

# Strategic enhancement of motor vehicle taxation in Jambi Province: A pathway to strengthened regional fiscal autonomy

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## Abstract

This research aims to develop strategies for boosting motor vehicle tax revenue in Jambi Province. It employs a combination of secondary and primary data, including a time series analysis from 2007 to 2021. The data covers the number of vehicles, the average motor vehicle tax, and revenue realization in Jambi Province. Primary data were gathered from in-depth interviews with experts in local taxation. The study employs descriptive analysis and a SWOT approach for analytical depth. Findings reveal a consistent increase in two- and four-wheeled vehicles from 2017 to 2021 in Jambi Province, potentially signalling economic growth or shifts in mobility patterns. A critical insight from this study is the notable disparity between the rising number of vehicles and the corresponding realization of tax revenue. Specifically, the average tax revenue realization for two-wheeled vehicles during this period was just 25.03 per cent, and for four-wheeled vehicles, approximately 62.30 per cent. The study highlights the crucial role of enhancing Original Regional Revenue (PAD) through motor vehicle taxes as a key strategy to lessen dependence on central funding. It suggests implementing public education initiatives, enhancing public transportation service quality, and reinforcing taxpayer compliance as effective strategies to achieve this goal.

**Keywords:** *Motor vehicle tax, Original regional revenue, Taxpayer compliance, SWOT analysis*

**JEL Classification:** H71, R48, H23

## INTRODUCTION

In the framework of Indonesia as a unitary state adopting the principle of decentralization, regions have been given autonomy to manage their governments to enhance local welfare and competitiveness. In an economic context, regional autonomy is interpreted as expanding opportunities for communities and local governments to improve welfare and self-development. This will significantly reduce the burden on the central government and simultaneously create a competitive climate among regions to manage their economic potential creatively. Rachmad (2017) asserts that if this strategy is successful, the welfare of the Indonesian nation will be achieved more rapidly. Regional autonomy requires financial capabilities, quality human resources, natural resources, capital, and technology (Purbayu & Rahayu, 2005).

The primary legal basis for this decentralization is Law Number 23 of 2014 on Regional Government, which emphasizes improving services, community empowerment, and public participation in development. According to Bahl & Bird (2008), this concept of regional autonomy is a strategic step to reduce the central government's burden and create a competitive climate between regions.

A challenge particularly relevant to regional autonomy is development financing, which largely depends on the Regional Revenue and Expenditure Budget (APBD). This dependency creates internal financial pressure on local finances. Reducing dependence on central funds by managing and increasing local financial resources is critical, as explained by Baskaran & Bigsten (2013). Regional autonomy is not only about financial capability but also involves factors such as the quality of human resources, natural resources, capital, and technology (Bardhan & Mookherjee, 2006). In this context, increasing the contribution of regional income to the regional budget is an important indicator of regional independence (Boadway & Shah, 2009).

The importance of increasing efficiency and effectiveness in the relationship between the Central Government and local governments and among regions themselves is highlighted. Additionally, the diversity of local potential and challenges, including opportunities arising in a global context, is a significant aspect of local governance. In the economic field, Rodriguez-Pose & Gill (2003) define regional autonomy as an opportunity for regions to enhance welfare and self-development. According to Smoke (2001), good management of local finances, including the management of Original Regional Revenue (PAD) and financial balance receipts, is key to effective local governance. The enactment of Law Number 23 of 2014 provides hope for improving the ability of Local Governments to provide better public services and support the creation of democracy at the local level (Shah, 2006).

Law No. 23 of 2014 on Regional Government states that PAD comes from regional taxes, regional retributions, management of separated regional wealth, and other legitimate sources of PAD. These original regional revenues are explored locally and used as basic capital for local governments in financing development and reducing dependence on central funds.

Based on Law No. 28 of 2009 on Regional Taxes and Retributions Article 2, there are 5 provincial and 11 regional/city taxes, including the motor vehicle tax (MVT). This tax is on the ownership and/or possession of motor vehicles, defined as all-wheeled vehicles and their trailers used on all types of land roads, powered by technical equipment such as motors or other devices that convert certain energy resources into kinetic energy, including heavy equipment and large tools using wheels and motors that are not permanently attached, as well as motor vehicles operated in water (Bahl & Wallace, 2001). In the context of local taxes, Siahaan (2013) states that nearly all regions in Indonesia exploit their regional revenue potential through local taxes.

