

Determinants of Motorcycle Taxpayer Compliance: Evidence from a Border Region in Eastern Indonesia

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Abstract

Purpose: This study aims to examine the effects of the tax amnesty program, income, moral obligation, and access to tax services on motorcycle taxpayer compliance in Timor Tengah Utara (TTU) Regency, a border region with relatively low tax compliance.

Research Methodology: A quantitative approach was employed using a survey method. The study involved 100 respondents selected through the Slovin formula. Primary data were collected via structured questionnaires and analyzed using multiple linear regression.

Results: The findings show that, simultaneously, the four variables significantly influence taxpayer compliance. Partially, the tax amnesty program, income, and moral obligation have a positive and significant effect, while tax access has a negative and significant effect on compliance.

Conclusions: Taxpayer compliance in TTU Regency is influenced not only by economic capacity but also by moral awareness and accessibility to tax services. Policies that optimize tax amnesty programs, expand digital-based tax services, and strengthen moral and social education grounded in local culture can enhance voluntary tax compliance.

Limitations: The study is limited to motorcycle taxpayers in TTU Regency and uses cross-sectional survey data, which may not capture changes in behavior over time.

Contribution: This study contributes to the understanding of tax compliance behavior in border regions, offering practical insights for local governments and policymakers to improve regional revenue collection through culturally sensitive and accessible tax policies.

Keywords: *Income, Moral Obligation, Tax Access, Tax Amnesty Program, Taxpayer Compliance*

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1. Introduction

National development requires substantial and sustainable financial resources to fund infrastructure projects and the government's recurrent expenditures in each fiscal year. In this context, taxation serves as the primary and most strategic source of national revenue compared to other forms of income. Taxes function as fiscal instruments and mechanisms for economic redistribution to achieve equitable social welfare (Gut, 2024). Normatively, taxation represents a compulsory contribution imposed by law on citizens without direct reciprocal benefits; however, it is utilized entirely for public interests (Barus, 2022).

One of the most significant types of taxes contributing to both national and regional revenues is the Motor Vehicle Tax (PKB). This tax is levied on the ownership or control of motor vehicles, including two- and multi-wheeled vehicles, trailers, and heavy equipment. The potential revenue from this tax

continues to expand in line with the rapid increase in the number of motor vehicles in Indonesia. According to data from the Traffic Corps of the Indonesian National Police (Korlantas Polri) as of August 2024, there are approximately 164.1 million registered motor vehicles, a figure that continues to rise annually. This trend indicates the considerable potential for the government to optimize PKB revenue through enhanced taxpayer compliance. Nevertheless, such optimization remains constrained by low levels of taxpayer awareness and compliance, particularly among private vehicle owners (Destiawan, Erdiansyah, & Sudiyanto, 2025).

At the regional level, the Timor Tengah Utara (TTU) Regency in East Nusa Tenggara Province relies heavily on PKB as one of its key sources of Locally Generated Revenue (Pendapatan Asli Daerah / PAD). The local government regulates this through Regional Regulation No. 1 of 2020 on Regional Taxes and Levies. The collection and administration of PKB payments are managed by the Regional Revenue Office through the One-Stop Administrative System for Motor Vehicle Services (SAMSAT). Alongside increasing population mobility and economic activity, vehicle ownership in the TTU Regency has continued to grow. This underscores the importance of optimizing PKB revenue in border regions as a strategic measure to strengthen local fiscal capacity (Pangastuti & Nalle, 2023).

Table 1. Number of Registered Motor Vehicles in TTU Regency, 2019–2024

No	Vehicle Type	2019	2020	2021	2022	2023	2024
1	Sedan, Jeep, Station Wagon, Minibus	1.105	1.229	1.490	2.402	2.226	1.853
2	Bus, Microbus	91	99	40	40	34	25
3	Truck, Pickup, Light Truck, Dump Truck, Tanker, Box Truck, and Similar	1.386	1.618	2.775	3.021	2.821	2.263
4	Special Vehicles (Heavy/Large Equipment and Tractor)	3	3	2	-	-	-
5	Two-Wheeled Vehicles	27.968	32.668	32.361	31.540	26.953	22.374

