Economic Growth Dynamics in Central Sulawesi: The Role of Public Spending, Inequality, and Socio-Economic Factors

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ABSTRACT

This research examines the patterns of economic development in Central Sulawesi, emphasizing the impact of capital spending, wealth disparity, poverty levels, historical Gross Regional Domestic Product, joblessness, and the Human Development Index. The investigation employs panel data from districts and cities spanning 2016-2021, utilizing a dynamic panel regression approach to assess how lagged independent variables affect contemporary economic expansion. Analysis findings demonstrate that municipal capital investments significantly and positively influence economic development, suggesting that government expenditure on infrastructure and human capital serves as a primary catalyst for enhanced regional economic performance. On the other hand, income inequality and unemployment have a significant negative influence, indicating that social inequality and low labor utilization are obstacles to growth. The poverty and Human Development Index variables showed a not significant influence, indicating the need for further studies related to the mediation variables and a longer observation period. Past Gross Regional Domestic Product has also been shown to have a significant positive effect, confirming the effect of temporal dependence in the regional economic development process. These findings strengthen the understanding of the importance of effective fiscal policies and efforts to reduce inequality and unemployment to promote inclusive and sustainable economic growth in Central Sulawesi.

Keywords*: Capital Expenditure, Economic Growth, Human Development Index, Inequality, Poverty, Unemployment.*

ABSTRAK

Penelitian ini mengkaji pola perkembangan ekonomi di Sulawesi Tengah dengan menekankan dampak pengeluaran modal, kesenjangan kekayaan, tingkat kemiskinan, Produk Domestik Regional Bruto historis, pengangguran, dan Indeks Pembangunan Manusia. Investigasi ini menggunakan data panel kabupaten dan kota yang mencakup periode 2016-2021, memanfaatkan pendekatan regresi panel dinamis untuk menilai bagaimana variabel independen dengan lag mempengaruhi ekspansi ekonomi kontemporer. Temuan analisis menunjukkan bahwa investasi modal pemerintah daerah secara signifikan dan positif mempengaruhi pembangunan ekonomi, mengindikasikan bahwa pengeluaran pemerintah untuk infrastruktur dan modal manusia berfungsi sebagai katalisator utama untuk meningkatkan kinerja ekonomi regional. Di sisi lain, ketimpangan pendapatan dan pengangguran memiliki pengaruh negatif yang signifikan, menunjukkan bahwa ketimpangan sosial dan rendahnya pemanfaatan tenaga kerja menjadi hambatan pertumbuhan. Variabel kemiskinan dan Indeks Pembangunan Manusia menunjukkan pengaruh yang tidak signifikan, mengindikasikan perlunya studi lebih lanjut terkait variabel

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mediasi dan periode observasi yang lebih panjang. Produk Domestik Regional Bruto masa lalu juga terbukti memiliki pengaruh positif yang signifikan, mengonfirmasi adanya efek ketergantungan temporal dalam proses pembangunan ekonomi daerah. Temuan ini memperkuat pemahaman tentang pentingnya kebijakan fiskal yang efektif dan upaya mengurangi ketimpangan serta pengangguran untuk mendorong pertumbuhan ekonomi yang inklusif dan berkelanjutan di Sulawesi Tengah.

***Kata kunci**: Belanja Modal, Pertumbuhan Ekonomi, Indeks Pembangunan Manusia, Ketimpangan, Kemiskinan, Pengangguran.*

INTRODUCTION

The progress of a region can be measured by its economic growth, reflecting its ability to generate value and enhance population well-being sustainably. In Indonesia, economic growth patterns vary significantly across regions due to diverse structural and socioeconomic factors (Hismendi et al., 2023; Suwandaru et al., 2021). Central Sulawesi, endowed with substantial natural resources, faces challenges in achieving inclusive and sustainable economic growth. Recent studies highlight that public spending, income inequality, and socioeconomic factors critically influence regional economic growth (Maulid et al., 2021; A'yun & Irwandi, 2022). Economic growth serves as a key indicator of a region's development performance, and without sustained progress, regions may encounter rising unemployment and poverty (Arrafiqi & Arifin, 2024).

