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The Effect of Regional Government Expenditure on Income Through Economic Output in Jayapura City

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ABSTRACT

Purpose: This study examines the effect of regional expenditure on economic output and per capita income in Jayapura City, and tests whether economic output mediates this relationship under fiscal decentralization and Papua's Special Autonomy policy.
Methodology: A quantitative approach was applied using annual time series data for 2010 to 2024 from the Central Statistics Agency, the Directorate General of Fiscal Balance, and the regional budget realization of Jayapura City. Data were analyzed using Ordinary Least Squares regression supported by the Augmented Dickey-Fuller test, classical assumption tests, Newey-West robust standard errors, path analysis, and the Sobel test.
Results: Regional expenditure positively and significantly affects economic output and per capita income. Among expenditure components, only goods and services expenditure is significant, while personnel and capital expenditure are not. Economic output does not mediate the relationship between regional expenditure and per capita income.
Conclusions: Gains in per capita income are driven more directly by regional expenditure than by the transmission mechanism through economic output.
Limitations: The study is constrained by a limited number of annual observations, a single expenditure-output-income framework, and a single-city scope.
Contributions: The study integrates expenditure composition, economic output, and per capita income within one path model and provides empirical evidence of a growth-welfare disconnect in a fiscally dependent region under Special Autonomy.

Keywords: *Economic Output, Fiscal Decentralization, Intervening Variable, Path Analysis, Per Capita Income*

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1. Introduction

Regional government expenditure is a central fiscal policy instrument that plays a strategic role in stimulating economic activity, expanding economic output, and improving community welfare. From the perspective of public finance, government spending does not merely finance the operation of government but also performs allocative, distributive, and stabilization functions intended to support sustainable economic development. Through the allocative function, government provides public goods and services that support productivity, while the distributive function is directed at reducing welfare disparities among citizens. The stabilization function, in turn, helps maintain macroeconomic stability through fiscal policy, particularly during periods of economic slowdown. Consequently, the effectiveness of regional expenditure is determined not only by the size of the allocated budget but also by the capacity of local government to manage spending productively so that it can accelerate growth and raise welfare (Musgrave, 1959; Musgrave, & Musgrave, 1989).

Fiscal decentralization grants greater authority to local governments to manage financial resources according to the needs and characteristics of their respective regions. This devolution of authority is expected to improve budget allocation efficiency, enhance the quality of public services, and stimulate regional economic growth through the management of the regional budget. Oates (1972) explains that fiscal decentralization allows local governments to make decisions that are more responsive to community needs because they possess better information about local conditions. In a related vein, Wagner (1893) argues that rising economic activity and development complexity will be followed by an expanding role of government in providing public services through increased government spending. Regional expenditure is therefore regarded as an important instrument supporting regional economic development, particularly through the provision of infrastructure, public services, and development programs that raise productivity and welfare (Oates, 1972; Wagner, 1893).

In the Indonesian context, the implementation of fiscal decentralization has been reinforced through asymmetric decentralization policy, one form of which is the Special Autonomy status granted to Papua Province under Law Number 21 of 2001, later amended by Law Number 2 of 2021. This policy provides greater fiscal support to local government with the aim of accelerating development, improving public service quality, narrowing interregional disparities, and enhancing community welfare. Nevertheless, a high level of fiscal capacity does not automatically translate into greater fiscal independence. Bird and Smart (2002) note that heavy dependence on central government transfers can undermine the effectiveness of local fiscal management unless it is accompanied by improvements in expenditure quality and institutional capacity. For regions with characteristically high fiscal dependence such as Papua, evaluating the effectiveness of regional expenditure therefore becomes increasingly important to ensure that rising fiscal capacity genuinely drives economic output and sustainably improves welfare. Recent evidence from Papua reinforces this concern, showing that transfer instruments such as the General Allocation Fund, the Revenue Sharing Fund, and the Special Autonomy Fund do not uniformly translate into proportional gains in regional output across districts and cities (Ginting, 2023).

Cross-country evidence further suggests that the growth effect of fiscal decentralization is not uniform, since its applicability depends heavily on institutional context and income level rather than on decentralization alone (Sima, Liang, & Qingjie, 2023). Similarly, recent panel evidence from Indonesia shows that the interaction between fiscal decentralization and macroeconomic policy shapes regional growth outcomes in ways that a narrow expenditure-growth framework may not fully capture (Syahrimi, Hidayat, & Yulianita, 2025).