Source: SAMSAT of Timor Tengah Utara (TTU) Regency, 2019–2024

Table 1 illustrates the fluctuations in vehicle ownership in the TTU Regency from 2019 to 2024. The total number of registered vehicles peaked in 2022, before declining in subsequent years. Two-wheeled vehicles consistently dominated, accounting for over 85% of the total registrations. This dominance highlights motorcycles as the primary tax base for local Motor Vehicle Tax (PKB) revenue, yet compliance among this group remains low. Although the number of motor vehicles—particularly two-wheeled—experienced a significant increase between 2019 and 2022, as presented in Table 1, this growth has not been fully matched by a proportional increase in compliance with PKB payments.

This phenomenon highlights the discrepancy between tax potential and actual revenue realization. In other words, the expansion of vehicle ownership does not automatically translate into higher tax revenue, as many taxpayers fail to fulfill their tax obligations on time. To provide a more comprehensive overview of this issue, Table 2 presents data on the realization and arrears of the Motor Vehicle Tax (PKB) for two-wheeled vehicles in Timor Tengah Utara Regency during the period 2019–2024. This information serves as an essential basis for evaluating both taxpayer compliance and the effectiveness of local tax collection policies implemented by the regional government.

Table 2. Realization and Arrears of Two-Wheeled Motor Vehicle Tax in TTU Regency, 2019–2024

Year	Target (Rp Billion)	Realized (Rp Billion)	% Realized	% Arrears
2019	4.17	1.82	44	56
2020	5.29	1.76	33	67
2021	5.50	1.73	31	69
2022	5.24	1.99	38	62

2023	4.64	1.82	39	61
2024	3.72	1.93	52	48

Source: SAMSAT of Timor Tengah Utara (TTU) Regency, 2019–2024

Table 2 shows the realization and arrears of motorcycle tax payments in TTU Regency from 2019 to 2024. Tax realization fluctuated between 31% and 52%, whereas arrears consistently exceeded 50% until 2023. Although compliance improved to 52% in 2024, this level remains moderate, indicating that nearly half of the registered taxpayers still fail to pay on time. The persistent gap between potential and realized revenue reflects limited fiscal awareness and administrative challenges, particularly among motorcycle owners, who dominate the TTU tax base.

The empirical conditions illustrated in Tables 1 and 2 demonstrate that the level of compliance among two-wheeled motor vehicle taxpayers in the TTU Regency remains suboptimal, despite the significant number of registered vehicles and high tax potential. This phenomenon underscores the persistent gap between the region's fiscal potential and the actual realization of PKB revenue, which has direct implications for the effectiveness of local revenue management (PAD). This gap reflects the continuing issue of low taxpayer compliance, which is likely influenced by a combination of social, economic, and institutional factors.

Empirically, several indications explain the persistently low level of taxpayer compliance in the Timor Tengah Utara (TTU) Regency. *First*, the local government's tax amnesty program has not been entirely effective in fostering long-term compliance behavior. Although this policy provides short-term incentives through the elimination of late payment penalties, many taxpayers tend to utilize the program only opportunistically, without demonstrating a sustained behavioral change in paying taxes (Nughat, 2024; Yuesti, 2018). This finding suggests that the effectiveness of fiscal incentive policies is often temporary, as they are not accompanied by an intrinsic increase in taxpayers' awareness of their obligations.

Second, from an economic perspective, income level plays a crucial role in shaping both the capacity and willingness of taxpayers to fulfill their obligations. According to the Economic Deterrence Theory (Ya'u, Saad, & Mas' ud, 2019), tax compliance is largely influenced by individual economic rationality, where higher income levels are associated with a greater ability to pay taxes, assuming that public benefits are perceived as equitable. However, in TTU, the local economy remains dominated by the informal sector and subsistence agriculture, resulting in income instability and weak purchasing power, which, in turn, contribute to delayed or non-compliant motor vehicle tax payments.

