

DETERMINANTS OF LOCAL TAXES: EVIDENCE FROM TULUNGAGUNG

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ABSTRAK

Keberhasilan desentralisasi di Indonesia diukur melalui peningkatan kesejahteraan masyarakat, kualitas hidup, dan akses terhadap layanan seperti pendidikan, kesehatan, infrastruktur, serta transparansi, akuntabilitas, dan partisipasi masyarakat dalam perumusan kebijakan lokal. Penelitian ini bertujuan untuk menganalisis faktor-faktor yang mempengaruhi penerimaan pajak daerah di Kabupaten Tulungagung sebagai indikator keberhasilan desentralisasi fiskal. Dengan menggunakan model Error Correction Model (ECM), penelitian ini menguji hubungan jangka panjang dan jangka pendek antara pertumbuhan penduduk, tingkat pendapatan, dan pembangunan sosial-ekonomi terhadap pajak daerah. Hasil penelitian menunjukkan bahwa semua variabel memiliki pengaruh signifikan terhadap penerimaan pajak daerah. Koefisien pertumbuhan penduduk sebesar 0,034416 menunjukkan bahwa setiap peningkatan 1% dalam jumlah penduduk berkontribusi terhadap peningkatan pajak daerah. Tingkat pendapatan memiliki koefisien 0,092312, yang menandakan bahwa kenaikan pendapatan masyarakat memperkuat kapasitas pajak. Sementara itu, pembangunan sosial-ekonomi memiliki dampak terbesar dengan koefisien 0,231872, yang mencerminkan bahwa peningkatan kesejahteraan masyarakat secara langsung berkontribusi pada peningkatan pendapatan pajak daerah. Studi ini juga mengungkap bahwa tren penerimaan pajak daerah di Tulungagung mengalami peningkatan signifikan dari tahun 2011 hingga 2023, hal ini mencerminkan efektivitas kebijakan fiskal daerah. Penelitian ini berkontribusi dalam mendukung kebijakan fiskal daerah yang berbasis pada penguatan faktor sosial-ekonomi sebagai strategi peningkatan penerimaan pajak lokal.

Kata kunci: pajak daerah, pertumbuhan penduduk, tingkat pendapatan, sosio ekonomi

ABSTRACT

Improvements in public welfare, quality of life, and access to services such as education, healthcare, infrastructure, transparency, accountability, and community participation in local policy formulation measure the success of decentralization in Indonesia. This study aims to analyze the factors influencing local tax revenues as an indicator of fiscal decentralization success in Tulungagung Regency. Applying the Error Correction Model (ECM), this research examines both the long-term and short-term relationships between population growth, income levels, and socio-economic development on local tax revenues. As a result, this study indicates that all variables have a significant impact on local tax revenues. The population growth coefficient of 0,034416 suggests that a 1% increase in population contributes to higher local tax revenues. The income level coefficient of 0,092312 signifies that rising income levels enhance tax capacity. Meanwhile, socio-economic development has the most substantial effect, with a coefficient of 0,231872. Reflecting the improvements in public welfare directly contributes to increased local tax revenues. Accordingly, this study reveals that the trend of local tax revenues in Tulungagung has increased dramatically from 2011 to 2023, demonstrating the effectiveness of regional fiscal policies. This research contributes to supporting local budgetary policy based on strengthening socio-economic factors as a strategy to increase local tax revenue.

Keywords: local tax, population growth, income level, socioeconomics

INTRODUCTION

Several factors can show the success of decentralization in a region. The benefits reflect the efficiency, effectiveness, and independence of local governments in managing resources and providing services to the community (Basri et al., 2021). One of the leading indicators is the improvement in the welfare and quality of life of the local population. They are reflected in the increase in access to basic services such as education, health, infrastructure, and social protection. Then, transparency and accountability in public financial management are essential indicators. For example, local governments can demonstrate openness in budget use and accountability for every decision (Jensen, 2022), as well as the ability to formulate and implement policies that are aligned with local needs. The increased community participation in the decision-making process also reflects the success of decentralization.

In addition, sustainable economic growth, diversification of local sources of income, and increased investment and employment opportunities at the local level are also evidence of the success of decentralization in increasing regional competitiveness and creating a conducive investment climate (Z. Chen et al., 2021). Conversely, a gap exists between resource potential and development achievements, compounded by persistent corruption, reliance on transfer funds, and the inability of local governments to provide adequate basic services to communities. It suggests that decentralization has not yet achieved the desired level of success (Bierbrauer et al., 2021). Therefore, a comprehensive evaluation of these various aspects is needed to assess the success of decentralization in an area.

The determining factors of regional taxes, as observed in Tulungagung Regency, include several factors that affect tax revenues and the success of the regional tax system (Jayanti et al., 2020). One of the main factors is the structure of

the local economy, in which the success of specific sectors in creating jobs and income directly impacts the potential for tax revenue. Significant growing sectors such as agriculture, industry, trade, and services can expand the local tax base (Garrett et al., 2020).