This phenomenon becomes particularly relevant for Jayapura City as the capital of Papua Province, functioning as the center of government, trade, services, education, and public administration. As a city that receives relatively substantial fiscal support through the Special Autonomy policy, the fiscal capacity of Jayapura City has continued to expand throughout the study period. Regional expenditure increased from approximately IDR 637.80 billion in 2010 to approximately IDR 1.72 trillion in 2024. Over the same period, the constant price Gross Regional Domestic Product and per capita income also trended upward. However, this increase has not been fully matched by stable economic growth. Growth reached 13.92% in 2011, slowed to 4.95% by 2019, and contracted by 3.24% in 2020 due to the COVID-19 pandemic before gradually recovering thereafter. This pattern indicates that increased regional expenditure has not always been followed by proportional improvement in economic output and welfare, so that the effectiveness of regional fiscal policy still requires further evaluation (Badan, 2025; Direktorat, 2025).

Beyond the overall size of expenditure, the composition of budget allocation also determines the effectiveness of fiscal policy in stimulating economic activity. Regional expenditure generally consists of personnel expenditure, goods and services expenditure, and capital expenditure, each carrying different economic characteristics and effects. Capital expenditure generally contributes more to productivity growth through infrastructure development and the provision of public assets that support economic activity (Aschauer, 1989; Calderón, & Servén, 2010). By contrast, the effectiveness of personnel expenditure and goods and services expenditure is strongly influenced by allocation quality and efficiency of use. Bose, Haque, and Osborn (2007) explain that government expenditure directed toward productive sectors tends to generate a larger impact on economic development than expenditure that is primarily consumptive in nature. Evaluating the composition of regional expenditure therefore matters because increasing fiscal capacity requires not only a larger volume of spending but also a quality of allocation capable of producing sustainable economic output. Recent studies on capital expenditure efficiency in Indonesian local governments similarly find that the productivity of capital spending, rather than its nominal size, largely determines its contribution to regional growth (Haryati, Nurpiji, Masitoh, Saputra, & Subarkah, 2025).

Prior studies indicate that government expenditure plays an important role in stimulating economic growth, although the magnitude of this effect is strongly influenced by the composition and quality of budget allocation. Devarajan, Swaroop, and Zou (1996) show that the composition of government expenditure matters more for growth than the overall size of spending, because expenditure allocated productively contributes more to economic activity. This finding is reinforced by Bose et al. (2007), who find that government spending on productive sectors sustains economic growth more effectively. In a similar vein, Acosta-Ormaechea and Morozumi (2017) confirm that reallocating government spending toward more productive sectors yields better economic performance than simply increasing total expenditure. Within the Indonesian context, several recent studies on regional public finance report mixed evidence regarding the effect of capital expenditure on local economic growth, with some finding a significant positive contribution Saputra, Haliah, and Indrijawati (2021) and others finding no significant effect once local own-source revenue and human capital are controlled for Irwin (2025), suggesting that the productivity of capital spending is highly context dependent.

Although prior research has established that government expenditure contributes to economic growth and community welfare, several research gaps remain to be examined further. First, most studies analyze only the direct relationship between government expenditure and economic growth or welfare in isolation, so that the transmission mechanism linking regional expenditure, economic output, and per capita income has not been examined comprehensively. Second, prior studies tend to emphasize the effect of total government expenditure, while the effect of individual expenditure components, namely personnel expenditure, goods and services expenditure, and capital expenditure, on economic output remains relatively limited, particularly outside Java-based provinces (Safaah, Syani, Aprilianto, & Anwar, 2022). Third, research on the effectiveness of regional expenditure in regions characterized by high fiscal dependence, particularly in Papua Province, remains very limited, even though the fiscal characteristics of this region differ substantially from other parts of Indonesia (Riani & Pudjihardjo, 2023). This study therefore analyzes the effect of regional expenditure and its composition on economic output, the effect of regional expenditure on per capita income, and the mediating role of economic output in the relationship between regional expenditure and per capita income in Jayapura City, Papua Province.

2. Literature Review and Hypothesis/es Development

2.1 Keynesian Theory and Regional Expenditure

Keynesian theory explains that government spending is a principal component of aggregate demand that drives economic activity through higher consumption, investment, production, employment, and household income. According to Keynes (1936), when the private sector fails to generate sufficient demand, government can pursue expansionary fiscal policy through increased spending to produce a multiplier effect that stimulates output growth. Increased government spending is therefore expected to accelerate economic growth, particularly during periods of economic slowdown.

