Policy Paper

Examining How Macroeconomic Variables Influence Regional Autonomy: An Examination of Local Taxing Power

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Abstract

The Indonesian Central Government has granted local governments greater autonomy and authority in resource management, a process called decentralization. The impact of macroeconomic factors on regional autonomy in Jambi Province following fiscal decentralization explores how decentralization empowers local governments to optimize local income. The Financial Relations Law (UU HKPD) underscores the importance of local taxing Power for local administrations. Methodologically, this study utilizes panel data regression to investigate the influence of macroeconomic variables on regional autonomy. The qualitative analysis method is also employed to formulate policy strategies for enhancing local taxing Power. Results reveal some macroeconomic variables have a significant effect on regional autonomy. These are some recommendations to strengthen regional autonomy in Jambi Province, such as the identification of leading sectors regarding income tax, enhancement of supervision and law enforcement, taxpayer education, improvement of public service quality, the establishment of tax collection task forces, and innovation in tax administration.

Keywords: local taxing power; macroeconomic; regional autonomy; Jambi.

1.　Introduction

As one of the factors indicating the local government's ability in terms of independent financing for regional development activities, the level of regional autonomy needs to be analyzed. It is underlined by the enactment of Act No.22/1999 on Regional Governance and Act No.25/1999 on Equalizing Funds Between Central and Local Government, which then both acts were updated to Act No.32 and Act No.33/2004, respectively, The Indonesian Central Government has been granting local governments greater autonomy and authority in resource management. Additionally, the people directly elect local governments, reflecting a commitment to democratic governance and decentralization. This move empowers local communities to have a direct say in selecting their government officials. It ensures that decisions regarding local affairs align more closely with the needs and preferences of the citizens. Decentralization in Indonesia holds the potential to bolster the nation's strength, granting autonomy to local governments to tailor development strategies according to their specific requirements (Surya, 2012). Through regional autonomy, these authorities demand the districts to be more fiscally independent, where each region is expected to accelerate economic growth, which in turn can increase local financial capacity and improve its service to the community (Irdam, 2022). Budgetary autonomy is essential for fulfilling the designated responsibilities at every tier of government. In addition to intergovernmental transfers, the capacity of local administrations to generate their own revenue sources emerges as a critical concern. Decentralization could impede economic development if local authorities struggle to implement suitable local taxation measures, as inadequate funding may hamper economic activities within their jurisdiction (Bahl, 1999). In the fiscal dynamic between the central and local governments, funds are transferred from the central government to the local administrations to support their operations. Most regions in Indonesia continue to rely on transfers from the central government. With the advent of fiscal decentralization, approximately one-third of public expenditure from the national budget is annually allocated to local governments.

The province of Jambi is one of the provinces on the island of Sumatra, Indonesia, which has chosen to implement the Financial Relations Law between the Central Government and Regional Governments (UU HKPD). This law serves as a fiscal synergy aimed at harmonizing the actions of the central and regional governments, ensuring the effective and efficient achievement of national development goals and high economic growth. The HKPD Law was enacted in 2022. One of the contributions to overseeing the implementation of the Financial Relations Law between the Central Government and Regional Governments (HKPD) is strengthening Local Taxing Power to enhance regional autonomy and optimize local revenue. Taxing Power, or the jurisdiction to impose taxes, is the authority of the government to levy taxes within its jurisdiction (Fiscal Policy Agency, 2019). The selection of the research location in Jambi Province is not without reason. The province of Jambi has considerable natural resource potential, particularly in the agricultural sector. On the other hand, Jambi Province is strategically located in the Indonesia-Malaysia-Singapore Growth Triangle (IMS-GT) area and is very close to the Straits of Malacca (80 miles) (Zevaya et al., 2022). According to The Directorate General of Fiscal Balance, (2023), until September 30th, 2023, transfer income still contributes the most, amounting to Rp7,558.75 billion out of a total income of Rp10,026.78 billion, or approximately 75.39% of the total income. This indicates that central government support through transfer income remains the dominant factor for funding in the Jambi province. Currently, Jambi Province is the most rapidly developing province on the island of Sumatra. Based on the competitiveness analysis data of provinces in Indonesia by Asian Competitiveness Institute, (2020), Jambi Province ranks fifth out of 10 provinces on the island of Sumatra. Therefore, the economic movement and agglomeration activities in Jambi Province have significantly developed. Urban agglomeration represents a sophisticated spatial configuration of interconnected cities, transitioning from competitive relations to collaborative competition. Within urban agglomerations, cities are intricately linked, serving as pivotal catalysts for global economic advancement and fostering regional economic prosperity (Fang & Yu, 2017). Agglomeration pertains to the concentration of firms within a specific geographic region. Agglomeration economies elucidate the factors leading to the spatial proximity of employees and firms. These economies manifest when multiple firms producing akin or complementary goods cluster together, thereby generating beneficial externalities for those firms. Agglomeration economies encompass two main categories: those stemming from the clustering of industries (localization economies) and those arising from the intensity of economic activities within an area (urbanization economies) (Bolter & Robey, 2020). However, the province of Jambi still heavily relies on transfer funds from the central government. This is one of the reasons why researchers are interested in further examining the issue. It is hoped that existing policies can also serve as a reference for other

provinces to explore local revenue sources. Moreover, the Financial Relations Law between the Central Government and the Regions has been enacted with strengthened local taxing Power. This will be the subject of further research and discussion by juxtaposing several macroeconomic variables for analysis.