Moreover, demographic factors also play an essential role. Population growth, urbanization, migration, and local income levels can affect the demand for public services and infrastructure, which in turn affects the need and ability of local governments to collect taxes (Matsumoto & Ogawa, 2022). The policies and regulations implemented by local governments, including tax rates and tax incentives, also affect the level of tax revenue (Flaška et al., 2021).

Transparent, consistent, and pro-local economic development policies can stimulate business growth and investment, thereby increasing tax revenues (Hidayat, 2023). In addition to these factors, the effectiveness of regional tax administration is also a crucial determinant. The ability of local governments to collect taxes efficiently and fairly, as well as implement a tax system in harmony with regional characteristics, will have an impact on the success of tax collection.

In Tulungagung Regency, the main challenge in implementing local taxes is not only related to the effectiveness of fiscal policy, but also to taxpayer compliance and the distribution of tax revenues in various sectors. Although local taxes have shown an upward trend in recent years, there is still a gap between potential tax revenues and revenue realization.

The disparity can be caused by a low level of tax awareness, weak law enforcement, or a lack of innovation in the local tax collection system. With the collective population and economic growth, the need for infrastructure and public services is also increasing. The fact required an optimal strategy in managing local taxes so as not to burden the community, especially the weak economic group.

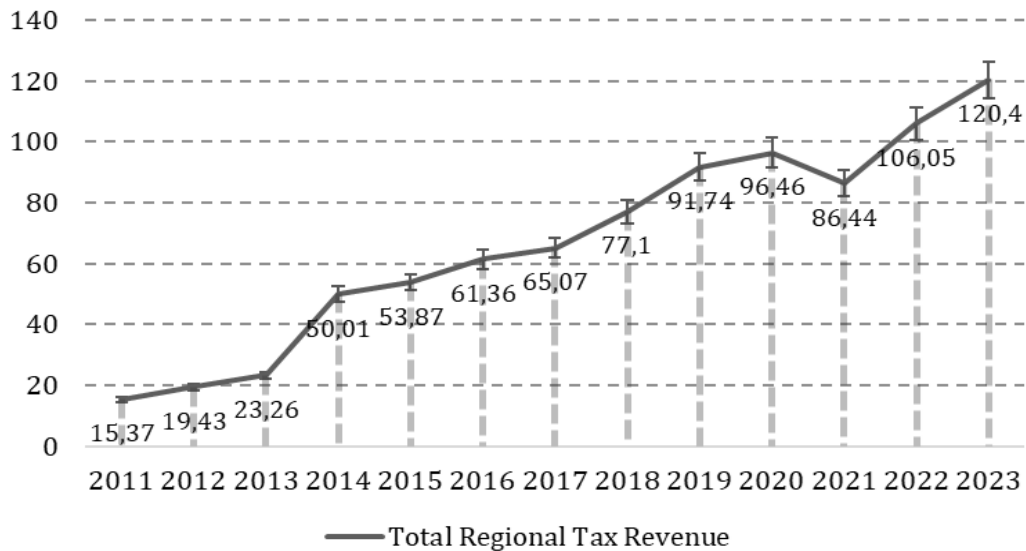


Figure 1
Total Regional Tax Revenue in Tulungagung Regency (2011-2023)
 Source: Tulungagung Regency APBD Data Reality, Data Processed 2024

The figure 1 above illustrates the trend of increasing regional tax revenues in Tulungagung Regency from year to year, showing stable and significant development during the period 2011 to 2023. Starting in 2011 with a revenue of 15,37 billion rupiah, this figure continues to increase every year, reaching its peak in 2023 with a revenue of 120,4 billion rupiah. The upsurge reflects the success of efforts to improve regional revenue through taxation. Some of the key points in the chart provide a more detailed view of the significant spike in tax revenues. In 2014, there was an increase in tax revenue of 23,26 billion rupiah, marking the preface of a faster growth trajectory.

Furthermore, in 2016, tax revenue jumped sharply again to reach 50,07 billion rupiah, showing a more substantial growth in regional tax collection. A more dramatic increase was observed in 2022 and 2023, with revenues of 106,05 billion rupiah and 120,4 billion rupiah, respectively. The sharp growth in the last two years indicates an effective policy or strategic effort to optimize tax revenue in the regions. Overall, this chart not only shows a consistent upward trend but also illustrates the success of Tulungagung Regency in improving the efficiency and effectiveness of the regional taxation system during the period under review.