Within a decentralized fiscal system, local government uses regional expenditure as a policy instrument to finance infrastructure provision, public services, and development programs that support regional economic activity. Productively allocated regional expenditure not only raises demand for goods and services but also strengthens production capacity through the provision of public facilities that support economic activity. Musgrave (1959) explains that government spending performs allocative, distributive, and stabilization functions that together create an environment conducive to economic development. Barro (1990) similarly explains that productive government spending can raise economic productivity through the provision of infrastructure and public goods that constitute the primary support for long-run economic growth. Keynesian theory therefore provides the conceptual foundation for this study to argue that an increase in regional expenditure is expected to positively affect economic output in Jayapura City. Based on this reasoning, the hypothesis are:

> *H_1:* Regional expenditure has a positive and significant effect on economic output

2.2 Wagner's Law and Fiscal Expansion

Wagner's Law explains that economic development will be followed by an expanding role of government in providing public services. Wagner (1893) argues that as community income rises and development complexity increases, the demand for infrastructure, education, health, public administration, and other public services will also grow. This condition drives an increase in government expenditure as a consequence of the expanding responsibility of government in supporting economic and social development. An increase in regional expenditure is therefore a natural phenomenon accompanying rising development needs and demand for public services.

Nonetheless, Wagner's Law does not claim that increased government spending automatically produces higher economic growth. The effectiveness of fiscal policy remains determined by the quality of budget allocation and the productivity of government spending. Devarajan et al. (1996) explain that the composition of government expenditure has a greater influence on economic growth than the size of expenditure itself. Expenditure allocated to productive activities tends to produce a larger effect on economic output than expenditure dominated by administrative or routine spending. Wagner's Law therefore provides a conceptual foundation for arguing that policy evaluation must consider not only the size of regional expenditure but also the composition of spending allocated to support sustainable regional economic development. Based on this reasoning, the second hypothesis is proposed:

> *H_2:* The components of regional expenditure, namely personnel expenditure, goods and services expenditure, and capital expenditure, jointly and partially affect economic output

2.3 Fiscal Dependence Theory

Fiscal Dependence Theory explains that a high degree of local government dependence on transfers from central government can reduce the incentive to strengthen local fiscal capacity, expand local revenue, and improve the efficiency of expenditure management. Bird and Smart (2002) explain that regions with high fiscal dependence tend to rely more heavily on intergovernmental transfers to finance development, so that the effectiveness of fiscal policy is strongly determined by the quality of expenditure allocation and institutional capacity of local government. Under these conditions, regional expenditure is more likely to be allocated toward administrative and operational needs rather than productive investment.

This theoretical perspective is highly relevant to the characteristics of Papua Province, which receives substantial fiscal support through the Special Autonomy policy. Although increased fiscal transfers have expanded the capacity of regional expenditure, growth in economic output and welfare has not always developed proportionally. Empirical evidence on the use of Special

Autonomy funds in Papua similarly finds that transfer size alone does not guarantee proportional improvement in regional welfare indicators unless governance and targeting are strengthened (Dewantara, 2024). Fiscal Dependence Theory therefore provides the conceptual foundation for arguing that the effectiveness of regional expenditure is determined not solely by the size of available budget but also by the capacity of local government to manage fiscal resources so that they can drive economic output and raise per capita income. Based on this reasoning, the third hypothesis is proposed are:

H_3: Regional expenditure has a positive and significant effect on per capita income

2.4 Endogenous Growth Theory

Endogenous Growth Theory explains that long-run economic growth is influenced by factors originating within the economic system itself, such as human capital accumulation, technological progress, institutional quality, and productive public investment. Romer (1986) and Barro (1990) argue that government policy, particularly productive public spending, can raise production capacity and productivity, thereby sustaining long-run economic growth. In this perspective, government investment in infrastructure, education, health, and public services becomes an important factor generating long-run gains in economic output.

Unlike neoclassical growth theory, which treats technological progress as an exogenous factor, Endogenous Growth Theory emphasizes that the quality and composition of government spending determine the effectiveness of fiscal policy in supporting economic development. Expenditure allocated to productive activities generates sustainable productivity gains, whereas expenditure directed primarily toward consumptive or operational activities tends to produce only short-run economic effects. This theory therefore provides the conceptual foundation for arguing that regional expenditure allocated productively is expected to raise economic output and support gains in per capita income (Romer, 1986; Barro, 1990).

2.5 Economic Output and Per Capita Income

In development economics, economic growth is regarded as one of the primary factors determining improvements in community welfare. An increase in economic output reflects an expansion of a region's production capacity, which is expected to create employment, raise household income, and support gains in per capita income. Todaro and Smith (2020) explain that economic growth is an important prerequisite for welfare improvement, although the benefits of growth strongly depend on how evenly the results of development are distributed across society.