The Financial Relations Law between the Central Government and Regional Governments (HKPD) has created opportunities for improved regional revenue in the province of Jambi. It can be observed through the increased regional autonomy as follows:

Table 1. The Independence Level of Jambi Province during 2017-2022 (percentage)

Province	2017	2018	2019	2020	2021	2022
Jambi	0.83	0.80	0.76	0.75	0.79	0.79

Source: (Directorate General of Treasury, 2023).

Based on the below data, the development of regional autonomy in the province of Jambi during the period 2017-2021 fluctuated within the range of 0.36% to 0.39% and experienced an increase in 2022 to 0.43%. This increase in regional autonomy also resulted in an uptick in the Local Tax Ratio for the province of Jambi in 2021 and 2022. It can be seen in Table 2:

Table 2. Local Tax Ratio of Jambi Province 2017-2022 (percentage)

Province	2017	2018	2019	2020	2021	2022
Jambi	0.368	0.380	0.361	0.349	0.391	0.431

Source: (Directorate General of Treasury, 2023).

Local Tax Ratio (LTR) is the ratio of local tax and levy revenue to the gross regional domestic product (GRDP) (Secretary General of House of Representative Indonesia, 2014). Looking at the table above, the LTR in the province of Jambi increased from 2017 to 2022. However, considering the implementation of the Financial Relations Law between the Central Government and Regional Governments (HKPD) in 2022, the Local Tax Ratio increased compared to 2019 and 2020, remaining relatively stable compared to 2021 but showing a decrease compared to 2017 and 2018. This phenomenon is attributed to the COVID-19 pandemic in 2019-2020, causing a decline in the Local Tax Ratio from the previous years. The ratio began to rise in 2021-2022 due to the implementation of adjusted strategies to increase regional revenue. In some earlier studies, the analysis of the improvement of regional autonomy only utilized macro variables such as taxes, levies, and economic indicators. The results obtained were partial, with each variable showing no significant impact on the level of regional autonomy (Orocomna et al., 2017).

Other studies have indicated that local taxes, local levies, and infrastructure, individually, do not significantly impact the level of regional autonomy (Amal, 2020). Rafsanjani & Agustina (2022) found the areas with low tax capacity and tax efforts may be due to a lack of taxable sectors or many sectors that could potentially be taxed but have not been explored by local governments. Out of 34 provinces in Indonesia, only 13 provinces have a tax ratio above the national average, with variables such as regional expenditure and Gini ratio significantly positively influencing the tax ratio, while the share of GDP from the manufacturing sector and the human development index (HDI) significantly negatively influence the tax ratio. Based on tax capacity and tax effort obtained from the estimation results, there are 19 provinces with low tax capacity and 16 provinces with low tax effort. To enhance the effectiveness of local tax collection, the local government must enforce strict penalties to ensure taxpayers' compliance with tax payment deadlines.

Furthermore, investing in training, research, and thorough inspections aligned with existing regulations is crucial. Additional studies are needed to establish target figures and revenue realization benchmarks. If the actual revenue exceeds the set targets or fails to meet expectations, the local government should explore alternative financing sources to bridge any shortfall (Zamzami & Zevaya, 2020). Subroto (2017) observed that some of the literature surveyed suggests that regional autonomy policies and development initiatives may negatively impact economic growth. Looking ahead, this study recommends leveraging regional policies to expedite societal economic growth (Andrea & Agnese, 2016). There is currently a lack of research attempting to analyze the level of regional fiscal autonomy through the synergy of local tax ratios and macroeconomic variables, such as per capita gross regional domestic product, economic growth, and population size, in strengthening local taxing Power, in line with the implementation of the Financial Relations Law between the Central Government and Regional Governments (UU HKPD). Therefore, we are interested in further examining this matter through this research.

2. Methods

This research utilizes panel data from the period 2017-2022 obtained from the Regional Budget (APBD) and reports from the Central Statistics Agency (BPS), including gross regional domestic product per capita (PDRBPK), economic growth (PE), population (JP), and LTR from all districts/cities in the province of Jambi. The data processing employs a quantitative approach using panel data regression. The variables in this study consist of PDRBPK, PE, JP, LTR, and regional autonomy level (TKD). Panel data regression is a statistical model crafted to evaluate the influence of one or more predictor variables on a response variable, leveraging the distinctive data structure inherent in panel data. Alamsyah et al. (2022) explain that panel data constitutes a blend of cross-sectional and time series data. Estimating the regression model can be achieved through three distinct approaches, as outlined below:

2.1 Common Effect Model or Pooled Least Squares (PLS)

In this model, the time and individual dimensions are not considered, and it is also assumed that C behavior uses the ordinary least squares (OLS) approach. The form of the equation is as follows:

$$y_{it} = \alpha + \beta^t X_{it} + \varepsilon_{it} \tag{1}$$

Note: i = 1, 2,..., N and t = 1, 2,...., T, where N is the number of cities, and T is the number of time periods. This model makes the NxT equation equal to the T cross equation and as much as the N coherent time equation, or time row.

β^t is the effect of the explanatory variable on the variable of interest

X_{it} is a vector of explanatory variables

ε_{it} is the error term

2.2 Fixed Effect Model (FEM)

The FEM model assumes that the differences between individuals can be accommodated by their interpersonal differences. The FEM model is often also interpreted as a model with the least squares dummy variable (LSDV) technique. The FEM model equation is as follows:

$$y_{it} = \alpha_i + \beta^t X_{it} + \varepsilon_{it} \tag{2}$$

Note: i = 1,2,...., N and t = 1,2,...., T.