This research was conducted as a proactive response to the need to comprehensively understand and evaluate the impact of decentralization in Indonesia, which has been implemented over the past few decades. In particular, this study focuses on the context of improving community welfare in Tulungagung Regency. This area is an essential representation in the analysis of decentralization at the local level. Considering decentralization as one of the central policies in government reform, decentralization aims to provide significant autonomy to local governments to improve the efficiency and effectiveness of public services, including in the fields of economy, health, education, and infrastructure in Tulungagung Regency. This study has an interesting novelty because it integrates the Error Correction Model (ECM) approach to simultaneously analyze the short-term and long-term relationships between population growth, income levels, and socio-economic development on local tax revenue in Tulungagung Regency.

In contrast to previous studies aiming to analyze these factors separately or in a macro context, this study highlights specific local dynamics by utilizing annual data over the period 2011-2023. Its novelty value also lies in emphasizing that socio-economic development

has the most dominant influence on increasing local taxes, signaling that a development strategy oriented towards community welfare can be a more effective fiscal approach than simply pursuing economic growth or population. The results of this study are very relevant for local governments in designing tax policies that are more equitable, sustainable, and based on improving the quality of life of the community, not just conventional tax base expansion.

THEORETICAL REVIEW

Public Economic Theory explains that local taxes are the main instrument in local government funding to provide public goods and services (Musgrave, R. A., & Musgrave, P. B., 1989). In this perspective, local taxes serve as a tool for income redistribution and economic stabilization at the regional level, so the mechanism for setting tariffs and collecting them must consider the balance between efficiency and fairness.

The Theory of Fiscal Decentralization highlights how regional autonomy in tax management can improve the effectiveness of public services (Oates, W. E., 1972). With the authority to manage their sources of revenue, local governments can adjust their tax policies to meet the needs of local communities. However, they must still consider the potential disparities between regions that can arise due to differences in fiscal capacity. Tax Compliance Theory focuses on factors that affect taxpayer behaviour in fulfilling their obligations (Alm, J., & Torgler, 2011). Factors such as tax awareness, legal sanctions, trust in the government, and the quality of tax services are the main determinants in the level of regional tax compliance, so tax policies must be designed to increase transparency and accountability to encourage voluntary compliance.

The theory of Tax Justice states that the tax system must be based on the principle of justice, both horizontally and vertically (Rawls, 1971). In local taxes, taxpayers with the same economic conditions must be subject to equal taxes, while those with greater economic capabilities must pay more. Therefore, the regional tax structure

must consider the purchasing power of the public to avoid burdening vulnerable groups.

The Tax Efficiency Theory emphasizes the importance of a tax system that does not cause significant economic distortions (Astiglitz, 1986). A well-designed regional tax must be able to optimize revenue without hindering local economic activity (Agrawal, 2025). If the tax rate is too high, it can trigger an underground economy or the transfer of economic activity to other, more profitable regions.

The Fiscal Accountability Theory emphasizes that transparency and accountability in local tax management are essential to build public trust (Bräutigam, D., 2008). Effective allocation of tax funds and clear financial statements will increase the legitimacy of tax policy and reduce the potential for abuse of authority.

The Economic Growth Theory relates regional taxes to their impact on economic activity globally (Barro, R. J., 1990). If local taxes are used to finance productive infrastructure and public services, it can encourage investment and local economic growth. However, excessively high taxes or poor administration can hinder regional competitiveness and reduce business incentives.

Local Government Behavior Theory explains that local government fiscal decisions, including tax policy, are often influenced by political motives and bureaucratic preferences (Buchanan, J. M., & Tullock, G., 2020). Local governments set tax rates based on particular political interests, such as to increase popularity ahead of regional head elections. So, an effective monitoring mechanism is needed to ensure that tax policies remain oriented to the public interest.

Research in Pangkalpinang found that population growth, along with other factors such as Gross Regional Domestic Product (GDP) and the economy, did not significantly affect regional tax revenues simultaneously but had a partial impact (Yakubov et al., 2023). In contrast, a study in Natuna Regency conducted by AHMAS revealed that regional taxes have a weak relationship with economic growth but still have a positive and significant effect,

contributing to 8.9% of economic growth in the area (Gurdal et al., 2021).

Furthermore, research in West Nusa Tenggara conducted by Liu et al. (2022) shows that regional taxes have a significant negative impact on economic growth, showing a complex relationship between population growth, regional taxes, and economic development. These findings underscore the importance of considering various factors and local contexts when analyzing the influence of population growth on local taxes and financial outcomes.

The level of community income can significantly affect local taxes, impacting the level of regional independence and income generation in various regions. Studies in Lhokseumawe and Jambi provinces highlight the substantial contribution of specific taxes such as Motor Vehicle Tax, Transfer Fee Tax, and Fuel Tax to local revenues, emphasizing their importance in increasing local revenues (Cao et al., 2021; Hu et al., 2021).