Nevertheless, an increase in economic output does not always translate proportionally into improved community welfare. Sen (1999) argues that development should not be measured solely by growth in economic output but also by the expansion of capabilities and improvement in quality of life. High economic growth can coexist with stagnant welfare when income distribution is uneven or the benefits of growth are concentrated in particular sectors. This condition is known as the growth-welfare disconnect, a state in which economic growth has not been effectively transformed into broader community welfare.

The concept of growth-welfare disconnect serves as the theoretical foundation in this study for explaining the role of economic output as an intervening variable in the relationship between regional expenditure and per capita income. In theory, an increase in regional expenditure is expected to drive economic output, which in turn raises per capita income. However, if this transmission mechanism does not operate effectively, growth in economic output may not necessarily mediate the effect of regional expenditure on per capita income. This study therefore empirically tests whether economic output functions as an intervening variable in the relationship between regional expenditure and per capita income in Jayapura City. Based on this reasoning, the fourth hypothesis is proposed are

H_4: Economic output mediates the relationship between regional expenditure and per capita income

3. Methodology

3.1 Research Design

This study adopts a quantitative approach with an explanatory research design to analyze the causal relationship between regional expenditure, economic output, and per capita income in Jayapura City, Papua Province. This approach is used because the study aims to test both the direct effect of regional expenditure on economic output and per capita income and the indirect effect of regional expenditure on per capita income through economic output as an intervening variable. The analysis employs an econometric approach using Ordinary Least Squares to estimate the relationships among variables empirically. Ordinary Least Squares was chosen because it produces a Best Linear Unbiased Estimator when the classical assumptions are satisfied (Gujarati & Porter, 2009).

3.2 Data Sources

This study uses secondary annual time series data covering the period from 2010 to 2024, yielding fifteen observations. Data were obtained from the Central Statistics Agency, the Directorate General of Fiscal Balance of the Ministry of Finance of the Republic of Indonesia, and the regional budget realization documents of Jayapura City. The study period was chosen to capture the development of regional expenditure, economic output, and per capita income throughout the implementation of fiscal decentralization and the Special Autonomy policy for Papua, including the dynamics of the COVID-19 pandemic and the subsequent recovery period.

3.3 Variables and Measurement

Table 1. Operational definition of research variables

Variable	Symbol	Measurement
Regional Expenditure	BD	Total Regional Expenditure (IDR, natural log)
Personnel Expenditure	BP	Personnel Expenditure (IDR, natural log)
Goods and Services Expenditure	BBJ	Goods and Services Expenditure (IDR, natural log)
Capital Expenditure	BM	Capital Expenditure (IDR, natural log)
Economic Output	PE	Gross Regional Domestic Product at Constant Prices (natural log)
Per Capita Income	PPK	Per Capita Income (natural log)

Table 1 shows that regional expenditure is proxied using the total realized expenditure of local government allocated through the regional budget of Jayapura City. The components of regional expenditure consist of personnel expenditure, goods and services expenditure, and capital expenditure. Economic output is proxied using Gross Regional Domestic Product at constant prices, while per capita income is used as a proxy for community welfare. All monetary variables are transformed into natural logarithms to reduce heteroskedasticity, improve the normality of the data, and allow regression coefficients to be interpreted as elasticities (Gujarati & Porter, 2009).

3.4 Empirical Model

To test the relationships among variables, this study uses four Ordinary Least Squares regression models. Ordinary Least Squares was chosen because it produces a Best Linear Unbiased Estimator when classical assumptions are satisfied (Gujarati & Porter, 2009).

$$lnPEt = \beta 0 + \beta 1 lnBDt + \varepsilon t \tag{1}$$

Formula 1 tests the effect of regional expenditure on economic output.

$$lnPEt = \beta 0 + \beta 1 lnBPt + \beta 2 lnBBJt + \beta 3 lnBMt + \varepsilon t \tag{2}$$

Formula 2 tests the effect of the components of regional expenditure, namely personnel expenditure, goods and services expenditure, and capital expenditure, on economic output.

$$lnPPKt = \beta 0 + \beta 1 lnBDt + \varepsilon t \tag{3}$$

Formula 3 tests the direct effect of regional expenditure on per capita income.

$$lnPPKt = \beta 0 + \beta 1 lnBDt + \beta 2 lnPEt + \varepsilon t \tag{4}$$

Formula 4 tests the role of economic output as an intervening variable in the relationship between regional expenditure and per capita income. In the equations above, β0 denotes the intercept, β1 through β3 denote the estimated elasticity coefficients, and εt denotes the error term at time t.