N shows the number of cities, and T shows the number of time periods

α_i is the individual effect, where α_1, α_2, α_3, etc., are unknown parameters to be estimated

β^t is the effect of the explanatory variable on the variable of interest

X_{it} : Vector of explanatory variables

ε_{it}: error term

2.3   Random Effect Model (REM)

The REM model estimates the relationship between the element of interference error between time and between individuals. Differences are accommodated by the element of disturbing error in each individual. The equation is as follows:

$$y_{it} = \alpha + \beta^t X_{it} + \mu_i + \varepsilon_{it} \tag{3}$$

Note: i = 1,2,…, N and t = 1,2,…T

N shows the number of cities, and T shows the number of time periods

α: a constant that captures all unit-specific effects

β^t is the effect of the explanatory variable on the variable of interest

X_{it} : Vector of explanatory variables

μ_i: error term whose magnitude is proportional to the variance of the unit-specific effect

ε_{it} : residual that combines cross-section and time series

i: is the city residual

The random effect estimator assumes that μ_i is not correlated with the explanatory variables; thus, μ_i is another component of the error term. In other words, in REM, the error term is $\mu_i + \varepsilon_{it}$. In panel data regression, there are several ways to determine the best model:

2.4   Chow Test

It is the best model selection test of the common effect or fixed effect that is most accurately applied in estimating panel data. Here are the hypotheses in the Chow test:

H_o: Common effect model or pooled ordinary least squares is better

H_1: Fixed effect model is better

The basic assumption of rejection of the above hypothesis is comparing F-stat with F-table. If F-stat is greater than F-table, then H_o is rejected, and FEM is the best model. Similarly, the common effect model is the best if the F-stat is smaller than the F-table.

2.5   The Hausman Test

The hypothesis formulated in the Hausman test is as follows:

H_o: Random effect model is better

H_1: Fixed effect model is better

If the probability value (p-value) is smaller than 0.05, then H_o is rejected. On the contrary, if the p-value is greater than the constant value, then H_o is not rejected.

2.6   The Lagrange Multiplier Test

This test is helpful to determine whether REM is better than PLS.

H_o: Pooled least squares effect model is better

H_1: Random effect model is better

The basis of the test considers a chi-square distribution. If the p-value of the Lagrange multiplier test results to be greater than 0.05, then H_o is not rejected, while H_1 is rejected.

2.7   Qualitative Analysis Approach

Qualitative analysis is a research method used to explore and understand the underlying meanings, motivations, and patterns in qualitative data. Unlike quantitative analysis, which focuses on numerical data and statistical methods, qualitative analysis deals with non-numeric data, such as text, images, videos, or observations. In qualitative analysis, researchers systematically analyze qualitative data to identify themes, patterns, and relationships. This procedure typically includes encoding, classifying, and interpreting the data to reveal insights and formulate theories. Qualitative analysis strives to offer an intricate and thorough comprehension of the research topic, often grasping subtleties and intricacies that quantitative methods may overlook. The qualitative approach in this research utilizes an application developed by QSR International, namely NVivo. NVivo serves as a tool for managing data from various sources, including focus group discussions (FGD), in-depth interviews, and other sources such as books, research reports, historical documents, journals, field notes, memos, and more. NVivo facilitates qualitative research in handling non-numeric data, such as text and visual information. Coding is crucial in qualitative research because it bridges the gap between data collection and explaining meaning (Priyatni & et al., 2020).
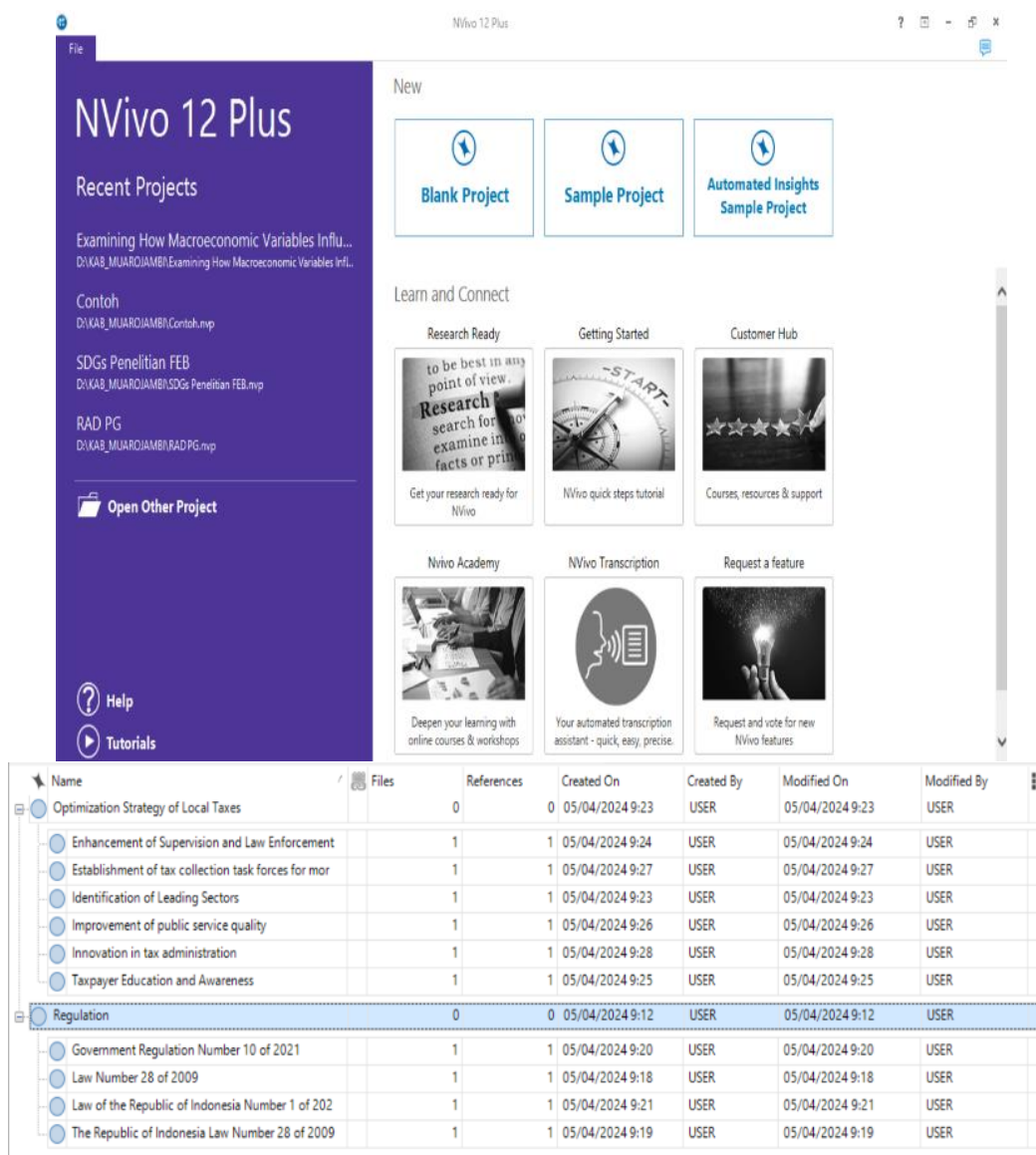