Third, in terms of social and psychological dimensions, moral obligation is a pivotal factor influencing taxpayer behavior. Drawing upon the Theory of Planned Behavior Bosnjak, Ajzen, and Schmidt (2020) and Tax Morale Theory Horodnic (2018), moral obligation reflects the internalized norms and ethical perceptions of individuals regarding the importance of paying taxes for public welfare. A low level of public understanding of the redistributive and developmental functions of taxation often leads to negative perceptions of tax obligations, particularly in regions with limited fiscal literacy.

Fourth, from an institutional standpoint, tax access significantly determines how effectively taxpayers interact with regional tax administration systems to obtain tax refunds. Limited infrastructure, long geographical distances between rural communities and SAMSAT service centers, and low adoption of digital-based services have created structural barriers that hinder compliance (Paroli, 2023). Within the framework of North's (1990) institutional theory North (1990), the effectiveness of a tax system depends largely on the quality of institutional governance, including transparency, accessibility, and accountability in public service delivery.

Considering these four dimensions—tax amnesty programs, income level, moral obligation, and tax access—this study empirically examines the determinants of compliance among two-wheeled motor vehicle taxpayers in TTU Regency. This study is particularly significant given the limited number of previous studies integrating economic, behavioral, and institutional perspectives to explain local tax

compliance, especially in border regions characterized by distinctive socioeconomic and cultural conditions, such as those found in TTU.

2. Literature Review

2.1 Taxpayer Compliance

Taxpayer compliance is a fundamental pillar of the modern taxation system, which aims to enhance the effectiveness of national revenue collection. According to Asfari and Furqon (2025), tax compliance is shaped by the complex interaction of economic, psychological, and institutional factors, including taxpayer awareness, perceptions of fairness, and the quality of public service delivery. Within the framework of *Economic Deterrence Theory*, individuals weigh the risks of sanctions against the benefits of compliance, whereas *Behavioral Tax Compliance Theory* emphasizes the moral and social dimensions that drive voluntary compliance. Arham and Firmansyah (2021) found that digital innovations, such as *e-filing* and *e-billing*, significantly improve compliance levels by simplifying reporting procedures and reducing administrative costs for individual taxpayers.

In the context of border regions such as the Timor Tengah Utara (TTU) Regency, taxpayer compliance is challenged by infrastructural limitations, low fiscal literacy, and inadequate dissemination of tax policies. Judijanto (2024) emphasized that communities with limited fiscal education tend to perceive taxes as financial burdens rather than civic obligations. Therefore, understanding taxpayer compliance in the TTU requires integrating economic (ability to pay), social (moral obligation), and institutional (access to tax services) dimensions. Within this framework, tax compliance should not be viewed merely as the outcome of formal regulation but as an expression of *civic responsibility* and an active contribution to regional development.

2.2 Tax Amnesty Program

The tax amnesty program functions as a fiscal policy instrument aimed at broadening the tax base by encouraging delinquent taxpayers to fulfill their obligations through penalty and tax interest waivers. According to Sumanjaya (2019), such programs effectively increase regional tax revenue, particularly in the motor vehicle tax sector. However, as Nasir (2024) argues, the true success of a tax amnesty program lies not only in its short-term fiscal gains but also in its ability to foster sustained compliance behavior once the program ends. Empirical studies Marlinah (2016) further suggest that the positive effects of tax amnesty tend to diminish over time when not supported by institutional strengthening and continuous taxpayer education.

From the perspective of *responsive regulation theory* Braithwaite (2006), a tax amnesty program serves as an enforcement tool and a relational mechanism to rebuild trust between tax authorities and taxpayers. In border regions such as Timor Tengah Utara (TTU) Regency, where institutional credibility is still fragile, the program can function as a form of *restorative compliance*—a process that renews taxpayer commitment through persuasion and social engagement, rather than coercion. This aligns with TTU's communal culture, which is characterized by solidarity and collective moral responsibility. Therefore, the effectiveness of a tax amnesty program in such contexts depends on transparent implementation, effective communication, and the government's capacity to instill fiscal justice among citizens.

Hypothesis 1 (H₁): The tax amnesty program has a positive effect on motorcycle taxpayer compliance in the Timor Tengah Utara Regency.