3.5 Data Analysis

Data analysis proceeds through several stages of econometric testing to ensure the validity and robustness of the estimation results. First, a stationarity test using the Augmented Dickey-Fuller procedure is conducted to ensure that all variables are stationary, thereby avoiding spurious regression (Dickey & Fuller, 1979). Second, classical assumption tests covering normality, multicollinearity, heteroskedasticity, and autocorrelation are performed to ensure that the regression models satisfy the Best Linear Unbiased Estimator assumptions (Gujarati & Porter, 2009).

A robustness test is then conducted using Newey-West Heteroskedasticity and Autocorrelation Consistent standard errors to obtain coefficient estimates that remain consistent in the presence of heteroskedasticity and autocorrelation (Newey & West, 1987). The final stage of analysis applies path analysis to identify the direct and indirect effects among variables, while the test of economic output as an intervening variable in the relationship between regional expenditure and per capita income is conducted using the Sobel test (Baron & Kenny, 1986; Sobel, 1982). Recent methodological reviews confirm that the Sobel test, while sensitive to sample size, remains a widely used and interpretable procedure for testing simple mediation models when the number of observations is limited (Abu-Bader & Jones, 2021).

3.6 Research Framework

The research framework depicts the relationship between regional expenditure, economic output, and per capita income within a single analytical model. Regional expenditure is assumed to directly affect both economic output and per capita income. In addition, economic output is positioned as an intervening variable hypothesized to transmit the effect of regional expenditure on per capita income. To test these relationships, this study applies a path analysis approach so that both the direct and indirect effects among variables in the research model can be evaluated.

4. Results and Discussion

4.1 Descriptive Overview

Descriptive analysis shows that fiscal capacity and economic indicators in Jayapura City expanded over the period 2010 to 2024. Total regional expenditure increased from approximately IDR 637.80 billion in 2010 to approximately IDR 1.72 trillion in 2024. This increase reflects growing fiscal capacity that supports the delivery of public services, the implementation of development programs, and regional economic activity following the implementation of fiscal decentralization and the Special Autonomy policy for Papua (Badan Pusat Statistik Kota Jayapura, 2025; Direktorat Jenderal Perimbangan Keuangan, 2025).

The rise in regional expenditure was accompanied by an increase in economic output, proxied using Gross Regional Domestic Product at constant prices. Nevertheless, the growth rate fluctuated throughout the study period. Economic growth slowed and even contracted during the COVID-19 pandemic before recovering in the subsequent period. This pattern shows that the development of economic output is influenced not only by local fiscal policy but also by broader macroeconomic dynamics occurring during the observation period (Badan Pusat Statistik Kota Jayapura, 2025).

Per capita income also showed an upward trend throughout the study period, indicating an improvement in average community income. However, an increase in per capita income does not always reflect an equitable distribution of welfare, since this indicator represents average income without accounting for the distribution of income among residents. Growth in economic output may therefore not be followed by welfare improvement that is felt evenly across the entire population (Todaro & Smith, 2020).

Viewed from the composition of regional expenditure, the budget structure of Jayapura City remains dominated by personnel expenditure and goods and services expenditure, while the share of capital expenditure is relatively smaller. This condition indicates that most regional expenditure is still directed toward supporting operational government activity rather than productive investment. From a public finance perspective, this expenditure composition potentially reduces the contribution of regional expenditure to long-run productivity growth, since public investment, particularly through capital expenditure, generally has a larger effect on production capacity and economic growth (Barro, 1990; Devarajan et al., 1996). This pattern echoes findings from other Indonesian regions, where the productivity gains from capital expenditure only materialize when accompanied by strong local revenue mobilization and efficient budget execution (Widodo, 2023).

Overall, the descriptive results show that regional expenditure, economic output, and per capita income increased simultaneously during the study period. However, the dominance of operational expenditure suggests that the effectiveness of fiscal policy is determined not only by the size of regional expenditure but also by the composition and quality of budget allocation. These descriptive findings provide the basis for examining the empirical relationships among variables through the regression tests presented in the following section.

4.2 Stationarity and Diagnostic Tests

Prior to estimating the regression models, all variables were first tested using the Augmented Dickey-Fuller procedure to confirm the stationarity of the time series data. The test results indicate that all variables were non-stationary at level but became stationary after first differencing. All variables therefore satisfy the requirement for use in time series regression analysis.