Figure 1. NVivo Design

3.　Results and Discussion

The study investigates the interrelation of macroeconomic variables PDRBPK, PE, JP, and LTR as independent variables on the TKD as the dependent variable. This case study is conducted in Jambi Province and estimated in the following format:

3.1　The Model Selection

3.1.1　Chow Test

Table 3. Chow Test Result

Redundant Fixed Effects Tests			
Test cross-section fixed effects	Statistic	d.f.	Prob.
Cross-section F	5.6521	(10,47)	0.0001
Cross-section chi-square	48.9567	10	0.0001

The significance value of 0.0001 < 0.05 indicates that the FEM is selected. Follow-up tests are conducted subsequently.

3.1.2　The Hausman Test

Table 4. Hausman Test Result

Correlated Random Effects – Hausman Test			
Test Summary	Statistic	d.f.	Prob.
Cross-section random	4.1760	4	0.3827

The significance value of 0.3827 > 0.05 indicates that the REM is selected.

3.1.3　Lagrange-Multiplier Test

Table 5. Lagrange Multiplier Test Result

Lagrange Multiplier Tests for Random Effects		
Breusch-Pagan	Statistic	Prob.
Cross-section	24.0066	0.0001
Test Hypothesis Time	0.3126	0.5761
Both	3.8642	0.0001

The significance value of 0.0001 < 0.05 indicates that the REM is selected; therefore, REM is more appropriate.

3.2　Discussion

The results of the REM in panel data regression are:

Table 6. Random Effect Model Result

Variable	Statistic	Prob.
C	-2.8109	0.0068
PDRBPK	3.1890	0.0023
PE	-1.2187	0.2280
JP	5.5446	0.0001
LTR	9.4323	0.0001

Source: Processed, (2023).

The t-statistic value of 0.0023 for PDRBPK is less than 0.05; thus, it can be concluded that this variable PDRBPK significantly influences the TKD variable in Jambi Province. These research findings contradict the previous study (Pratiwi, 2016b), which concluded that PDRBPK significantly affects the level of regional autonomy. Similarly, these results are inconsistent with the study by Nyoman, et al., (2010), which found that PDRBPK does not affect the level of regional autonomy (TKD) in Bali Province. An interesting aspect

of this research is to conclude why PDRBPK does not significantly affect the level of regional autonomy and how these results differ from previous studies. It is because, theoretically, implementing regional autonomy and fiscal decentralization necessitates a thorough examination and measurement of government performance. The success of governments in the era of regional autonomy can be assessed through various performance indicators they have achieved.

Additionally, budget management based on performance provides a more specific overview of the local government's ability to tap into regional potential to increase revenue, which will impact their capacity to finance governance and regional development activities (Idris & Samsinar, 2022). Therefore, it can be concluded that budget management and exploration of regional potential have not been maximally implemented. Per capita income levels generally trend towards convergence, indicating a growing uniformity among regions in various underlying components. While significant shifts in shares and widening of per capita disparities may still occur in the future due to the uncertain impact of changing economic conditions, the overall impression persists of a vast geographic area gradually integrating into a cohesive economic entity. It suggests an increasingly balanced distribution of resources across regions, leading to a more efficient allocation of geographic resources (Easterlin, 1960).

