concluded that variables X1, X2, X3, and X4 are free from multicollinearity.

Table 4. Multicollinearity Test

	X1	X2	X3	X4
X1	1.000			
X2	-0.3347	1.000		
X3	0.5910	-0.6846	1.000	
X4	0.3083	-0.4916	0.5757	1.000

Source: Author's calculating using Stata

The results of the multicollinearity test show that the independent variables do not exhibit multicollinearity because their values are < 0.80 . This indicates that the regression model used in this study can be considered valid.

Heteroscedasticity Test

To test for heteroscedasticity, the probability value is calculated. If the probability value is > 0.05 , then heteroscedasticity does not occur.

Table 5. Heteroscedasticity Test

Effect Test	Prob
Cross-section Chi-square	0.8335

Source: Author's calculating using Stata

Partial Test (t-test)

Table 6. Partial Test

Var	Coef	Std. Err	t-Statistic	Prob
LOSR	0.0000000510	0.0000000168	3.03	0.004*
LFPR	0.0008706	0.000391	2.23	0.030**
HDI	0.00417	0.0009075	4.60	0.000*
P	-0.00004	0.0000218	-1.83	0.073***
_cons	0.126874	0.0662845	1.91	0.061***

Source: Author's calculating using Stata

Note:

*: Significant at the 1% significance level ($\alpha = 0.01$)

** : Significant at the 5% significance level ($\alpha = 0.05$)

***: Significant at the 10% significance level ($\alpha = 0.10$)

The t-test results for the local revenue variable obtained a t-value of 3.03 $>$ the t-table value at a significance level of 1% (2.66). And the significance value was $0.004 < \alpha = 0.01$. Therefore, H_1 was accepted at a significance level of 1%. This indicates that local revenue has a significant effect on regional inequality, where an increase in local revenue tends to be followed by an increase in regional inequality due to the uneven distribution of local revenue among districts/cities.

The t-test result for the Labor Force Participation Rate variable obtained a t-value of 2.23 $>$ the t-table value at a significance level of 5% (2.00). The significance value of $0.030 < \alpha = 0.05$, H_1 is accepted at a significance level of 5%.

This means that the Labor Force Participation Rate has a significant effect on regional inequality at a significance level of 5 percent.

The t-test result for the HDI variable shows a t-value of 4.60 > the t-table value at a significance level of 1% (2.66). The significance value of 0.000 < $\alpha = 0.01$, H_1 is accepted at a significance level of 1%. This indicates that HDI has a significant effect on regional inequality, where regions with higher HDI tend to experience faster development, thereby widening the gap between regions.

The t-test results for the population variable show a t-value of -1.83 > the t-table value at a significance level of 10% (1.67). The significance value of 0.073 < $\alpha = 0.10$, H_1 is accepted at a significance level of 10%. This means that population size has a significant negative effect at a significance level of 10%.

Simultaneous Test (F-test)

Table 7. Simultaneous Test

F-statistic	4.22
Prob (F-statistic)	0.0006

Source: Author’s calculating using Stata

Based on the results of simultaneous testing (F test), a calculated F value of 4.22 was obtained, while the F table at a significance level of 5% was 2.54. Because the calculated F value of 4.22 > the F table value of 2.54 and the Prob(F-statistic) value of 0.0006 < 0.05, H_1 is accepted. The findings show that Local Own-Source Revenue, Labor Force Participation Rate, Human Development Index, and the population size simultaneously have a significant effect on regional inequality. These results indicate that the four variables can explain the overall variation in regional inequality. In other words, changes in Local Own-Source Revenue, Labor Force Participation Rate, Human Development Index, and the population size simultaneously play a role in increasing or decreasing the level of inequality between regions.

Coefficient of Determination (R²)

Table 8. Coefficient of Determination (R²)

R-squared	0.5313
Adjusted R-square	000

Source: Author’s calculating using Stata

The R-squared value (within) is 0.5313 based on the FEM estimation results. This indicates that 53.13% of the variation in regional inequality between districts or cities in Bali Province can be explained by the variables of Local Own-Source Revenue, Labor Force Participation Rate, Human Development Index, and the population used in the research model. Thus, the model is able to explain more than half of the variation in regional inequality, while the remaining 46.87%

is influenced by other factors outside the model that were not examined in this study.

DISCUSSION

The results of the analysis, based on simultaneous statistical testing, show that the variables of Local Own-Source Revenue, Labor Force Participation Rate, Human Development Index, and population together have a significant effect on regional inequality in Bali Province. Interregional inequality is a crucial issue in regional development planning, which can be understood through Friedmann's Core-Periphery Theory framework. This theory argues that economic growth tends to be concentrated in core regions supported by adequate access to capital, infrastructure, and human resources. Meanwhile, peripheral regions grow more slowly due to limitations in production factors and economic activity. The findings of this study confirm that this inequality is significantly influenced by several factors, namely Local Own-Source Revenue, Labor Force Participation Rate, Human Development Index, and the population, each with different mechanisms of influence.