Public investments in education, healthcare, and infrastructure significantly enhance workforce skills and business efficiency, driving economic growth (Nairobi & Respitasari, 2021; Ozyilmaz et al., 2022). However, the effectiveness of government spending depends on policy quality and economic conditions (Sasongko et al., 2019). Research indicates that local government capital expenditure has a positive impact on long-term economic growth, contingent upon efficient resource management (Isnaini & Sasana, 2022; Amri et al., 2023). Capital expenditure acts as a catalyst for regional economic progress (Hasan, 2023; Payapo et al., 2023).

Income inequality poses a significant barrier to sustainable economic growth, even with substantial public spending (Legoh et al., 2024). While moderate inequality may spur productivity, high inequality often hampers economic progress and social cohesion (Arifin, 2024). In Central Sulawesi, stark economic disparities between administrative regions exacerbate this challenge. The core issue in regional economic growth is optimizing public spending to maximize welfare while addressing inequality and socioeconomic barriers. Studies suggest that transparent fiscal policies, investment in productive sectors, and social programs aimed at reducing poverty and unemployment are crucial for inclusive growth (Ahuja & Pandit, 2020; Nailufar et al., 2023). These solutions require adaptation to regional characteristics, particularly under fiscal decentralization, which empowers local governments to set development priorities (Ghofur & Rachmawati, 2019).

Previous research , highlighting its contribution to promoting long-term economic growth through enhanced human resources (Nairobi & Respitasari, 2021; Suwandaru et al., 2021). Capital expenditure generates a multiplier effect, boosting regional economies (Chaerani & Firmansyah, 2024). Efficient budget management is vital for reducing inequality and enhancing social inclusion (Amri et al., 2023; Mbanyele, 2019). However, the impact of socioeconomic factors, such as poverty and unemployment, on local economies, particularly in regions like Central Sulawesi with unique geographical and demographic characteristics, remains underexplored (Marasanti & Verico, 2023; Noor, 2024).

While many studies examine public spending, inequality, and socioeconomic factors separately, few integrate these aspects using panel data at the district/city level in Central Sulawesi. This study addresses this gap by analysing economic growth dynamics, focusing on capital expenditure, income inequality, poverty, past GDP, unemployment, and the

Human Development Index (HDI). Using a panel data approach for the period 2016–2021 at the district/city level, it captures both temporal and spatial effects. The novelty lies in its dynamic panel model, which integrates fiscal and socioeconomic variables to provide targeted policy recommendations for inclusive and sustainable growth in Central Sulawesi.

LITERATURE REVIEW & HYPOTHESIS DEVELOPMENT

Public Spending and Economic Growth

Public spending plays a crucial role in fiscal policy and has the potential to impact the rate of economic expansion. Research indicates that dedicating government funds to sectors like education, healthcare, and infrastructure can lead to improved productivity and boost economic development (Hismendi et al., 2023; Suwandaru et al., 2021). Conversely, inefficient spending and inappropriate allocation can lead to waste and reduce the effectiveness of fiscal stimulus on growth (Amri et al., 2023; Waweru, 2021). In the context of Indonesia, Sasongko et al. (2019) affirms the long-term relationship between government spending and economic growth, by Wagner's law which shows an increase in spending in line with economic growth.

Furthermore, the quality of public spending allocation has a significant influence on its economic impact. Studies emphasize that targeted investments in productive assets, such as transportation networks and educational facilities, create multiplier effects that enhance regional economic activity (Chaerani & Firmansyah, 2024; Payapo et al., 2023). However, the success of these investments hinges on governance factors, including transparency and accountability in budget management, to prevent resource misallocation and ensure sustainable growth (Mbanyele, 2019; Cegarra-Navarro et al., 2023). After reviewing the relevant literature, the hypothesis for this study can be summarized as such:

H1: Local government capital expenditure has a significant positive effect on economic growth.

Income Inequality and Economic Growth

Income inequality is a phenomenon that has a dual impact on economic growth. Kuznets' hypothesis posits an inverted-U-shaped relationship between inequality and growth, where inequality initially increases during the initial growth phase and decreases in the subsequent phase (Acharya & Acharya, 2022; Arifin, 2024). However, high levels of inequality can stunt growth by lowering consumption and social stability (Akinbode et al., 2020; Zhang & Zhang, 2021). Studies in Indonesia indicate that uncontrolled inequality exacerbates disparities between regions, influencing the distribution of economic development benefits (Ihwandi & Khoirunurrofik, 2023).