In the context of this study, Jambi Province faces specific challenges in reducing fiscal dependency on central funds. Most of the Local Government's expenditures in Jambi Province for 2018-2023 were financed by transfer revenues of over 60%. Meanwhile, PAD can not finance over 50% of local government expenditures (Kanwil DJPB Province of Jambi, 2023).

The fluctuating economic growth in Jambi Province, particularly concerning the prices of regional prime commodities, necessitates the need to increase regional income independently. The contribution of PAD, especially from local taxes, is critical in achieving fiscal independence. In 2023, the contribution of local taxes reached 70.90 per cent of the total PAD of Jambi Province.

The appropriate strategy to increase local tax revenue is essential in this context.

This study focuses on the potential of local taxes, specifically MVT, and considers the growth in the number of vehicles in the region as an important factor.

Previous studies (Adegbe et al., 2022; Akanbi, 2021; Alfirman, 2003; Alsarmi & Ahemed, 2022; Aydin, 2018) have concluded that taxes play a vital role in enhancing the revenue of a region or country, thereby supporting development. This study fills a gap in the literature with a detailed analysis of the potential of MVT in Jambi Province. Moreover, through a SWOT analysis approach, this study also aims to contribute by providing strategic recommendations for increasing MVT revenue to enhance PAD in Jambi Province and reduce fiscal dependence on central funds.

## METHODS

The data used in this study comprises both secondary and primary sources. The secondary data includes time series data from 2007 to 2021, encompassing key information on the number of vehicles, the average MVT value, and the actual realization of MVT revenue in Jambi Province.

Secondary data is sourced from:

1. The Regional Revenue and Financial Management Agency of Jambi Province.
2. The Central Statistics Agency of Jambi Province.
3. The Regional Development Planning Agency of Jambi Province.
4. The Industry and Trade Office of Jambi Province.

Primary data was obtained through in-depth interviews with key informants involved in local taxation, namely:

1. The Head of the Regional Revenue and Financial Management Agency of Jambi Province.
2. The Head of the Vehicle Registration Office (Samsat) in Jambi Province.
3. The Heads of Departments and Sub-Departments at the Regional Revenue and Financial Management Agency focus on local taxes.
4. The Heads of major car and motorcycle dealerships in Jambi Province.

The data was analyzed descriptively to obtain an overview of the development of motor vehicles, potential tax revenues, and actual tax revenue realization. Specifically, the potential tax revenue was estimated by multiplying the average MVT value per unit by the total number of motor vehicles.

Furthermore, a SWOT analysis was conducted to formulate strategies to enhance motor vehicle taxation. This SWOT analysis was developed through in-depth interviews with stakeholders directly involved in the process of MVT collection.

## RESULT AND DISCUSSION

### Potential and realization of MVT revenue

The development of two-wheeled vehicles, tax potential, and revenue realization during 2017 – 2022 in Jambi Province is presented in Table 1.

**Table 1.** Number of vehicles, potential, and realization of tax revenue of two-wheeled vehicles in Jambi Province 2017 - 2021

Year	Number of Vehicles (unit)	Potential Revenue (Rp)	Realized revenue (Rp)	% Realization
2017	1,652,724	358,851,003,948	101,409,887,500	28.26
2018	1,771,810	361,823,091,910	96,730,467,650	26.73
2019	1,879,680	391,456,517,760	95,472,406,650	24.39
2020	1,951,822	398,841,162,946	89,070,068,700	22.33
2021	2,058,675	442,831,285,875	103,845,134,450	23.45
Annual growth (%)	6.14	5.85	0.60	-4.25

The analysis of the potential and realization of MVT revenue in Jambi Province from 2017 to 2021 reveals several key findings. Data in Table 1 shows a consistent increasing trend in the number of two-wheeled vehicles, with an average annual growth of 6.14%. This increase can be interpreted as an indicator of economic growth or changes in societal mobility patterns. However, there is a disparity between the increase in the number of vehicles and the realization of tax revenue, which only grew by 0.60% annually, indicating a significant gap between tax potential and realization.

Meanwhile, Table 2 shows a significant increase in four-wheeled vehicles from 200,476 units in 2017 to 278,860 in 2021. This addition reflects economic growth and a potential increase in transportation needs in the region. Along with the growth of vehicles, the potential tax revenue from four-wheeled vehicles also increased, from 423 trillion Rupiah in 2017 to about 633 trillion Rupiah in 2021. However, the tax revenue realization in 2021 only reached about 390 trillion Rupiah, or 61.57% of the potential, indicating a significant gap between potential and realized tax revenue.