In addition, research in the city of Bandung shows a positive and significant relationship between regional tax revenues and capital expenditure, which shows the critical role of regional taxes in funding important regional development projects (Ana et al., 2022). The analysis in Pangkalpinang shows that factors such as population growth, Gross Regional Domestic Product, economy, and inflation rate can affect local tax revenues, showing a complex interaction between community factors and regional tax revenue.

The level of socio-economic development has a significant impact on regional taxes, affecting local source revenues and regional tax revenues in various regions. Research in Majalengka Regency shows that motor vehicle taxes have a positive impact on local source income, while motor vehicle transfer costs have an adverse effect (Drake et al., 2020).

Further study in Pangkalpinang showed that factors such as population growth, Gross Regional Domestic Product, economy, and inflation rate had a partially significant influence on local tax revenues, highlighting the complex interaction between socio-economic factors and tax collection (Xue et al., 2022).

Furthermore, research in Cilegon shows the contribution of regional tax revenues to regional economic growth and regional spending, emphasizing the importance of regional taxes in supporting economic development at the local level (Wen et al., 2020). Overall, the review shows that the level of socio-economic development plays an essential role in shaping the dynamics of regional tax revenues in various regions.

RESEARCH METHODS

This research method employs a quantitative approach, utilizing the Error Correction Model (ECM) to examine the long-term relationship between variables within system. ECM is a valuable approach to exploring the long-term balance between these variables while taking into account short-term imbalance corrections. The first step in implementing ECM is to test whether a variable has a unit root. The Figure 2 shows stages of analysis method.

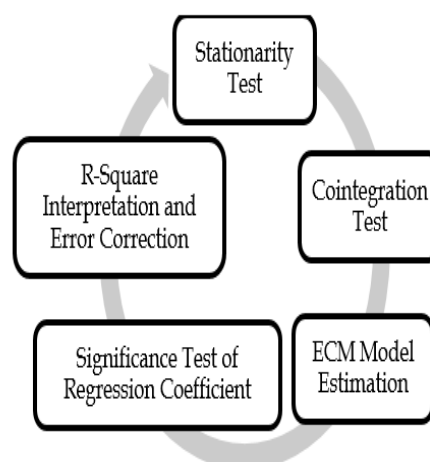


Figure 2
Stages of Analysis Method
Source: Developed by Author

This study uses the ECM to analyze the long-term relationship between variables in the regional tax system in Tulungagung Regency. The ECM formula in this study can be formulated as follows:

$$\Delta Y_t = \alpha + \beta_1 \Delta X_{1t} + \beta_2 \Delta X_{2t} + \beta_3 \Delta X_{3t} + \lambda(Y_{t-1} - Y_1 X_{1t-1} - Y_2 X_{2t-1} - Y_3 X_{3t-1}) + \varepsilon_t$$

Where:

- ΔY_t = Change in regional tax revenue
- X_{1t} = Population growth

X_{2t} = Community income level
 X_{3t} = Socio-economic development
 $\beta_1, \beta_2, \beta_3$ = Short-term coefficients
 λ = Error correction coefficient, which indicates how quickly long-term equilibrium is achieved.
 $Y_{t-1} - \gamma_1 X_{1t-1} - \gamma_2 X_{2t-1} - \gamma_3 X_{3t-1}$ = Long-term equilibrium component
 ε_t = Error term.

The sample data of this study were obtained from secondary data available on the official website of the Regional Financial and Asset Management Agency (BPKAD) of Tulungagung Regency. The data taken for this study is from 2011 to 2023. This comprehensive dataset includes a wide range of financial and economic indicators relevant to the research, providing a solid basis for analyzing long-term relationships and dynamics in taxation and regional economic systems.

The author connects the data with the Error Correction Model (ECM) formula through the process of operationalizing variables and adjusting the data to the mathematical structure of the ECM model. The ECM formula used is:

$$\Delta Y_t = \alpha + \beta_1 \Delta X_{1t} + \beta_2 \Delta X_{2t} + \beta_3 \Delta X_{3t} + \lambda (Y_{t-1} - \gamma_1 X_{1t-1} - \gamma_2 X_{2t-1} - \gamma_3 X_{3t-1}) + \varepsilon_t$$

In the context of this study, Y_t represents local tax revenue, while X_{1t} , X_{2t} and X_{3t} represent local tax revenue, population growth, income level, and socio-economic development, respectively. The author first conducted a stationarity test on all variables using the ADF test to ensure that the data met the basic requirements for the use of ECM. The variables must be stationary at the first difference. After proving the criteria, the author estimates the ECM model to analyze the short-

term and long-term relationship between the independent variables and tax revenue. The annual change (Δ) is used to measure the short-run dynamics, while the error correction term component is used to measure the long-run dynamics. Measuring deviations from long-run equilibrium. Thus, the empirical data are systematically operationalized into the ECM model structure to comprehensively reveal regional fiscal dynamics, both in terms of long-term trends and short-term adjustments due to economic shocks.