Moreover, regional disparities in income distribution can exacerbate economic inefficiencies by limiting access to opportunities for lower-income groups, thereby reducing overall economic dynamism. Policies aimed at redistributing resources, such as progressive taxation and social welfare programs, are crucial in mitigating the adverse effects of inequality and promoting inclusive growth (Legoh et al., 2024). In the context of Central Sulawesi, where economic gaps between urban and rural areas persist, addressing inequality is essential for balanced regional development.Drawing from the preceding literature review, the following hypotheses are proposed for this study:

H2: Income inequality has a significant negative influence on economic growth.

Socio-Economic and Growth Factors

Socioeconomic factors such as poverty, unemployment, and the human development index (HDI) also play an important role in the dynamics of regional economic growth. Poverty and unemployment are typically associated with reduced consumption and investment capacity, thereby hindering growth (Noor, 2024; Ilyas et al., 2025). On the

other hand, the increase in HDI which includes education and health aspects contributes to improving the quality of human resources which encourages productivity and economic growth (Anshory et al., 2023; Semkin et al., 2023). Research by Gunawan et al. (2023) Using the dynamic panel method emphasizes the importance of taking into account socio-economic factors simultaneously to understand the variation in economic growth between regions in Indonesia.

Additionally, the interplay between socioeconomic factors creates complex dynamics that influence economic outcomes. For instance, high poverty levels often exacerbate unemployment by limiting access to education and skills training, creating a cycle of economic stagnation (Bue & Palmisano, 2021). Conversely, improvements in HDI, through better healthcare and education, can break this cycle by enhancing workforce capabilities and fostering innovation, particularly in regions like Central Sulawesi where human capital development is still evolving (Nabila & Majid, 2023). Given the insights from the literature examined, the hypotheses guiding this research are as follows:

H3: The poverty level has a significant negative effect on economic growth.
H5: The unemployment rate has a significant negative effect on economic growth.
H6: The Human Development Index (HDI) has a significant positive effect on economic growth.

Past Regional Gross Domestic Product (GDP) and Economic Growth

Past GDP variables (lagged GDP) are often used as indicators of economic growth momentum that can affect current economic conditions. Dini and Aji (2022) show that investment and economic growth in the previous period had a significant impact on current economic growth, reflecting the existence of a strong temporal linkage in regional economic dynamics. The use of past GDP variables in the dynamic panel model enables the capture of the effects of this delay and the control for other variables that simultaneously affect economic growth. This reinforces the understanding that economic growth is not only influenced by current conditions, but also by economic performance in previous periods (Gunawan et al., 2023).

The significance of past GDP highlights the path-dependent nature of economic growth, where regions with stronger historical economic performance tend to maintain growth momentum (Rangkuti et al., 2022). However, this also implies that regions with weaker past performance may face challenges in catching up, necessitating targeted interventions to bolster economic foundations and sustain long-term growth (Achmad & Prayitno, 2020). In Central Sulawesi, leveraging past economic gains through strategic investments can amplify growth trajectories. In light of the theoretical framework discussed above, this research puts forward the following hypothesis:

H4: Past GDP has had a significant positive effect on economic growth.