Local Own-Source Revenue has a significant positive relationship with regional inequality. This shows that the increase in Local Own-Source Revenue is more concentrated in more developed regions such as Badung and Denpasar, which rely on the tourism and service sectors. This pattern is in line with Oates' Fiscal Decentralization Theory (1972), which states that decentralization can only reduce disparities if fiscal capacity between regions is relatively balanced (Kaneva et al., 2023). Local Own-Source Revenue inequality creates a fiscal capacity gap, where regions with high Local Own-Source Revenue can more freely build infrastructure and public services. This finding is supported by studies by Wawan Erizona et al. (2025) and Akita et al. (2021), which confirm that fiscal disparities are the main source of regional inequality. Thus, Local Own-Source Revenue is the most dominant variable because it directly determines the ability of each regency or city in Bali to fund its development.

The HDI also shows a significant positive influence. This suggests that improvements in quality of life and human capabilities occur more rapidly in developed regions that have better access to education and health care. This phenomenon is in line with Amartya Sen's Capability Theory, which highlights that inequality arises when opportunities for self-development are not distributed evenly (Abreu et al., 2024). In Bali, areas with high HDI experienced more rapid development acceleration, widening the gap with areas with low HDI. This finding is reinforced by Rahayu's (2023) research, which concludes that HDI can actually increase inequality if the growth of human resources between regions is not balanced. Thus, HDI contributes significantly because human development achievements in Bali are not yet evenly distributed.

The results of the analysis confirm that population size has a significant negative relationship with regional inequality. This means that population concentration and growth are accompanied by a more equitable distribution of development in Bali. This phenomenon is in line with the Demographic Transition Theory (Thompson, 1929; Notestein, 1945; Frejka, 2016), which explains that in the

advanced phase of population transition, population mobility acts as the main mechanism in distributing economic opportunities and human resources. In Bali, migration flows towards growth centers not only concentrate the population, but also spread the benefits of development back to the areas of origin through remittances and cross-regional economic linkages. Thus, areas with large populations actually function as drivers of inclusive growth, narrowing the development gap with smaller areas.

This finding is supported by research conducted by Nababan and Robertus (2024) in South Sumatra, which also concluded that population size can reduce inequality when supported by economic integration and effective interregional mobility. Therefore, the population size variable contributes significantly because the population dynamics in Bali have formed a natural network of equity that strengthens regional connectivity and cohesion. In summary, this study concludes that regional disparities in Bali Province are mainly influenced by four factors: fiscal capacity inequality, disparities in labor transformation, unequal quality of human resources, and variations in population size and distribution. Interestingly, population size actually shows a significant negative effect: population concentration in growth centers such as Denpasar and Badung does not necessarily deepen disparities, but can create a spillover effect that promotes economic equity in surrounding areas.

This implies that an integrated and equitable policy approach is needed. Equal distribution of fiscal capacity, improvement of labor quality, acceleration of human development, and targeted population distribution management are key to ensuring that economic growth is not only concentrated in the center, but can be enjoyed equally throughout Bali.

CONCLUSIONS AND RECOMMENDATIONS

This study indicates that regional inequality in Bali remains closely related to differences in fiscal capacity, labor force participation, human development, and population distribution across districts and cities. The concentration of these factors in several regions reflects that economic activities and development opportunities are still unevenly distributed. These findings suggest the importance of strengthening more inclusive regional development policies, particularly by improving human capital, enhancing fiscal capacity in less developed areas, and expanding economic opportunities beyond the main growth centers. With more balanced development efforts, the benefits of economic growth in Bali are expected to be shared more evenly among all regions.

FURTHER STUDY

In interpreting the findings of this study, it should be noted that every study has limitations. To explain regional inequality in Bali Province, this study only uses four independent variables: Local Own-Source Revenue, Labor Force Participation Rate (LFPR), Human Development Index (HDI), and population. However, regional inequality is a complex phenomenon and is influenced by many other factors, such as infrastructure, investment, regional leading sectors, urbanization rates, and fiscal and development policies.

In addition, the only indicator used in this study is the Williamson Index to measure regional inequality. Although this index is often used in research on regional inequality, the use of only one indicator is not sufficient to describe aspects of regional inequality more comprehensively. Furthermore, this study is limited to the 2018–2024 period and only covers nine districts or cities in Bali Province. As a result, the results cannot be generalized to other areas or longer periods. Given these limitations, future research should consider additional relevant variables to enrich the analysis of regional inequality. These variables include regional capital expenditure, private investment, infrastructure, poverty levels, and leading economic sectors. Further research could also use additional inequality metrics such as the Theil Index or regional Gini Index for comparison. In addition, it is hoped that the use of a longer research period or the expansion of research to other provinces will provide a broader and more in-depth picture of the dynamics of regional inequality in Indonesia.

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