In this study, it is essential to test whether the time series data used are stationary before applying the Error Correction Model (ECM). Stationary data are characterized by a constant mean, variance, and autocovariance over time. In other words, the statistical properties of the data do not change as time progresses. Non-stationary data can lead to spurious regression results, where the estimated relationships between variables appear significant when they are not.

To determine the stationarity of the data, this study employs the Augmented Dickey-Fuller (ADF) Test. The null hypothesis (H_0) of the ADF test states that the data have a unit root (i.e., are non-stationary), while the alternative hypothesis (H_1) suggests the data are stationary. If the p-value of the test is below 0.05, the null hypothesis is rejected, indicating that the data are stationary. If the variables are non-stationary at the level but become stationary after first differencing, they are said to be integrated of order one, $I(1)$, and can still be used in ECM estimation. Therefore, testing for stationarity is a crucial step to ensure the validity and reliability of the regression model, particularly when examining both short-term dynamics and long-term equilibrium relations. Table 1 shows the research data of variables.

Table 1
Research Data

Variables	Definition	Source	Unit
Population Growth	Percentage change in population in a period	World Bank, UN Population Division	Percentage (%) per year

Variables	Definition	Source	Unit
Income Level	The average income of an individual or household in an area	World Bank, IMF, National Statistics	USD per capita per year
Socio-Economic Development	Progress in social and economic aspects that include education, health, and community welfare	UNDP, World Bank, National Statistics	Indeks (HDI - Human Development Index)

Source: Processed by Author, 2024

ANALYSIS AND DISCUSSION

Data Analysis Results

Data Stationary Test

The determination of whether the analyzed model is integrated depends on the results of the stationary test using the Dickey-Fuller (DF) test. Figure 3 displays the Dickey-Fuller probability values, which show a significance level of less than 5%, indicating that all data for each of the variables investigated showed stationarity at a significance level of 1%, 5%, and 10%. Based on

the results of the stationary test, the variables of population growth, income level, and socio-economic development are integrated. The data for the variables PG, IL, and SED are non-stationary based on the ADF test. The p-values for all three variables are greater than 0,05. So, the hypothesis (H0), which states that the data have a unit root (non-stationary), is accepted. The graph also shows a pattern resembling a random walk, which is a characteristic of non-stationary data.

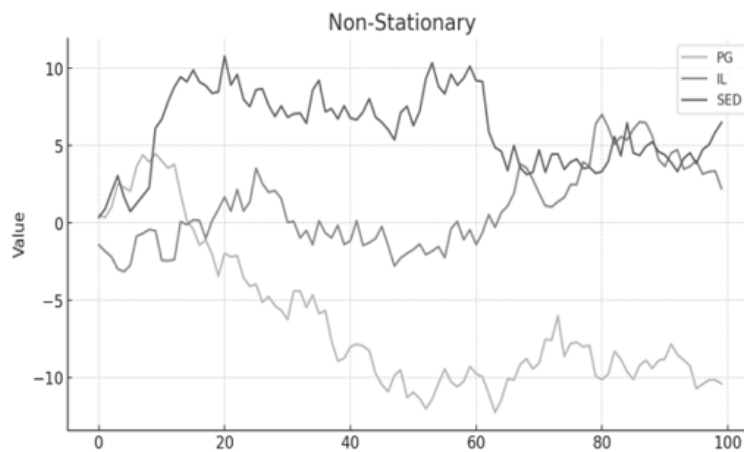


Figure 3

Unit Root Test Results

Source: Data Processed by Author, 2024

Table 2
Results of the Root Test Unit at the First Level of Difference

Variable	ADF t-Statistic	Prob	Results Hypothesis	Results Data Analysis
PG	1.6368	0.0004	Accepted H0	Stationary
IL	4.9437	0.0006	Accepted H0	Stationary
SED	3.7648	0.0002	Accepted H0	Stationary

Source: Data Processed by Author, 2024

The results of the root test using the Augmented Dickey-Fuller (ADF) Test include PG, IL, and SED variables. Each variable is analyzed to determine whether the data is stationary or not. For the PG variable, the statistical t-value of the ADF test is 1,6368 with a probability value (Prob) of 0,0004. Given this very low probability value, the PG data is considered stationary. The IL variable shows the statistical t-

value of the ADF test of 4,9437 with a probability value of 0,0006. Similar to PG, low probability values favor the hypothesis that IL data is also stationary. As for the SED variable, the statistical t-value of the ADF test is 3,7648 with a probability value of 0,0002. This minimal probability value also supports this, which indicates that the SED data is not moving

Regression Analysis Results

Table 3
Results of Regional Tax Regression Analysis in Tulungagung Regency

Variable	Coefficient	Std.Error	Z-Statistic	Prob	R-Square
C	4.638218	0.363283	16.74231	0.0000 ^a	
Population Growth	0.034416	0.019647	5.923419	0.0000 ^a	0.91020
Income Level	0.092312	0.008554	16.35821	0.0000 ^a	
Socio-Economic	0.231872	0.000272	19.82554	0.0000 ^a	
Development					

Source: Data Processed by Author, 2024

The results of regional tax regression analysis in this study show that population growth factors, income levels, and socio-economic development have a significant influence on regional tax revenues in Tulungagung Regency. The regression model used had an R-Square value of 0,91020. It means that about 91% of the variation in local tax revenues could be explained by the three independent variables tested. At the same time, the rest were influenced by other factors that were not included in the model.