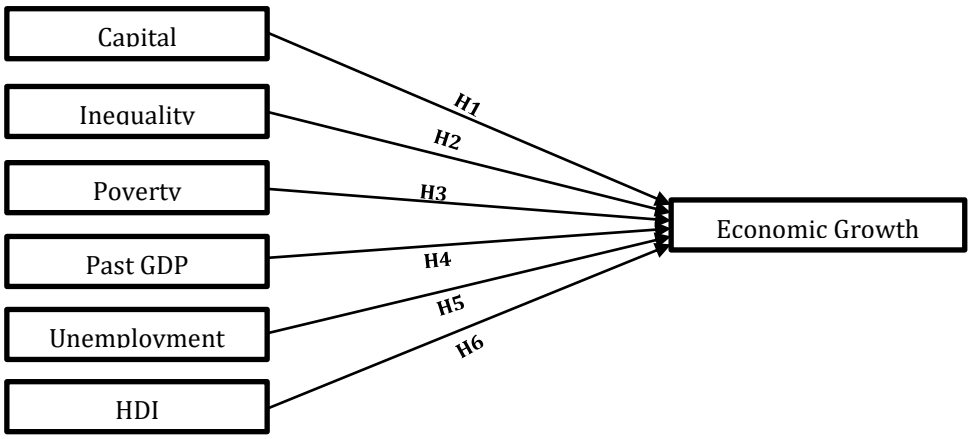

Figure 1. Framework of Thought

The Figure 1 illustrates a conceptual framework analyzing the determinants of economic growth. It highlights six key independent variables: capital expenditure, inequality, poverty, past GDP, unemployment, and Human Development Index (HDI), each hypothesized to influence economic growth, represented by hypotheses H1 through H6. These hypotheses suggest individual relationships between each factor and economic growth. For instance, capital expenditure (H1) may positively stimulate growth through infrastructure and investment, while inequality (H2) and poverty (H3) might negatively affect it by reducing access to opportunities. Past GDP (H4) reflects the potential path dependence or momentum in economic performance. Unemployment (H5) is likely seen as a constraint on productivity, and HDI (H6) represents the role of human capital and well-being in driving long-term growth. The arrows indicate direct influence, with all variables converging toward economic growth as the primary dependent variable. This framework can guide empirical analysis in development economics or regional planning studies.

RESEARCH METHODS

This research employs a quantitative method and dynamic panel data analysis to explore the evolution of economic prosperity in Central Sulawesi. The study relies on secondary data collected from various districts and cities within Central Sulawesi Province between 2016 and 2021. Panel data enable researchers to analyze both changes over time and differences across regions, offering a holistic view of the various factors impacting economic development in a specific district or city. Data was obtained from the Central Statistics Agency (BPS) of Central Sulawesi and official local government documents that provide information related to the variables analyzed, such as economic growth, local government capital expenditure, income inequality, poverty rate, unemployment rate, and Human Development Index (HDI).

In this research, economic growth is the focus of study and is determined by examining the Gross Regional Domestic Product (GDP) at the local level of districts and cities. The independent variables analyzed included six main aspects: local government capital expenditure, income inequality, poverty rate, past GDP, unemployment rate and HDI. The application of lag to each variable aims to capture the delayed effect of the impact of these variables on economic growth, considering that policies and socio-economic conditions usually take time to realize their real impact.

The analysis method used is a dynamic panel data regression model. This approach was chosen due to its ability to integrate temporal and spatial effects and address endogeneity issues that may arise from the relationships between variables, especially when using lag variables as predictors (Gunawan et al., 2023; Waqar et al., 2021). This model enables the testing of the influence of independent variables on economic growth by considering the temporal relationship between data and the inter-unit analysis, thereby providing a deeper and more reliable understanding of regional economic growth dynamics.

The overall methodological procedures applied in this study are based on best practices in dynamic panel data analysis, as developed in the empirical economic literature and advanced statistical methods (Bretó et al., 2020; Montes-Rojas et al., 2020). This approach ensures that the research results are not only statistically valid but also able to make a valuable empirical contribution to the development of science on regional economic growth, especially in the context of Central Sulawesi.

RESULTS

The purpose of this research is to analyze the economic growth trends in Central Sulawesi, particularly looking at how factors such as capital expenditure, income inequality, poverty, past GDP, unemployment, and the human development index influence this growth. The outcomes of the analysis are outlined below:

The normality test was conducted to confirm that the data met the assumption of normal distribution. The Jarque-Bera Test was used to conduct the normality test on the residual regression model. The findings are outlined in the table displayed below as Table 1.

Table 1. Normality test results

Statistic	Value
Observation	26
Jarque-Bera	1.747506
Probability	0.417382

Based on Table 1, the Jarque-Bera test for residual normality resulted in a p-value of 0.417, higher than the accepted significance level of 0.05. This suggests that the residual conforms well to a normal distribution, confirming the validity of statistical inference in the dynamic panel model employed.