**Table 2.** Number of vehicles, potential, and realization of tax revenue of four-wheeled vehicles in Jambi Province 2017 - 2021

Year	Number of Vehicles (unit)	Potential Revenue (Rp)	Realized revenue (Rp)	% Realization
2017	200,476	423,264,778,324	293,438,881,950	69.33
2018	223,403	460,041,734,138	295,289,662,126	64.19
2019	244,546	506,865,358,734	299,294,861,450	59.05
2020	261,833	555,879,313,990	318,910,975,025	57.37
2021	278,860	632,817,834,580	389,607,552,346	61.57
Annual growth (%)	9.77	12.38	8.19	-2.80

Several problems identified in the low realization of tax revenue, particularly for two-wheeled vehicles, include low taxpayer awareness, especially after the first year of vehicle purchase, vehicle operations mainly in rural or suburban areas rarely reached by tax raids, often invalid tax data due to ownership and area changes, and a lack of education on the importance of MVT. These findings align with studies by Mukmin et al. (2020), Nahumuri et al. (2018), and Marilyn & Ruslim (2023), emphasizing the importance of taxpayer awareness and the implementation of tax penalties in improving compliance.

Additionally, this phenomenon indicates challenges in the tax collection system, including tax administration efficiency, as revealed by Bird & Zolt (2008), Alm & Torgler (2011), and Slemrod & Yitzhaki (2002). The decrease in the percentage of tax revenue realization requires local governments to evaluate and refine tax collection mechanisms and strategies to maximize the existing tax revenue potential.

Moreover, technological advancement in the tax administration is imperative to address these challenges effectively. Integrating modern digital tools and data analytics could significantly enhance the accuracy and ease of tax collection, thereby bridging the gap between potential and actual tax revenues. Furthermore, engaging in continuous training and capacity building for tax officials can improve tax administration efficiency, ensuring local governments are better equipped to manage and optimize their tax collection systems.

## SWOT analysis

### *Strengths and weaknesses of enhancing MVT*

In the context of enhancing MVT, it is essential to consider the strengths and weaknesses associated with this policy. Table 3 analyses the strengths and weaknesses of enhancing MVT in Jambi Province.

**Table 3.** Strengths and weaknesses of enhancing MVT

<b>Strengths (S)</b>	<b>Weaknesses (W)</b>
1. Increased regional revenue from vehicle tax supports infrastructure and public service development.	1. Economic burden potentially felt by the community, especially low-income groups.
2. Incentives to reduce the number of motor vehicles, which could decrease congestion and environmental impact.	2. Policies that might be ineffective without improving the quality of public transportation services.
3. Increased public awareness of the environmental impact of motor vehicle usage.	3. Tax impacts that may be uneven, causing inequality.
4. Growth in the number of taxpayers each year.	4. Potential decrease in vehicle sales and its impact on the automotive industry and employment.
5. High regional economic growth.	5. Low tax compliance rates.

Table 3 reveals various important aspects of enhancing MVT. On the one hand, the strengths of enhancing MVT include a significant increase in regional income, contributing to the development of infrastructure and public services. This indicates a positive impact of vehicle taxes on regional economic growth and the enhancement of community living standards. The impact of increased tax on the development of infrastructure and public services aligns with the assertions made by Bahl & Bird (2008). Furthermore, this policy also encourages environmental awareness and can be an incentive to reduce the use of motor vehicles, decrease congestion, and minimize negative environmental impacts.

However, the policy of enhancing MVT also brings weaknesses, such as an additional economic burden for low-income groups and the potential decrease in vehicle sales impacting the automotive industry and employment (Wildasin, 2021; Gupta & Jalles, 2020). Inequality in tax impact and low taxpayer compliance levels also pose challenges that must be addressed (da Silva et al., 2019; Alm, 2022). These weaknesses indicate that enhancing MVT is not just a matter of fiscal policy but also involves broader social and economic aspects.

Moreover, implementing enhanced MVT requires careful consideration of its socio-economic implications. Strategies to mitigate the economic burden on low-income groups, such as tiered tax rates or exemptions for essential vehicles, could be pivotal in maintaining social equity. Also, fostering public-private partnerships in the automotive sector could lead to innovative solutions that align vehicle manufacturing with environmental and fiscal objectives, potentially offsetting any negative impacts on the industry and employment.