2.3 Income

Income level is one of the most consistent predictors of tax compliance. From the perspective of the *Economic Deterrence Model*, higher income enhances taxpayers' financial capacity, thereby reducing the motivation to evade taxes, as the perceived risk of penalties outweighs the potential benefits (Sari & Kurniawan, 2025). In contrast, limited income constrains households' ability to meet fiscal obligations, often resulting in delayed or partial payments (Sumanjaya, 2019).

Beyond the economic dimension, income also reflects perceived behavioral control as described in the Theory of Planned Behavior F. Nalle and Ismail (2024), which links financial stability to one's

confidence and willingness to comply voluntarily. Individuals with sufficient income generally develop a stronger sense of fiscal responsibility because they view taxation as a social contribution rather than a financial burden (Budiman & Gumawang, 2025).

In Timor Tengah Utara (TTU) Regency, most taxpayers work in informal sectors such as agriculture, small trading, and local transport, which are characterized by unstable and seasonal earnings. This irregular income structure limits fiscal capacity and affects the perception of fairness in local taxation. Consequently, improving income levels not only increases the economic ability to pay but also reinforces trust in local fiscal governance. Hence, income serves as both an economic and psychological determinant of compliance, bridging financial capability and civic responsibility in border communities. Hypothesis 2 (H₂): Income level has a significant positive effect on motorcycle taxpayer compliance in the Timor Tengah Utara Regency.

2.4 Moral Obligation

Moral obligation, often referred to as tax morale, is an intrinsic psychological factor underpinning voluntary tax compliance. According to Palimbong and Tangdialla (2021), taxpayers' morality serves as an internal motivator that drives individuals to fulfill their tax duties, not because of fear of sanctions but due to ethical awareness and civic responsibility. Similarly, Tina (2025) finds that religiosity and social norms reinforce the moral legitimacy of taxation, indicating that moral obligation can act as a behavioral anchor for fiscal discipline in societies with strong communal values.

The moral reasoning and ethical behavior theory Rust and Schwitzgebel (2014) posits that compliance arises from an individual's internalized sense of justice and collective responsibility rather than external coercion. This notion is further complemented by the Slippery Slope Framework (Prinz, Muehlbacher, & Kirchler, 2014), which suggests that compliance increases when tax authorities combine power with trust, strengthening moral fairness and legitimacy in the eyes of taxpayers.

In the context of the Timor Tengah Utara (TTU) Regency, social cohesion and religiosity remain central to community life. Local cultural values, such as *gotong royong* (mutual cooperation), respect for customary authority, and collective solidarity, create an ethical environment that naturally supports fiscal compliance (Pangastuti & Nalle, 2023). When taxation is perceived as a social duty, compliance behavior becomes an expression of shared responsibility rather than an external obligation. Therefore, enhancing moral and ethical dimensions through value-based education and collaboration with religious and traditional institutions is critical for improving taxpayer compliance in the TTU.

Hypothesis 3 (H₃): Moral obligation has a significant positive effect on motorcycle tax compliance in the Timor Tengah Utara Regency.

2.5 Tax Access

Access to tax services is a crucial institutional determinant of taxpayer compliance, especially in geographically dispersed or infrastructure-limited areas. According to Purnomo, Sadiqin, and Arvita (2025), improved accessibility lowers compliance costs and enhances administrative efficiency, while Rohmiatun, Rosyida, and Khoiroh (2025), emphasize that digitalization through *e-filing* and *e-billing* systems reduces spatial barriers and promotes faster service delivery. From the perspective of institutional theory North (1990), efficient access reflects the capacity of government institutions to deliver equitable public services that foster legitimacy and trust.

However, access does not always result in uniformly positive outcomes. Tax compliance cost theory Devos (2013) and the service quality paradox Glassburner, Nowicki, Sauser, Randall, and Dickens (2018) suggest that when administrative systems are poorly managed or lack credibility, greater access may expose inefficiencies, increase taxpayer frustration, or even erode trust in fiscal institutions. In such contexts, access can negatively affect compliance, particularly when services are perceived as unfair, time-consuming, or unresponsive.

In the Timor Tengah Utara (TTU) Regency, long travel distances, limited transportation, and weak digital infrastructure significantly restrict taxpayers' ability to interact with the central SAMSAT office.