Subsequently, classical assumption tests covering normality, multicollinearity, heteroskedasticity, and autocorrelation were conducted. The test results show that all regression models satisfy the Best Linear Unbiased Estimator assumptions, so that the models are appropriate for further analysis. To verify the consistency of the estimation results, this study also applies Newey-West Heteroskedasticity and Autocorrelation Consistent standard errors. The robustness test results show that the regression coefficients remain consistent, so that the estimation results can be considered reliable despite the relatively limited number of observations.

4.3 Regression Results

Table 2. Summary of regression results

Model	Relationship	Coefficient	Probability	Conclusion
Model 1	Regional Expenditure to Economic Output	0.8611	0.0000	Positive and Significant
Model 2	Personnel Expenditure to Economic Output	-0.1809	0.3958	Not Significant
Model 2	Goods and Services Expenditure to Economic Output	0.6867	0.0000	Positive and Significant
Model 2	Capital Expenditure to Economic Output	-0.0275	0.6979	Not Significant
Model 3	Regional Expenditure to Per Capita Income	0.8572	0.0000	Positive and Significant

Model	Relationship	Coefficient	Probability	Conclusion
Model 4	Economic Output to Per Capita Income	-0.0035	0.7268	Not Significant
Sobel Test	Economic Output as Intervening Variable	Z = 1.4757	Z < 1.96	No Mediation Effect

Table 2 reports the coefficients, probabilities, and conclusions for each of the four estimated models together with the result of the Sobel test used to assess the mediating role of economic output. Formula 1 shows a positive and significant coefficient for regional expenditure on economic output. Formula 2 disaggregates regional expenditure into its three components and shows that only goods and services expenditure produces a significant positive coefficient, while personnel expenditure and capital expenditure are statistically insignificant. Formula 3 shows a positive and significant coefficient for regional expenditure on per capita income. Formula 4 shows an insignificant coefficient for economic output on per capita income, and the accompanying Sobel test statistic of 1.4757 falls below the critical value of 1.96, indicating the absence of a significant mediation effect.

4.4 Discussion

4.4.1 Regional Expenditure and Economic Output

The results show that regional expenditure has a positive and significant effect on economic output in Jayapura City. The regression coefficient of 0.8611 indicates that a one percent increase in regional expenditure raises economic output by 0.8611%, holding other variables constant. This finding suggests that increased fiscal capacity stimulates economic activity through higher demand for goods and services, the delivery of public services, and the implementation of regional development programs. The result therefore supports the first hypothesis, which states that regional expenditure positively affects economic output.

This finding is consistent with Keynesian theory, which explains that increased government spending drives aggregate demand and produces a multiplier effect on economic activity (Keynes, 1936). The result also supports Endogenous Growth Theory, which holds that productive public spending raises production capacity through the provision of infrastructure, public services, and government investment that supports long-run economic growth (Romer, 1986; Barro, 1990).

The result is further consistent with Devarajan et al. (1996), who explain that the effect of government spending on economic growth depends not only on the size of the budget but also on the composition of expenditure. Similarly, Bose et al. (2007) state that the effectiveness of government spending in stimulating economic growth is strongly influenced by the quality of expenditure allocation. An elasticity below unity suggests that the increase in regional expenditure has not been fully matched by a proportional rise in economic output. This condition indicates that a substantial share of regional expenditure remains dominated by operational spending, while the share of capital expenditure remains relatively small, so that its contribution to regional production capacity has not been optimal. Comparable patterns have been documented for other resource-dependent regions in eastern Indonesia, where fiscal transfers expand nominal expenditure without a matching rise in productive capacity (Riani & Pudjihardjo, 2023).

This finding indicates that increased regional fiscal capacity needs to be accompanied by improved expenditure quality through more productive and efficient budget allocation. The effectiveness of fiscal policy is therefore determined not only by the size of regional expenditure but also by the composition and quality of spending in driving sustainable growth in economic output.

4.4.2 Effect of Expenditure Components on Economic Output

The results show that the components of regional expenditure exert differing effects on economic output in Jayapura City. Jointly, personnel expenditure, goods and services expenditure, and capital expenditure affect economic output. However, only goods and services expenditure shows a significant positive effect individually, while personnel expenditure and capital expenditure show no significant effect on economic output. This finding shows that each expenditure component has distinct characteristics and effectiveness in stimulating regional economic activity.