The Economic Growth (PE) variable has a t-statistic value of 0.2280 > 0.05. Consequently, it can be concluded that the PE variable does not significantly affect the TKD variable in Jambi Province. This research finding is consistent with a previous study conducted in the case of Manado City by Karouw et al. (2022), which showed that economic growth does not influence the level of regional autonomy. It could be influenced by internal factors such as limited job opportunities and improved human resources quality, which could affect fluctuations in economic growth and government revenue through taxes to assist in regional self-financing. The region can enhance fiscal space through various means, such as focusing on human resource development and improving the public sector, such as infrastructure, to facilitate economic activities (Kusuma, 2016). According to Kawa in Sawitri et al. (2020), the government must increase capital investment to foster regional economic growth. Adi (2007) emphasizes that the economic growth observed thus far is primarily influenced by factors related to regional development expenditure. It aligns with Kuncoro's (2004) assessment, which highlights that local governments' improvement of facilities and infrastructure positively contributes to economic development. Hamzah (2008) asserts that a region's economic growth is influenced by local governments' financial performance, where the autonomy ratio and harmony ratio collectively yield a positive outcome on economic growth, while the efficiency ratio does not significantly affect economic development. Additionally, Harianto & Adi, (2007) suggest that local own-source revenue impacts economic growth. Conversely, Kawa, (2011) argues that the ratios of provincial autonomy, effectiveness of local revenue, and spending efficiency do not substantially influence economic development, while the ratios of operational expenditure conformity and capital expenditure harmony have a significant positive impact on economic growth.

JP has a t-statistic value of 0.0001 < 0.05, so JP significantly influences the TKD variable in Jambi Province. This research finding contradicts the study conducted by Saldi et al. (2021), which found that the macroeconomic variable JP does not affect the local own-source revenue (PAD) of Kerinci district, which the government uses for regional development financing that determines the level of regional autonomy and is supported by the research conducted by Nyoman,et al., (2010) that JP does not directly influence TKD in Bali province. However, these research findings are supported by the study conducted by Pratiwi (2016a), which found that the macroeconomic variable JP influences TKD, and also supported by Waluyo (2011), who stated that an increasing population would lead to an increase in the consumption of the population; consequently, the revenue from levies and taxes will also increase, leading to an automatic increase in PAD. This increase in PAD will then be used to finance the activities and governance of a district/city government, meaning the region can be self-reliant in its governance. In line with Gebremedhin et al., (2007) an expanding population reflects the relative attractiveness of counties to migrants, thereby stimulating demand for consumer services. It, in turn, fosters business growth and employment opportunities, serving as additional sources of income for the county.

The variable LTR has a t-statistic value of 0.0001 < 0.05, meaning that the LTR variable significantly influences the TKD variable in Jambi Province. It is consistent with the research conducted by Parwoto & Luthfansa (2019) and Marta (2010) that the local tax ratio impacts PAD, affecting regional autonomy in financing regional government operations. One unmistakable sign of organization and head-to-head relations that is of public worry at present is the devolution of Power from the focal government to territorial governments, namely decentralization, including fiscal decentralization (Tuasikal, 2008).

Increasing local own-source revenue will stimulate regional economic growth. Such an increase will catalyze regional economic growth to surpass previous levels and optimize activity in sectors crucial for economic expansion, including industry, trade, services, and others. Capital expenditure is subject to public scrutiny within the realm of public finance management, particularly regional finance. This scrutiny is justified as every allocation of financial resources addresses community needs and enhances welfare. It reflects public trust in government stewardship of public funds. Agency theory elucidates the relationship between principals and agents, as seen in contracts between individuals or groups, serving as a cornerstone for public fund accountability.

Qualitative analysis is a research method used to explore and understand the underlying meanings, motivations, and patterns in qualitative data. Unlike quantitative analysis, which focuses on numerical data and statistical methods, qualitative analysis deals with non-numeric data, such as text, images, videos, or observations. In qualitative analysis, researchers systematically analyze qualitative data to identify themes, patterns, and relationships. This process often involves coding, categorizing, and interpreting the data to uncover insights and develop theories. Qualitative analysis aims to provide a rich and detailed understanding of the research subject, often capturing nuances and complexities that may not be captured by quantitative methods alone. There are various approaches to qualitative analysis, including content analysis, thematic analysis, grounded theory, and narrative analysis. Each approach offers different techniques and frameworks for analyzing qualitative data, allowing researchers to choose the most appropriate method based on their research questions, data type, and theoretical perspective. Overall, qualitative analysis is a valuable tool for gaining deeper insights into complex social phenomena and human experiences. In this research, the qualitative analysis approach is adopted based on discussions with local experts, resulting in several alternative strategies that can be formulated to optimize local taxes in Jambi Province. This is motivated by the following legal regulations :
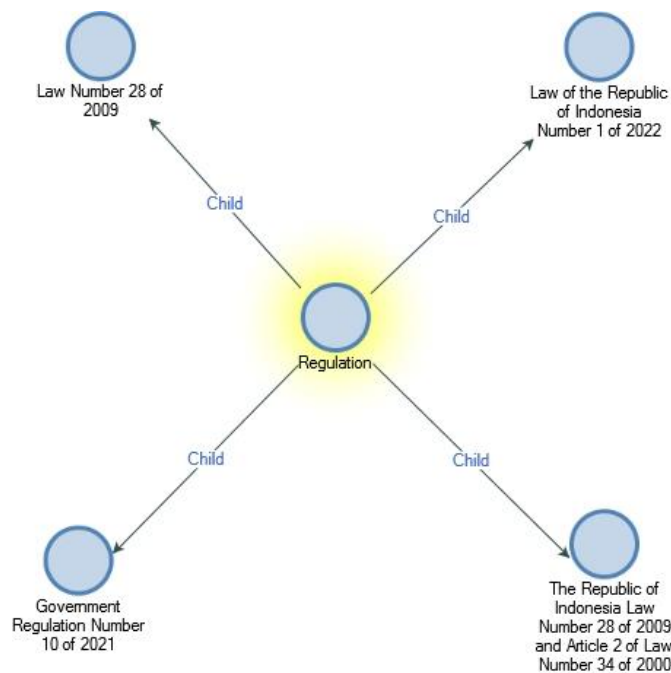
Figure 2. Regulation on the Optimization of Local Taxes as one of the sources of local own-source revenue in Jambi Province