Empirical evidence from Parerungan (2025) confirms that regions with limited service access show persistently low compliance compared to digitally integrated areas. However, the introduction of *mobile SAMSAT* and online payment systems has gradually improved voluntary participation. This indicates that the relationship between tax access and compliance in the TTU is context-dependent, positive when access improves efficiency and trust, but potentially negative when service quality and institutional capacity remain weak.

Hypothesis 4 (H₄): Tax access has a significant effect on motorcycle taxpayer compliance in Timor Tengah Utara Regency, which may be positive or negative depending on institutional and infrastructural conditions.

3. Research Methodology

This study adopts a quantitative approach with the primary objective of analyzing the determinants influencing the compliance behavior of two-wheeled motor vehicle taxpayers in Timor Tengah Utara (TTU) Regency, East Nusa Tenggara Province. The quantitative design allows for the empirical testing of relationships among variables through an objective statistical analysis. The study follows a causal-associative design, in which the independent variables—tax amnesty program, income level, moral obligation, and tax access—are examined for their influence on the dependent variable, taxpayer compliance. This approach enables both partial and simultaneous analyses of how these determinants shape compliance behavior in the local context.

The study area, TTU Regency, was selected purposively because of its unique socioeconomic and geographical conditions. Two-wheeled vehicles dominate the region's transportation system and account for most local tax arrears. These characteristics make the TTU an ideal case for understanding the behavioral and structural constraints of local tax compliance within a border-region setting. The population consists of all registered motorcycle taxpayers in the TTU Regency in 2024, totaling 10,600 individuals, most of whom were identified as delinquent taxpayers. Owing to the large population and field accessibility constraints, the sample size was determined using the Slovin formula with a 10 percent margin of error, resulting in 100 respondents. The 10% error tolerance represents a practical trade-off between statistical accuracy and logistical feasibility in geographically dispersed and infrastructure-limited settings (Mori & Uchihira, 2019; Mukhlis, Makhya, Yulianto, & Aviv, 2025).

Respondents were selected using an accidental sampling technique, targeting taxpayers who visited the SAMSAT office or mobile service units and voluntarily agreed to participate in the study. Primary and secondary data were used. Primary data were obtained through structured, closed-ended questionnaires distributed directly to taxpayers, and secondary data were drawn from the official records of the UPTD SAMSAT TTU, Regional Revenue Office, and related policy documents. The research instrument employed a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree), enabling the conversion of qualitative perceptions into quantifiable measures that are suitable for regression analysis.

Prior to full deployment, a pilot test involving 20 respondents was conducted to assess the validity and reliability of the questionnaire items. Cronbach's alpha values exceeded the threshold of 0.70, confirming the internal consistency. To address potential response bias, respondents' anonymity was ensured, and all participation was made voluntary. In addition, differences between early and late respondents were tested using an independent *t*-test, with no significant variation detected, indicating minimal non-response bias (Cheung, Ten Klooster, Smit, de Vries, & Pieterse, 2017). Data analysis was conducted using SPSS version 20, following systematic procedures. Preliminary analyses included validity, reliability, and classical assumption tests, namely normality, multicollinearity, and heteroscedasticity, to ensure model robustness (F. W. Nalle, Seran, & Klau, 2025). Subsequently, multiple linear regression analysis was applied to examine the influence of the four independent variables on taxpayer compliance, as expressed in the following model:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \varepsilon$$

Where:

Y	= Represents taxpayer compliance
X_1	= Tax amnesty program
X_2	= Income level
X_3	= Moral obligation
X_4	= Tax access
β_0	= Constant
$\beta_1-\beta_4$	= Regression coefficients
ε	= Error term.

All analytical procedures were conducted systematically to ensure the accuracy and validity of the results. Ethical research protocols were strictly followed, and respondents were informed of the study's objectives and provided informed consent before participation. All data were treated with confidentiality and used solely for academic purposes, in compliance with research ethics standards. It is important to acknowledge that this study employed a cross-sectional design, which limits its ability to infer causality between variables. Therefore, the interpretations are confined to the associative relationships observed at a single point in time. Future studies should use longitudinal or mixed-method approaches to explore behavioral dynamics and causality more deeply. Overall, this methodological framework is designed to generate robust empirical insights into the factors affecting motorcycle taxpayer compliance and provide a policy-relevant foundation for enhancing fiscal governance in Indonesia's border regions.