The constant coefficient of 4,638218 shows that if all independent variables are considered constant or zero. Then regional tax revenues still have a considerable positive value. It reflects that there are other factors outside the model that still support regional tax revenues, such as fiscal policy, tax administration, and institutional factors that are not included in this study.

Specifically, the population growth variable (PG) has a coefficient of 0,034416, which means that every 1% increase in population growth will increase regional tax revenues by 0,034416 billion rupiah. This result is in line with the theory of public economics, which states that the larger the population of an area, the higher the demand for

public goods and services, which ultimately contributes to an increase in tax revenue through consumption and property taxes. However, the effect was relatively small compared to other variables, which showed that population growth was not the only dominant factor in the increase in regional taxes.

Meanwhile, the income level (IL) has a coefficient of 0,092312, showing that a 1% increase in average public income will increase regional tax revenues by 0,092312 billion rupiah. This positive relationship suggests that as people's incomes rise, their ability to pay taxes also increases, particularly in income and consumption taxes. It is in line with the Tax Justice Theory, where people with higher income levels tend to have greater tax liabilities. In addition, rising revenues can also encourage broader economic activities, such as investment in the property and business sectors, which in turn contribute to local tax revenues.

The socio-economic development variable (SED) has the most significant coefficient. It is 0.231872, indicating that a 1% increase in the socio-economic development index will increase regional tax revenues by 0.231872 billion rupiah.

These findings show that socio-economic factors play a significant role in raising tax revenue. When a region experiences improvements in the quality of education, health services, and infrastructure, labor productivity and economic activity also increase, thus creating a broader tax base. It supports the Economic Growth Theory, which states that sustainable economic development can create a conducive environment for increasing regional tax revenues.

All variables in this model have a probability value (p-value) of 0,0000. It indicates that the regression results are significant at a confidence level of 99% ($\alpha = 1\%$). In other words, there is a very high belief that population growth, income levels, and socio-economic development do have a tangible impact on regional tax revenues.

In Tulungagung Regency, population growth (PG) ranged from 43,76 to 56,09. The surge in PG indicates an increase in the number of people in the population that has the potential to have a positive impact on tax revenue, primarily from consumption tax and property tax. In addition, the increase in PG may affect the demand for infrastructure and public services. The government may need to increase funding through taxes to meet this need. As the population grows, there is a greater demand for amenities such as roads, schools, hospitals, and other public facilities. To meet these needs, local governments need to collect taxes to finance the construction and maintenance of infrastructure and public services. The larger the population of an area, the greater the potential for tax revenue that can be used by the local government to meet the needs of its citizens. Thus, the size of the population is a key factor considered in determining the local tax rate to maintain a balance between needs and available resources.

Discussion

The impact of population growth on local taxes has varied, with research showing direct and indirect effects on fiscal policy and tax rates. Drew, Miyazaki, and Kortt argue that the common assumption among policymakers that population growth drives fiscal health is challenged by their empirical findings, which

show a negative relationship between per capita income and population growth, challenging the idea that growth inherently benefits local government finances (Atanassov & Liu, 2020; Belotti et al., 2021; Li et al., 2021).

Similarly, a study by Fedotov found that population growth, among other factors, does not significantly affect local tax revenues when considered simultaneously, although it has a significant partial impact (Fedotov, 2021). This nuanced relationship suggests that while population growth can affect local tax revenues, the effect is complex and influenced by other economic variables.

Skidmore's research further complicates the picture that local government spending has increased at a rate that cannot be solely explained by population growth. The other factors play a role in determining local fiscal behavior (Octavia et al., 2021). Studies by Humer, Sedlitzky, and Brunner in Austria show that demographic growth, often pursued for perceived financial gains, does not always translate into economic gains for municipalities, especially when considering the infrastructure costs associated with urban expansion.

The income level (IL) in Tulungagung Regency ranges from 34,98 to 65,91. The increase in IL reflects the increase in the average income of the population. The growth can have positive implications for income tax and property tax revenue. Income tax is very sensitive to changes in income levels, so an increase in IL can significantly increase tax revenue. Income level is a key factor in determining local taxes because an individual's income directly affects their ability to pay taxes. Individuals with higher incomes tend to have the ability to pay higher taxes compared to those with lower incomes.