Multicollinearity testing was carried out to analyze the relationship among Capital Expenditures *[LOG(DSEXPENDITURE)-4]*, Inequality *[GR(-4)]*, Poverty *[LOG(POVERTY)-1]*, Past GDP *[LOG(GRDP)-3]*, Unemployment *[LOG(UNEMPLOYMENT)-4]*, Human Development Index (HDI) *[HDI(-3)]* and Economic Growth. These results can be seen in the following table 2:

Table 2. Multicollinearity Test Results

Variables	Capital Expenditure	Inequality	Poverty	Past GDP	Unemployment	HDI
Capital Expenditure	1.000000	0.211377	0.242955	0.411254	0.310452	-0.067826
Inequality	0.211377	1.000000	0.057439	-0.013418	0.208873	-0.080165
Poverty	0.242955	0.057439	1.000000	0.276511	0.570927	0.014846
Past GDP	0.411254	-0.013418	0.276511	1.000000	0.607083	0.218097
Unemployment	0.310452	0.208873	0.570927	0.607083	1.000000	0.158818

Based on the results of the multicollinearity test (Table 2), a varied relationship was found between several independent variables analyzed. Past GDP Variables and Unemployment It has a moderate positive correlation of 0.607, which indicates a fairly close relationship between the two variables. This indicates the potential for multicollinearity that needs to be considered in regression analysis, because this fairly strong relationship can affect the stability of the regression coefficient estimation. In addition, there was a moderate positive correlation between unemployment and poverty by 0.571, which indicates a significant relationship between the two variables in the model. Other correlations, such as between past GDP and poverty of 0.277, indicate a lower relationship but are still relevant in the context of the analysis.

Overall, no correlation was found between variables that achieved very high or perfect values (close to 1 or -1), so the potential for heavy multicollinearity can be said to be low. However, a moderate correlation between some of these variables should be a concern to ensure the stability of the regression model. Therefore, although it is important to note the powerful relationships between some of the variables in this model, the regression model used is acceptable.

Choosing the appropriate model in panel data analysis, whether it be the Common Effect, Fixed Effect, or Random Effect, is crucial for obtaining accurate and effective estimation results. Various statistical tests, such as the Chow test, the Hausman test, and the Lagrange Multiplier test, were conducted to determine the most fitting model. The outcomes of these tests are displayed in Table 3 for reference.

Table 3. Model Selection Test Results

Chow Test	**Hausman Test**	**Lagrange Multiplier Test**
H_0; Common Effect Model H_1; Fixed Effect Model	H_0; Random Effect Model H_1; Fixed Effect Model	H_0; Common Effect Model H_1; Random Effect Model
F-Statistic Prob. 0.0000	Chi-sq. Statistic Prob. 1.0000	Breusch-Pagan Cross-section Prob. 0.0000
Results	Results	Results
Receive H1 with a p-value of 0.0001 less than 0.05	Accepting the null hypothesis and choosing REM	Receiving H1 with a p-value of 0.0000 less than 0.05 (REM)

Based on Tabel 3, the panel data analysis results revealed conflicting recommendations for optimal model selection across the three statistical tests performed. Initially, the Chow test yielded a p-value of 0.0000, which is substantially below the 0.05 threshold, leading to the rejection of the null hypothesis and support for the pooled effect model's adequacy. This indicates that the fixed effects model is preferable due to significant cross-sectional variations that require consideration. However, when Hausman's test was carried out to compare fixed effect and random effect models, a p-value of 1.0000 was obtained which indicates a failure to reject the zero hypothesis, so that the random effects specification exhibits greater consistency and efficiency relative to its fixed effects counterpart. Moreover, the Lagrange Multiplier examination (Breusch-Pagan test) yielded a p-value of 0.0000, leading to the rejection of the common effects model while advocating for the random effects alternative that successfully captures meaningful cross-sectional variation. Although the Chow test indicates preference for the fixed effects model, the Hausman test findings which constitute the primary determinant in selecting between fixed and random effects support the random effects methodology. Accordingly, based on the aggregate test evidence, the random effects model represents the most appropriate and efficient selection for this panel data investigation.

Based on the results of regression analysis, this model shows the influence of Capital Expenditure, Inequality, Poverty, Past GDP, Unemployment, and Human Development Index (HDI) to Economic Growth. These results can be seen in the following table 4:

Table 4. Panel Data Regression Test

Hypothesis	**Coefficient**	**Std. Error**	**t-Statistic**	**Prob.**
Constant	9780.253	32839.46	0.297820	0.7691
Capital Expenditure → Economic Growth	798.4561	204.6388	3.901783	0.0010
Inequality → Economic Growth	-45568.23	6303.452	-7.229092	0.0000
Poverty → Economic Growth	-8969.829	5629.800	-1.593277	0.1276
Past GDP → Economic Growth	15108.88	4014.519	3.763559	0.0013
Unemployment → Economic Growth	-594.2939	176.5768	-3.365640	0.0032
HDI → Economic Growth	0.037400	0.180659	0.207022	0.8382
R-squared				0.776142
Adjusted R-squared				0.705450
F-statistic				10.97921
Prob(F-statistic)				0.000026