The significant positive effect of goods and services expenditure indicates that government spending allocated to the provision of public goods and services can stimulate economic activity more quickly through increased economic transactions, government procurement, and higher demand for goods and services at the local level. This finding aligns with Devarajan et al. (1996), who explain that the effectiveness of government spending is strongly influenced by expenditure composition, and with Bose et al. (2007), who state that allocation toward productive sectors contributes more to economic growth than less productive spending. Similar patterns are reported for other Indonesian municipalities, where goods and services procurement shows a faster and more measurable local multiplier effect than either wage or capital spending (Saputri, 2023).

By contrast, personnel expenditure shows no significant effect on economic output. This condition indicates that personnel expenditure is largely used to finance routine government administration and services, so that its effect on regional production capacity remains limited. Although personnel expenditure plays an important role in sustaining the continuity of government operations, its allocation has not been able to directly stimulate an increase in economic output.

Capital expenditure also shows an insignificant effect on economic output. Theoretically, Barro (1990) explains that government investment in infrastructure and the provision of public goods is an important factor capable of raising productivity and long-run economic growth. However, the results of this study indicate that the contribution of capital expenditure in Jayapura City has not produced a significant effect. This condition is presumably caused by the relatively small share of capital expenditure compared with other expenditure components, so that its effect on regional production capacity has not been fully realized during the study period. This is consistent with recent panel evidence from Indonesian local governments showing that capital expenditure only translates into measurable growth effects once it exceeds a certain share of total expenditure and is paired with adequate absorptive capacity (Haryati et al., 2025; Rijal et al., 2023).

Overall, the results show that the effectiveness of regional expenditure is determined not only by the size of the allocated budget but also by expenditure composition and management quality. Increasing the share of productive spending, particularly capital expenditure and expenditure directly supporting economic activity, therefore deserves attention from local government so that regional expenditure can make a larger contribution to sustainable growth in economic output.

4.4.3 Regional Expenditure and Per Capita Income

The results show that regional expenditure has a positive and significant effect on per capita income in Jayapura City. The regression coefficient of 0.8572 indicates that a one percent increase in regional expenditure raises per capita income by 0.8572 percent, holding other variables constant. This finding shows that increased regional expenditure contributes directly to higher community income. The result therefore supports the third hypothesis, which states that regional expenditure positively affects per capita income.

This finding aligns with the public finance theory advanced by Musgrave (1959), which holds that government spending performs allocative, distributive, and stabilization functions within the economy. Through the allocative function, government provides public goods and services that support community economic activity, while the distributive function operates through the provision of public services and government programs that can raise income and welfare. Increased regional expenditure therefore not only stimulates economic activity but also directly benefits household income.

The result is also consistent with Barro (1990), who explains that productively allocated government spending can raise economic productivity through the provision of infrastructure and public goods. In the context of Jayapura City, the positive effect of regional expenditure on per capita income shows that local fiscal policy has produced economic benefits through public service delivery, the implementation of development programs, and various government activities that raise community income. Analogous evidence from other Special Autonomy regions in eastern Indonesia similarly reports a direct positive effect of regional transfers on household income indicators, independent of aggregate output growth (Vitara Agatha & Uliansyah, 2021).

Overall, the results show that regional expenditure plays an important role in raising per capita income as one indicator of community welfare. However, determining whether this welfare improvement occurs directly or through economic output requires further testing of the mediating role of economic output, examined in the following section.

4.4.4 Economic Output as an Intervening Variable

The results show that economic output does not mediate the relationship between regional expenditure and per capita income in Jayapura City. The Sobel test produces a Z statistic of 1.4757, which is smaller than the critical value of 1.96, so that the indirect effect of regional expenditure on per capita income through economic output is not significant. Increases in per capita income are therefore driven more directly by regional expenditure than through the mechanism of rising economic output. This result shows that although regional expenditure stimulates economic activity, economic output has not become an effective transmission mechanism for improving community welfare.

This condition can be explained through the growth-welfare disconnect concept advanced by Todaro and Smith (2020), which describes a state in which growth in economic output is not automatically followed by an even improvement in community welfare. In the context of Jayapura City, growth in economic output has not been fully transformed into higher per capita income across the population. This indicates that development success should not be measured solely by growth in economic output but also by the capacity of that growth to generate economic benefits that are broadly felt by the community (Todaro & Smith, 2020).

The fiscal decentralization perspective advanced by Oates (1972) explains that local government has an advantage in understanding community needs, allowing it to design fiscal policy that is more responsive to local conditions. Nevertheless, the results of this study indicate that the effectiveness of fiscal decentralization is determined not only by the capacity of local government to raise economic output but also by its capacity to ensure that the benefits of growth are transformed into more evenly distributed welfare improvement. In other words, an increase in regional expenditure needs to be accompanied by more effective budget management so that it can generate inclusive economic growth.