In addressing the challenges of low taxpayer compliance, a focus on transparency, accountability, and ease of payment is essential. Simplifying the tax payment process through digital platforms and providing clear, accessible information about how MVT revenues are utilized can help build trust and encourage compliance. Educational campaigns that emphasize the role of MVT in improving community infrastructure and environmental health could further enhance taxpayer willingness to comply. These measures, in conjunction with the strengths above, can ensure that the enhancement of MVT is not only fiscally responsible but also socially and economically sustainable.

***Opportunities and threats of enhancing MVT***

The enhancement of MVT is a strategic move by many local governments to increase revenue and promote sustainable environmental policies. However, this policy also presents its own set of challenges. It is important to explore the potential opportunities and obstacles that may arise to understand this policy's broader impacts.

Table 4 below presents a detailed overview of the opportunities and threats of enhancing MVT.

**Table 4.** Opportunities and threats of enhancing MVT

Opportunities (O)	Threats (T)
<ol style="list-style-type: none"> <li>1. Increased number of taxpayers alongside regional economic activities.</li> <li>2. Additional revenue from taxes for the development of public transportation infrastructure.</li> <li>3. Creation of environmental awareness and adoption of eco-friendly vehicles.</li> <li>4. Educational opportunity for the public about the benefits of tax policy on the environment and infrastructure.</li> <li>5. Incentives for the automotive industry to innovate eco-friendly vehicles.</li> </ol>	<ol style="list-style-type: none"> <li>1. Low knowledge, perception, and tax culture among local taxpayers.</li> <li>2. Global economic recession potentially weakening regional economies and tax revenues.</li> <li>3. Community resistance to tax increases as an economic burden.</li> <li>4. Dependence on private vehicles if no efficient public transportation alternatives are available.</li> <li>5. Low tax compliance reduces policy effectiveness.</li> <li>6. the automotive industry and employment challenges if tax reduces vehicle sales.</li> <li>7. Uneven tax increases create inequality.</li> </ol>

Table 5 illustrates that enhancing MVT brings significant opportunities for sustainable development, such as increased regional income that can be used to develop public transportation infrastructure. It also opens opportunities for creating environmental awareness and encouraging innovation in the automotive industry to produce more environmentally friendly vehicles. For instance, in India, the government has released guidelines to impose a Green Tax on older vehicles to reduce pollution and encourage eco-friendly vehicles (Singh & Gahlot, 2023). The tax increase also provides an educational opportunity for the public on the importance of tax policies in supporting the environment and infrastructure.

However, the obstacles associated with enhancing MVT also need to be considered. For example, a global economic recession can affect tax revenues and regional economies. A study in Ukraine showed that the COVID-19 crisis caused an increase in inequality of development across different regions, impacting local tax revenues (Storonyanska & Benovska, 2021). In the United States, local governments reliant on sales tax experienced higher revenue volatility and reduced spending on social services during the Great Recession (Afonso, 2017). The research found a positive relationship between tax revenue and economic growth in Nigeria despite challenges like taxpayer apathy and tax leakages (Ewa et al., 2020).

Furthermore, community resistance to tax increases, low taxpayer knowledge and perception, and inequality in tax implementation are significant challenges that must be overcome. For instance, in the context of motor fuel taxes, Denison & Eger (2000) highlighted that increasing tax compliance can enhance revenue available to support public services without increasing the tax burden on compliant taxpayers. They also emphasized that better tax compliance increases citizen satisfaction by boosting their trust in the system and promoting the perception that everyone is paying their lawful share.

**Enhancement strategies for MVT**

Based on the analysis of strengths, weaknesses, opportunities, and threats related to the enhancement of MVT in Jambi Province, the following strategies can be formulated:

***Strategies based on strengths:***

1. Enhance taxpayer compliance through educational programs that improve tax knowledge, perception, and culture and provide tax incentives for compliant taxpayers.
2. Efficiently utilize tax revenue to develop infrastructure and public services that meet community needs.
3. Encourage public transportation or eco-friendly vehicles with incentives or discounts for users switching from private vehicles.
4. Conduct environmental education campaigns to raise public awareness about the positive impact of tax policies on the environment.