Based on the results of regression analysis (Table 4), the model used utilizes dynamic variables with time-series data, which takes into account the influence of variables in the previous period on current economic growth. Variables such as Capital Expenditure, Inequality, Poverty, Past GDP, Unemployment and Human Development Index (HDI) represent the value of these variables with a certain time lag, so that the model can capture the temporal effects or delays of the influence of these variables in the previous period.

An R-squared value of 0.776 indicating that it effectively captures the relationships between variables. A high F-statistic of 10.979, along with a low p-value of 0.000026, demonstrates that the overall model is statistically significant and appropriate for analysis.

Capital expenditure It shows a coefficient of 798.4561 with a p-value of 0.0010, which is smaller than 0.05. This indicates that capital expenditure in the previous period had a

significant positive influence on current economic growth. The increase in capital expenditure contributes to increased economic growth in the region. Therefore, the hypothesis that capital expenditure has a positive effect on economic growth is accepted.

The inequality variable demonstrates a coefficient of -45,568.23, accompanied by a p-value of 0.0000, substantially below the 0.05 threshold. This negative coefficient indicates that income disparity from the preceding period exerted a significant adverse impact on contemporary economic growth. Consequently, escalating inequality diminishes economic growth rates. Thus, the hypothesis proposing that inequality adversely influences economic growth is validated.

The poverty variable exhibits a coefficient of -8,969,829 with a corresponding p-value of 0.1276, exceeding 0.05. While this negative coefficient suggests poverty's tendency to constrain economic growth, the relationship lacks statistical significance. Accordingly, the hypothesis regarding poverty's impact on economic growth is not supported.

The lagged GDP variable presents a coefficient of 15,108.88 with a p-value of 0.0013, falling below 0.05. This demonstrates that historical GDP exerts a substantial positive effect on current economic performance. Previous GDP improvements contribute meaningfully to enhanced economic growth. Hence, the hypothesis stating that past GDP has a positive influence on economic growth is confirmed.

The unemployment variable displays a coefficient of -594.2939 with a p-value of 0.0032, below 0.05. This negative coefficient reveals that prior unemployment significantly hampers current economic growth. Elevated unemployment rates consequently impede economic expansion. Therefore, the hypothesis asserting unemployment's negative impact on economic growth is accepted.

The Human Development Index (HDI) exhibits a coefficient of 0.0374 with a corresponding p-value of 0.8382, surpassing the 0.05 threshold. This suggests that while HDI from the preceding period demonstrates a positive relationship with economic growth, the effect lacks statistical significance within this analytical framework. Consequently, the hypothesis proposing that HDI significantly influences economic growth cannot be supported.

The analytical findings reveal that historical capital expenditure and GDP exert positive and statistically significant effects on economic growth, whereas inequality and unemployment demonstrate significant adverse impacts. Conversely, the effects of poverty and HDI on economic growth fail to achieve statistical significance in this modeling framework.

DISCUSSION

This study affirms that capital spending by local governments has a noticeable and beneficial impact on the economy of Central Sulawesi. These findings are in line with a Keynesian perspective that emphasizes the role of public spending in driving economic activity, especially through capital investments such as infrastructure, education, and the health sector (Ahuja & Pandit, 2020; Cegarra-Navarro et al., 2023). Targeted capital expenditure can strengthen production capacity and increase labor productivity, thereby triggering sustainable economic growth. Furthermore, research by Hismendi et al. (2023) and Suwandaru et al. (2021) highlights those investments in education and healthcare directly enhance human capital quality, crucial for long-term economic development. Infrastructure development, as noted by Nairobi and Respitasari (2021), facilitates economic access and reduces transaction costs, removing growth barriers. However, the effectiveness of capital expenditure relies on efficient budget allocation and transparency, as emphasized by Amri et al. (2023) and Waweru (2021).