Based on the above diagram, it can be explained that there are regulations regarding the optimization of local taxes, namely, Law Number 28 of 2009 Regarding Local Taxes and Local Levies to enhance local taxing Power, there are regulations aimed at strengthening the local tax base and improving compliance; The Republic of Indonesia Law Number 28 of 2009 and Article 2 of Law Number 34 of 2000 Regarding local taxes and levies, there is an emphasis on improving the quality and quantity of local government officials; Government Regulation Number 10 of 2021 concerning Local Taxes and Regional Levies in Support of Ease of Doing Business. For example, online services and online taxation; Law of the

Republic of Indonesia Number 1 of 2022 Financial Relations between the Central Government and Regional Governments, implementation system.

Here are the formulated policy strategies to optimize local taxes to support local taxing Power:
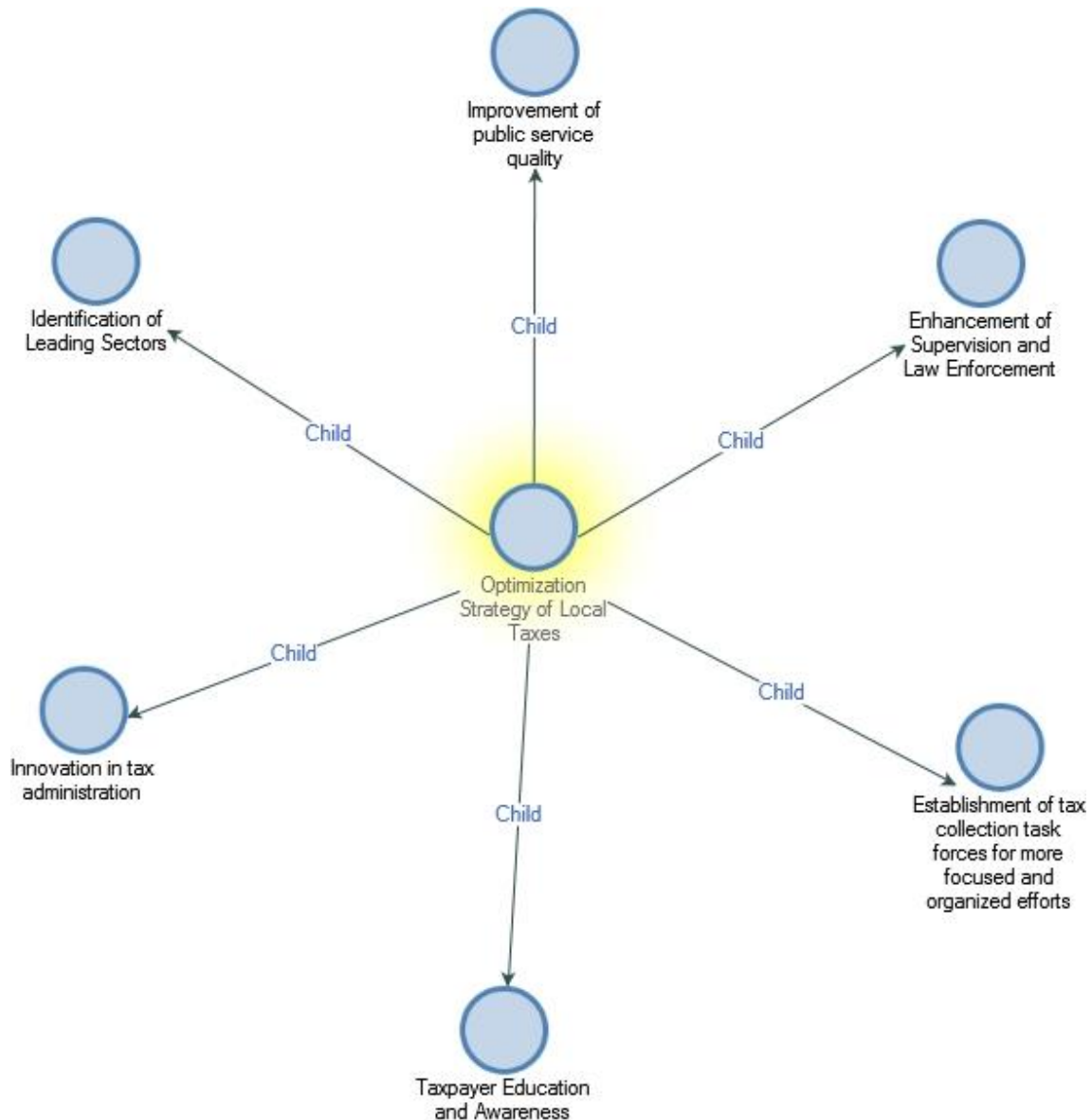

Figure 3. The Optimization Strategy of Local Taxes in Jambi Province

Identification of Leading Sectors Regarding income tax, sectors such as mining, such as coal in corporate taxes, or the tourism sector (national parks, nature reserves) in parking fees; Enhancement of Supervision and Law Enforcement regarding the effectiveness of tax enforcement and law enforcement agencies, as well as strict sanctions for tax violators; Taxpayer Education and Awareness regarding educating the public about the importance of paying taxes and the benefits of being a taxpayer; Improvement of Public Service Quality regarding the quality of public services, local governments can encourage voluntary tax payment; Establishment of tax collection task forces for more focused on organized efforts by forming a trained and effective team in tax collection can help increase revenue; Innovation in tax administration the implementation of e-filing, online tax payment, and real-time monitoring of tax payments can help reduce errors and improve reporting accuracy.