Therefore, local governments often use a progressive tax system, where individuals with higher incomes are subject to higher tax rates than those with lower incomes (Hidayat, 2023). Taxes collected from higher-income individuals can be used to support government programs and public services that benefit the entire society, such as education, health, infrastructure, and security (H. Chen et al., 2021). Thus, the level of individual income is one of the key factors

considered in formulating local tax policies, which aim to ensure fairness and sustainability in funding public services that are important to society.

Local politicians' decision-making processes regarding tax rates are influenced by market size and the level of regional income inequality, which suggests that high-income areas may experience different tax regimes compared to their low-income counterparts (Geringer, 2021). The local tax structures, such as property taxes, often reflect the relationship between household income and property value. While there is a strong positive relationship between property value and income among high-income households, low-income households may not experience this correlation in the same way, leading to a complex dynamic in which local taxes can disproportionately affect different income groups.

Additionally, the effectiveness of state and local tax rates varies significantly across income groups, with high-income households often facing different tax rates compared to low-income families, further complicating the relationship between income levels and local taxation (Martinez, 2023). Economic conditions, including population size, inflation, and GDP, influence regional tax revenues. Specifically, population size and GDP have a positive effect, whereas inflation has a negative impact. It shows that economic and demographic health factors related to income levels can directly affect the capacity of local governments to generate revenue through taxation (Geringer, 2021). Local tax efforts, defined as the extent to which local governments exploit the tax base, are influenced by high personal incomes and adverse socio-economic conditions.

The level of socio-economic development (SEC) in Tulungagung Regency ranges from 29,89 to 55,98. Plays an essential role in determining the welfare of the community. A higher SEC can increase household income, which in turn can increase tax revenue. Factors such as education, health, and job opportunities included in the SEC can significantly affect a resident's ability to pay taxes. Therefore, increasing the SEC can be an effective strategy to increase tax revenues and improve people's welfare. The level of socio-economic development (SEC) in Tulungagung

Regency is an essential factor in determining regional taxes because it affects the potential income of the community and economic activities in the region. The higher the SEC level, the greater the potential for revenue and economic activity in the area.

With the increase in economic activity, the demand for infrastructure and public services is also increasing (Stantcheva, 2021). Local governments need to collect taxes to support infrastructure development and provide adequate public services following the level of socio-economic development (Z. Chen et al., 2023). The SEC level also reflects the welfare of the community, where taxes can be adjusted to ensure fairness in tax contributions and support balanced development in various sectors and segments of society (Drake et al., 2020). Therefore, the level of socio-economic development (SEC) in Tulungagung Regency is one of the factors considered in formulating regional tax policies to ensure sustainable and inclusive growth in the region.

The results of the study show that population growth factors, income levels, and socio-economic development have a significant impact on regional tax revenues in Tulungagung Regency. The findings are in line with the Theory of Fiscal Decentralization, which emphasizes the importance of regional autonomy in tax management to improve the effectiveness of public services. With increasing population growth and community income, regional fiscal capacity is expanding, allowing local governments to allocate resources more optimally.

In addition, regression analysis shows that the increase in income levels has a positive correlation with tax revenue, following the Public Economic Theory, which explains that taxes are the main instrument in income redistribution and local economic stabilization. In line with that, the Tax Justice Theory is also relevant in this context, where taxpayers with higher income levels make a greater contribution to the regional tax system.

However, the effectiveness of regional tax policies also depends on taxpayer compliance, as explained in Tax Compliance Theory. If the level of trust in the government is high and tax

sanctions are applied fairly, then voluntary compliance tends to increase, which contributes to an increase in local tax revenues. The factors of fiscal transparency and accountability, as emphasized in the Theory of Fiscal Accountability, are also decisive in building the legitimacy of regional tax policies in Tulungagung.

The results of this study also show that socio-economic development plays a vital role in regional tax revenue. It is in line with the Economic Growth Theory, which links tax management with regional economic growth. As local revenues increase and are invested in infrastructure and public services, the competitiveness of local economies is increasing, creating a positive cycle in tax revenues.

In this study, there is a trend of increasing regional taxes in Tulungagung Regency, which has increased significantly from IDR 15,37 billion in 2011 to IDR 120,4 billion in 2023. This increase reflects the effectiveness of fiscal policy in increasing regional revenue. However, there has not been in-depth analysis of the sustainability of this trend in the long term. The increase in local taxes continues without considering the community's economic capacity and investment competitiveness. In that case, there is a risk of declining investment in key sectors, including trade, small and medium industries, and the service sector. Based on the theory of optimal taxation, too high taxes can lower investment incentives and cause an outflow of capital to other regions with more competitive fiscal policies. Although the study found a positive correlation between economic growth, income levels, and the increase in local taxes, no further research was conducted to determine whether these tax increases negatively impacted public consumption or the profitability of local businesses. Further research is needed to evaluate the balance between tax increases and economic growth so that fiscal policy in Tulungagung remains sustainable without posing a risk of economic stagnation or a decline in investment.