Based on the results, several factors are presumed to explain why economic output has not functioned as an intervening variable. Growth appears to remain non-inclusive, so that its benefits are concentrated in particular sectors. The rise in Gross Regional Domestic Product has not been fully matched by an even distribution of income among residents. The economic structure of Jayapura City, dominated by trade, services, government administration, and urban activity, means that higher economic activity has not been able to create a broad expansion of economic opportunity. Regional expenditure also produces a more immediate direct effect on community income through personnel expenditure payments, procurement of goods and services, social assistance, and government consumption compared with the indirect mechanism operating through economic output. This finding parallels evidence from other fiscally dependent Indonesian regions, where direct fiscal transmission to household income outpaces the indirect channel through aggregate output (Fikri & Kopong, 2024).

This finding strengthens the conclusion that the effectiveness of local fiscal policy should not be measured only by its capacity to raise economic output but also by its capacity to transform economic growth into inclusive community welfare. Local government therefore needs to improve the quality of regional expenditure through more productive budget allocation, strengthen fiscal management efficiency, and direct spending toward sectors directly linked to community economic activity so that the benefits of economic growth can be felt more broadly.

5. Conclusions

5.1 Conclusion

This study analyzed the effect of regional expenditure on economic output and per capita income and examined the mediating role of economic output in Jayapura City during 2010 to 2024. The results show that regional expenditure has a positive and significant effect on both economic output and per capita income. This finding demonstrates that increased regional expenditure stimulates economic activity while also contributing to improved community welfare as proxied by per capita income.

Based on the analysis of expenditure composition, only goods and services expenditure has a positive and significant effect on economic output, while personnel expenditure and capital expenditure show no significant effect. This result indicates that the effectiveness of local fiscal policy is determined not only by the overall size of regional expenditure but also by the composition and quality of budget allocation capable of stimulating economic activity more productively.

The mediation test results show that economic output does not mediate the effect of regional expenditure on per capita income. Although regional expenditure has been shown to raise both economic output and per capita income directly, the increase in economic output has not become an effective transmission mechanism for improving community welfare. The benefit of regional expenditure for per capita income therefore occurs predominantly through a direct effect rather than through improvement in economic output.

Overall, the findings show that increased regional expenditure should be balanced with more productive budget allocation and more effective fiscal management so that it can generate high-quality economic growth that provides greater benefit to community welfare. Improving the quality of regional expenditure is therefore an important factor supporting more inclusive and sustainable regional economic development in Jayapura City.

5.2 Research Limitations

This study has several limitations that should be considered when interpreting the results. First, the study relies on annual time series data covering 2010 to 2024, yielding a relatively limited number of observations. This condition may affect the precision of the estimation results, although all econometric testing procedures were carried out according to standard research protocol.

Second, this study focuses only on the relationship between regional expenditure, economic output, and per capita income. Other variables that may influence economic output or per capita income, such as investment, labor, poverty, human capital quality, and institutional factors, were not incorporated into the research model. The findings therefore do not fully capture every factor influencing community welfare.

Third, this study was conducted only in Jayapura City, a region with distinctive fiscal characteristics under the Papua Special Autonomy framework. The findings therefore primarily reflect the empirical conditions of Jayapura City, and caution is required in generalizing the results to other regions with different fiscal characteristics and economic structures.

5.3 Suggestions and Directions for Future Research

Future research is encouraged to use a longer observation period, incorporate additional relevant economic and social variables, and expand the geographic scope of the study to provide a more comprehensive picture of the effect of regional expenditure on economic output and per capita income.

The results also carry several practical implications for the management of local fiscal policy in Jayapura City. Local government needs to improve the quality of regional expenditure through more productive budget allocation so that it can make a greater contribution to economic output and per capita income. The effectiveness of fiscal policy is therefore determined not only by the size of regional expenditure but also by the quality and efficiency of budget allocation.

The finding that only goods and services expenditure significantly affects economic output, while personnel expenditure and capital expenditure do not, suggests that local government needs to strengthen the planning, implementation, and evaluation of development programs so that regional expenditure, particularly capital expenditure, can produce a greater effect on regional productivity and growth.

The absence of a mediating role for economic output indicates that growth has not been fully transformed into improved community welfare. This condition points to the need to strengthen fiscal policy that is oriented not only toward raising economic growth but also toward improving welfare through programs directly linked to productive economic activity and higher community income.

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