Conclusion

In Jambi Province, the PDRBPK is found to have a significant impact on TKD, indicating its crucial role in determining the region's self-reliance. Conversely, economic growth is observed not to significantly contribute to the regional autonomy level, suggesting that other factors may be more influential in this regard. On the other hand, JP emerges as a significant factor affecting fluctuations in the increase of regional autonomy, indicating the demographic aspect's importance in regional dynamics. Additionally, the Local Tax Ratio is found to significantly influence fluctuations in the rise of regional autonomy, underscoring the role of local taxation policies in shaping regional financial independence. Based on the findings, we recommend such as: a) further investigation could delve into the specific mechanisms through which GRDP influences the level of regional autonomy, b) identifying alternative factors impacting regional autonomy, c) conducting a longitudinal analysis of population dynamics and their relationship with fluctuations in the increase of regional autonomy could provide a deeper understanding of demographic trends and their implications for regional governance, d) conducting a policy analysis of local taxation systems and their effects on regional autonomy. Those recommendations operationalize by implementing the policy options: a) establishing a research team comprising experts in economics, demography, and regional development, b) conducting rigorous data analysis using appropriate statistical techniques to examine the relationship between population dynamics and regional autonomy fluctuations over time, c) engaging relevant stakeholders, including regional governments, policymakers, community organizations, and academic institutions, throughout the research process. Seek their input, feedback, and buy-in to ensure the relevance and feasibility of the policy recommendations. Strengthening supervision and law enforcement mechanisms is crucial to ensuring tax compliance and deterring evasion. Taxpayer education and awareness play a key role in fostering voluntary compliance by highlighting the importance of taxation and its benefits. Improving the quality of public services can incentivize voluntary tax payments by enhancing public trust and perceived value. Establishing specialized tax collection task forces can streamline collection efforts and enhance revenue mobilization. Innovation in tax administration, such as e-filing and online payment systems, offers efficiency gains and improves compliance outcomes. A comprehensive approach integrating sectoral identification, enforcement enhancements, taxpayer education, service quality improvements, task force establishment, and administrative innovation is essential for optimizing tax revenue collection and supporting sustainable fiscal management.

Recommendation

It is recommended that multilevel analysis be employed to address the issue of interdependence or dependency among observations within different groups. Multilevel analysis, also known as hierarchical linear modeling, is a statistical technique used to analyze data with a hierarchical or nested structure. This approach allows for examining relationships between variables at different levels of analysis, such as individuals within groups or groups within larger units. By utilizing multilevel analysis, researchers can account for the hierarchical nature of the data and investigate how individual-level and group-level factors influence outcomes simultaneously. Expanding the scope of macroeconomic variables is another recommendation for future research. While the current study focuses on key macroeconomic indicators, additional variables may provide valuable insights into the dynamics of the potential economic sector. By incorporating a broader range of macroeconomic variables into the analysis, researchers can obtain a more comprehensive understanding of the determinants of local taxing power performance. This can help policymakers and stakeholders identify areas for intervention and formulate more effective strategies to enhance the generated income. In addition to multilevel analysis and the expansion of macroeconomic variables, future research could also explore other methodological approaches and data sources to enrich the analysis further. For instance, longitudinal data analysis techniques could be employed to examine trends and patterns in agricultural sector performance over time.

Acknowledgments

References

Amal, M. I. (2020). *Analysis of Factors Influencing Financial Autonomy of Central Aceh District*. Universitas Islam Negeri Sumatera Utara.

Andrea, F., & Agnese, S. (2016). Decentralisation and economic growth reconsidered: The role of regional authority. *Environment and Planning C: Government and Policy*, *34*(8). https://doi.org/10.1177/0263774X1664223

Asian Competitiveness Institute. (2020). *Competitiveness Analysis of Provinces in Indonesia*.

Bahl, R. . (1999). Fiscal decentralization as development policy. *Public Budgeting and Finance*, *19*(2), 59–75. https://doi.org/10.1046/j.0275-1100.1999.01163.x

Bolter, K., & Robey, J. (2020). *Agglomeration Economies: A Literature Review*.

Easterlin, R. A. (1960). *Trends in the American Economy in the Nineteenth Century*. Princeton University Press.

Fang, C., & Yu, D. (2017). Urban agglomeration: An evolving concept of an emerging phenomenon. *Landscape and Urban Planning*. https://doi.org/https://doi.org/10.1016/j.landurbplan.2017.02.014

Gebremedhin, T., Schaeffer, P. V., Jackson, R., Gebremariam, G. H., & Phipps, T. (2007). An Empirical Analysis of Employment, Migration, Local Public Services and Regional Income Growth in Appalachia (70).

Hamzah, A. (2008). *Financial Performance Analysis on Economic Growth, Unemployment, and Poverty: Path Analysis Approach*. Universitas Trunojoyo.

Harianto, D., & Adi, P. H. (2007). The Relationship Between General Allocation Fund, Capital Expenditure, Local Own-source Revenue, and Per Capita Income. *Simposium Nasional Akuntansi X*.

Idris, H., & Samsinar. (2022). The Influence of Expenditure Growth and Financial Autonomy of Regions on Gross Domestic Regional Product (GDRP) During the Covid-19 Pandemic in South Sulawesi. *Proceedings of National Seminar*.