Income inequality has been shown to greatly hinder economic growth. This aligns with the idea that high inequality reduces the purchasing power of most people, leading to a decrease in overall demand and hindrance to economic activity (Akinbode et al., 2020; Zhang & Zhang, 2021). Inequality also increases the risk of social instability that could disrupt the investment and growth climate (Arifin, 2024). The Kuznets hypothesis suggests that inequality initially rises during early development but declines with

economic maturity (Acharya & Acharya, 2022). In Central Sulawesi, persistent regional disparities exacerbate inequality, necessitating fiscal redistribution policies to promote inclusivity (Ihwandi & Khoirunurrofik, 2023). Such interventions are vital to maximize growth potential and reduce social gaps.

The poverty factor examined in this research had a detrimental impact, although it did not reach statistical significance. This suggests that the correlation between poverty and economic growth in Central Sulawesi remains intricate and inconclusive based on the current data available. Poverty is commonly acknowledged as a key hindrance to economic progress since it diminishes individuals' buying power and domestic investment potential, both of which are crucial in enhancing overall demand (Ilyas et al., 2025; Noor, 2024). The lack of significance may stem from data limitations or the short observation period. Further research incorporating longitudinal data and mediating factors, such as education and health access, could clarify poverty's impact (Bue & Palmisano, 2021; Hill, McWhinnie, Kumar, & Gregg, 2023).

The significant positive influence of past GDP on current economic growth indicates a substantial temporal (path dependence) effect in Central Sulawesi. Study by Dini and Aji (2022) underlining that past economic performance serves as a momentum that drives economic growth in the next period, this is reflected in the pattern of sustainable and stable economic development. Gunawan et al. (2023) note that dynamic panel models effectively capture these lagged effects, highlighting the importance of economic stability. Regions with stronger economic bases grow faster, while lagging areas risk stagnation, necessitating policies to strengthen local economies (Rangkuti et al., 2022).

Unemployment has a majorly detrimental effect on economic growth, as demonstrated by Okun's Law which highlights the correlation between unemployment levels and economic productivity (Dankumo et al., 2019). In Central Sulawesi, the still relatively high unemployment rate, especially among youth and new graduates, reflects the lack of optimal use of human resources. This reduces productivity and purchasing power, which is crucial for maintaining the dynamics of economic growth (Ilyas et al., 2025). Unemployment also contributes to social instability, deterring investment and growth (Aikaeli et al., 2021). Vocational training and job creation are essential to reduce unemployment and bolster economic foundations.

Although HDI has a positive influence, the results are not statistically significant in this model, which may be due to the limited duration of the data and the complexity of the relationship between the quality of human resources and economic growth. Anshory et al. (2023) emphasize that education and health improvements in HDI enhance productivity over time. In Central Sulawesi, sustained investment in these areas is critical to strengthen human capital and accelerate inclusive growth (Nabila & Majid, 2023).

CONCLUSION

The study reveals that local governments in Central Sulawesi's investment in infrastructure and human resources has a notable positive impact on economic growth, underscoring the importance of public spending in these areas. Meanwhile, income inequality and unemployment rates were found to have a significant negative impact, indicating that the problem of social and labor inequality that is not optimally absorbed is the main obstacle to regional economic growth. Although the poverty variable and the Human Development Index (HDI) showed negative and positive influences consecutively, the results were not statistically significant, indicating the complexity of the relationship and the need for a more in-depth study with more comprehensive data and additional variables. In addition, past economic growth has made a significant contribution as a momentum that strengthens the current rate of economic growth, highlighting the important temporal dependency effects in development strategies.

This study has limitations, including the relatively short observation period (2016–2021), which may restrict the ability to capture long-term effects, particularly for variables like poverty and HDI. Additionally, the analysis does not incorporate mediating factors such as education quality, health access, or institutional efficiency, which could influence

the results. The implications of these findings underscore the need for targeted fiscal policies to enhance capital expenditure efficiency while addressing inequality and unemployment, thereby fostering inclusive growth. Policymakers in Central Sulawesi should prioritize transparent budget management, invest in productive sectors like infrastructure and human capital, and implement social programs such as vocational training and progressive taxation to reduce disparities. Further research is recommended to explore longitudinal data and mediating variables, thereby enhancing our understanding of the dynamics between poverty and HDI. This will enable the development of policies tailored to the region's unique socioeconomic context, fostering sustainable development.

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Public Spending and Socio-Economic Factor

3436