The long-term impact of the tax increase on key economic sectors in Tulungagung also depends on how the local government allocates

the increased tax revenue. If tax revenues are used effectively to improve infrastructure, education, and public services, it can create a more conducive economic environment for investment and business growth. If the allocation of funds is inefficient or not transparent, the potential benefits of tax increases can be reduced, which may lead to distrust among business actors and the public.

Based on the regression data in this study, socio-economic development factors have the most significant influence on the increase in regional taxes with a coefficient of 0,231872. It shows that regional taxes do not only depend on economic growth, but also on improving the quality of life of the community. If taxes increase faster than economic growth, people and small businesses can experience financial stress that leads to reduced purchasing power and increased production costs. In the long term, this can hinder the growth of the MSME sector, which is the backbone of the local economy.

On the other hand, this study has not explicitly examined whether more aggressive tax policies can cause businesses to switch to different regions that offer more competitive tax incentives. This phenomenon often occurs in areas with less flexible tax structures. The entrepreneurs and investors are looking for locations with more favorable policies. If not anticipated with balanced fiscal policy, Tulungagung risks losing investment attractiveness compared to neighboring regions that offer lower taxes or special incentives.

For the trend of increasing regional taxes to remain sustainable without harming the main economic sectors, local governments need to implement a balanced strategy. Some of the steps providing tax incentives for specific business sectors, increasing transparency in the use of taxes, and adjusting tax rates that take into account the economic capacity of the community and business actors. With this approach, local taxes can continue to increase as the primary source of revenue, but still maintain a balance between economic growth and investment attractiveness in Tulungagung.

On the other hand, the results of the study also show the complexity of the relationship

between economic factors and fiscal policy. The Local Government Behavior Theory is relevant in explaining how budgetary decisions are often influenced by political motives and bureaucratic interests, which can have an impact on the local taxation structure. Therefore, an effective supervision mechanism is needed so that tax policy remains oriented to the public interest and does not become a tool of particular political interests.

CONCLUSIONS AND SUGGESTIONS

The success of decentralization in a particular area is indicated by factors such as increased prosperity, quality of life, access to basic services, transparency, and accountability. Factors such as population growth, local tax policies, and fiscal measures directly and indirectly affect budgetary policy and tax rates, highlighting the complex relationship between population growth and local taxes. In this study, regression analysis reveals significant coefficients for variables such as population growth, income level, and socio-economic development, indicating a substantial impact on local taxes in Tulungagung Regency. Political, institutional, and economic factors play a crucial role in determining regional fiscal policies, including regional income and property tax rates. Population growth ranged from 43,76 to 56,09 in Tulungagung Regency, showing the potential positive impact on tax revenues, especially from consumption and property taxes (World Bank, 2023). The ability of local governments to formulate and implement policies tailored to local needs, increase community participation, and ensure financial transparency and accountability is critical to the success of decentralization. The Social and Economic Development Index (SEC) in the region varies from 29,89 to 55,98. For future research, it is recommended to explore the impact of political and institutional characteristics on fiscal policy further to understand their role in shaping tax rates and generating revenue. Investigate the effectiveness of various budgetary measures in promoting economic development and providing public services to optimize local tax policies. Consider longitudinal studies to track changes in tax policy over time and evaluate the sustainability and inclusivity of decentralization

efforts. Examine the relationship between demographic changes, economic growth, and tax policies more deeply to develop targeted strategies to increase regional tax revenues. Analyze the influence of community participation and financial transparency on the results of decentralization to improve the effectiveness and policies of governance. These suggestions can enrich future research efforts, providing a comprehensive understanding of the dynamics between various factors and local tax policies, ultimately contributing to a more informed policy-making process and sustainable development outcomes.

This study has several limitations that open opportunities for further research. First, it focuses on only three main variables: population growth, income levels, and socio-economic development as determinants of local tax revenue. While in practice, other influential factors such as national fiscal policies, taxpayer compliance, the effectiveness of tax administration, and regional political and institutional dynamics may also play significant roles. Second, the study is geographically limited to Tulungagung Regency, which means the findings may not be generalizable to other regions with different economic, social, and fiscal characteristics. Third, the quantitative approach using the Error Correction Model (ECM) does not explore qualitative dimensions such as public perceptions of taxation or cultural influences on taxpayer behavior. Therefore, future research is encouraged to adopt a mixed-methods approach, expand the geographical scope, and incorporate institutional and policy-related variables to provide a more comprehensive understanding of the factors affecting local tax performance.

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