Irdam, A. (2022). Regional Fiscal Independence In East Java Province Post Regional Autonomy. *Economic Journal of Emerging Markets*, 189–198. https://doi.org/10.20885/ejem.v3i2.2330

Karouw, T. ., Daisy, S. ., & Engka, K. D. . (2022). Pengaruh Pertumbuhan Ekonomi, Penerimaan Retribusi Daerah dan Penerimaan Pajak Daerah Terhadap Tingkat Kemandirian Keuangan Daerah Di Kota Manado. *Paper Knowledge . Toward a Media History of Documents*, *22*(4).

Kawa, E. P. (2011). *The Influence of Local Government Financial Performance on Regional Economic Growth Post-Implementation of Regional Autonomy Laws (A Study on District/City Governments in Indonesia).* Universitas Sebelas Maret.

Kuncoro, H. (2004). *The Influence of Intergovernmental Transfers on the Fiscal Performance of Local Governments in Cities and Regencies in Indonesia*. *9*(1).

Kusuma, H. (2016). Desentralisasi Fiskal dan Pertumbuhan Ekonomi di Indonesia. *Jurnal Ekonomi Kuantitatif Terapan*, *9*(1), 1–11. DOI: 10.24843/JEKT.2016.v09.i01.p01

Marta, I. (2010). *Exploring Indonesia Tax Ratio Development 1970-2010*.

Nyoman, N., Utama, I. made suyana, & Wirathi, I. G. A. P. (2010). *Pengaruh Jumlah Penduduk dan PDRB per Kapita Terhadap Penerimaan PKB dan BBNKB Serta Kemandirian Keuangan Daerah Provinsi Bali Tahun 1991-2010*. 543–562.

Orocomna, M., Bharanti, B. E., & Layuk, P. K. A. (2017). FACTORS INFLUENCING REGIONAL AUTONOMY IN TELUK BINTUNI DISTRICT 2010-2015. *Jurnal Keuda*, *2*(3). https://doi.org/10.52062/keuda.v2i3.725

Parwoto, P., & Luthfansa, M. A. . (2019). No Title. *Jati: Jurnal Akuntansi Terapan Indonesia*, *2*(1), 35–40. https://doi.org/10.18196/jati.020115

Pratiwi, S. . (2016a). Pengaruh Penduduk dan PDRB per Kapita Terhadap Kemandirian Keuangan Melalui PKB dan BBNKB. *Artikel Ilmiah*.

Pratiwi, S. O. (2016b). Pengaruh Penduduk dan PDRB per Kapita Terhadap Kemandirian Keuangan Melalui PKB dan BBNKB. *Artikel Ilmiah*.

Priyatni, E. T., & et all. (2020). *Utilizing NVivo in Qualitative Research*. Universitas Negeri Malang.

Rafsanjani, A. H., & Agustina, N. (2022). Analysis of Local Tax Performance Through Tax Capacity and Tax Effort in Indonesia 2014-2018. *Asian Journal of Business Environment*, *12*(4), 43–53. Doi: 10.13106/ajbe.2022.vol12.no2.43

Saldi, A., Zulgani, & Nurhayani. (2021). Analisis pengaruh PDRB dan jumlah penduduk terhadap Pendapatan Asli Daerah Kabupaten Kerinci. *E-Jurnal Perspektif Ekonomi Dan Pembangunan Daerah*, *10*(3). https://doi.org/10.22437/pdpd.v10i3.16260

Sawitri, N. P. Y. R., Perdanawati, L. P. V. I., Nyoman, N., Sudiyani, & Setini, M. (2020). Local Revenue and Financial Independence on Economic Growth Through Capital Expenditure. *Jurnal Ekonomi*, *XXV*(2). http://dx.doi.org/10.24912/je.v25i2.683

Subroto, W. (2017). Entreprenuership and competitiveness development to foster businesses online activities by online: empirical studies in Universitas Negeri Surabaya. *International Journal of Economic Research*, *14*(4), 271–276.

Surya, R. (2012). FISCAL DECENTRALIZATION, GROWTH AND DISPARITY AMONG REGION IN INDONESIA. *Jurnal BPPK Kementerian Keuangan*, *4*. https://doi.org/10.48108/jurnalbppk.v4i0.58

The Directorate General of Fiscal Balance, M. of F. (2023). *The calculation of transfers to regions and village funds*.

Tuasikal, A. (2008). The Influence of General Allocation Fund (DAU), Special Allocation Fund (DAK), Local Own-source Revenue (PAD), and Gross Regional Domestic Product (PDRB) on the Economic Growth of District/City Governments in Indonesia. *Jurnal Telaah & Riset Akuntansi*, *1*(2).

Waluyo, B. (2011). *Pengaruh Pajak Reklame, Pajak Restoran, Retribusi Jasa Umum, Jumlah Penduduk dan Jumlah Industri terhadap Pendapatan Asli Daerah Kota Depok, Jawa Barat.* Universitas Gunadarma.

Zamzami, & Zevaya, F. (2020). Potential Study and Strategy of Enhancement Local Tax in Bungo Regency. *4th Padang International Conference on Education, Economics, Business and Accounting*. 10.2991/aebmr.k.200305.066

Zevaya, F., Putri, R., & et all. (2022). A Portrait of the Creative Economy Sub-Sector in the Growth Triangle Area. *International Journal of Asian Social Science*, *12*(12). https://doi.org/https://doi.org/10.55493/5007.v12i12.4688