***Strategies based on weaknesses:***

1. Implement differentiated tax policies based on income levels to alleviate the burden on low-income groups.
2. Ensure the improvement of public transportation service quality with tax increases to enhance the attractiveness of transportation alternatives.
3. Initiate economic empowerment programs for communities impacted by the tax increase.

***Strategies based on opportunities:***

1. Allocate additional revenue from tax increases to develop and improve public transportation infrastructure.
2. Collaborate with the automotive industry to encourage innovation and development of eco-friendly vehicle technologies.
3. Launch educational programs for the public about the benefits of tax policies, especially those related to positive environmental and infrastructure impacts.

***Strategies based on threats:***

1. Conduct campaigns to increase tax knowledge and awareness to strengthen the understanding, especially among taxpayers, of the importance of tax compliance.
2. Diversify regional revenue sources to reduce reliance on MVT and anticipate the impact of global economic recessions.
3. Involve the community in transportation planning to balance tax policies with efficient public transportation alternatives.
4. Strengthen supervision against vehicle smuggling and tax data manipulation practices.
5. Support the automotive industry to address potential sales declines and maintain industry stability and employment.
6. Develop efficient and affordable public transportation to reduce community dependence on private vehicles.

## **CONCLUSIONS AND RECOMMENDATIONS**

### **Conclusions**

The realization of Motor Vehicle Tax (MVT) in Jambi Province from 2017 to 2021 has been suboptimal, with a significant proportion of the revenue potential remaining untapped – 74.97 per cent for two-wheeled vehicles and 37.70 per cent for four-wheeled vehicles. This situation underscores a substantial opportunity to enhance Original Regional Revenue (PAD). In addressing this, a multifaceted strategic approach is necessary.

Strategies that leverage the current system's strengths focus on enhancing taxpayer compliance through targeted education and attractive tax incentives. Efficient utilization of MVT revenue is critical, focusing on developing infrastructure and public services alongside initiatives promoting public transportation and eco-friendly vehicle use.

Addressing the weaknesses involves implementing a differentiated tax policy tailored to income levels to prevent undue burdens on low-income groups. Concurrently, improving the quality of public transportation services in alignment with any tax increases is essential. This should be complemented by launching economic empowerment programs aimed at communities impacted by these tax changes.

Opportunities lie in harnessing additional revenue for advancing public transportation infrastructure. This includes forming strategic partnerships with the automotive industry to spur eco-friendly vehicle innovation and conducting comprehensive public education programs to highlight the benefits of these tax policies.

Lastly, confronting the threats involves initiating campaigns to deepen tax knowledge and cultural acceptance, mitigating community resistance. Diversifying regional revenue sources is prudent, especially in preparation for potential economic recessions. Furthermore, strengthening measures to control vehicle smuggling and tax data manipulation will safeguard the integrity and efficacy of the tax system.

### **Recommendations**

Several recommendations are proposed to optimize the MVT system in Jambi Province and enhance regional fiscal health. Firstly, there is a need for intensive educational campaigns aimed at enhancing tax knowledge and culture among taxpayers. These campaigns should provide information and include incentives for compliance and high contribution, thus fostering a positive tax-paying environment.

Efficient allocation of MVT revenue is crucial. It should be strategically channelled into the development of public transportation infrastructure and services that yield a positive impact on the community. This development should be carefully synchronized with tax increases, ensuring that tangible improvements in public transportation service quality counterbalance any augmentation in taxation.

Adopting a nuanced approach to tax policy is vital. This involves applying differentiated tax policies that consider the varying income levels within the community, thereby maintaining social equity. Such policies should be fair and just, avoiding undue financial strain on lower-income groups while ensuring adequate revenue generation.

Moreover, establishing robust partnerships with the automotive industry is key to driving innovation in eco-friendly vehicle technology. These collaborations can lead to advancements that benefit the environment and support the region's economic development.

Efforts to increase tax knowledge and culture should be ongoing. This includes campaigns to reduce community resistance to tax increases, emphasizing the benefits and necessity of tax contributions for societal advancements.

Lastly, strengthening control over vehicle smuggling practices and data manipulation is critical. By tightening these controls, the integrity and effectiveness of the tax system are safeguarded, ensuring that revenue losses are minimized and that the tax system functions optimally for the benefit of Jambi Province. Collectively, these recommendations provide a comprehensive roadmap for enhancing the efficacy and acceptability of the MVT system, ultimately contributing to the region's economic stability and growth.

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