4. Results and Discussion

4.1 Instrument Testing

A validity test was conducted to assess the extent to which the questionnaire items accurately measured the intended constructs. The validity criterion refers to a Pearson correlation coefficient greater than 0.30 (Sugiyono, 2017), indicating that each item demonstrates a sufficient level of correlation with the total score of its respective variable and can be considered valid for further statistical analysis.

Table 3. Validity Test

Variabel	Item	Person Correlation	Description
Tax Amnesty Program (X1)	X _{1.1}	0,836	Valid
	X _{1.2}	0,903	Valid
	X _{1.3}	0,830	Valid
Income (X2)	X _{2.1}	0,857	Valid
	X _{2.2}	0,825	Valid
	X _{2.3}	0,885	Valid
Moral Obligation (X3)	X _{3.1}	0,775	Valid
	X _{3.2}	0,845	Valid
	X _{3.3}	0,874	Valid
Tax Access (X4)	X _{4.1}	0,861	Valid
	X _{4.2}	0,903	Valid
	X _{4.3}	0,796	Valid
Taxpayer Compliance (Y)	Y _{.1}	0,837	Valid
	Y _{.2}	0,847	Valid
	Y _{.3}	0,905	Valid

Source: Processed Primary Data with the Assistance of SPSS 20

Based on the validity test results presented in Table 3, all questionnaire items from the five research variables exhibited correlation coefficients above 0.30. This finding confirms that each statement in the questionnaire meets the validity requirements and is suitable for further statistical analysis. This also indicates that each indicator representing the variables—Tax Amnesty Program, Income, Moral Obligation, Tax Access, and Taxpayer Compliance—effectively measures the intended construct and

aligns with its underlying theoretical framework. Consequently, the collected data were empirically reliable and valid for addressing the research objectives. Subsequently, a reliability test was conducted to assess the internal consistency of the questionnaire items. An instrument is deemed reliable when it achieves a Cronbach's alpha value greater than 0.60 (Erlinawati & Muslimah, 2021).

Table 4. Reliability Test

Variabel	Item	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Tax Amnesty Program (X1)	1	5,6900	2,539	0,638	0,775
	2	5,8400	2,318	0,776	0,637
	3	5,7700	2,421	0,599	0,822
Income (X2)	1	5,7200	2,486	0,683	0,736
	2	5,9900	2,535	0,609	0,808
	3	5,8900	2,240	0,720	0,695
Moral Obligation (X3)	1	6,1500	2,492	0,488	0,824
	2	6,0700	2,490	0,674	0,632
	3	6,2000	2,081	0,679	0,605
Tax Access (X4)	1	5,9200	1,953	0,662	0,743
	2	5,9800	1,959	0,776	0,626
	3	6,0400	2,261	0,560	0,841
Taxpayer Compliance (Y)	1	5,9000	2,333	0,613	0,834
	2	5,6400	2,576	0,684	0,765
	3	5,8800	2,127	0,766	0,671

Source: Processed Primary Data with the Assistance of SPSS 20

Based on the reliability test results presented in Table 4, all variables recorded Cronbach's alpha if Item Deleted values greater than 0.60. This indicates that the research instrument possesses a high level of internal consistency and can produce stable and dependable results when applied in similar conditions. Therefore, all variables used in this study were empirically proven to be valid and reliable, ensuring the robustness of the statistical analyses.

4.2 Classical Assumption Testing

Before conducting the regression analysis, a classical assumption test was performed to ensure that the regression model met the necessary statistical requirements of the data. The normality test revealed that the data points on the Normal P-P Plot followed the diagonal line, indicating that the data were normally distributed. This result suggests that the residuals of the regression model are symmetrically distributed around the mean value, validating the model's suitability for hypothesis testing. The normality test aims to examine whether the dependent and independent variables in the regression model exhibit normal distribution. The detailed statistical results of the normality test are presented in the SPSS output table below:

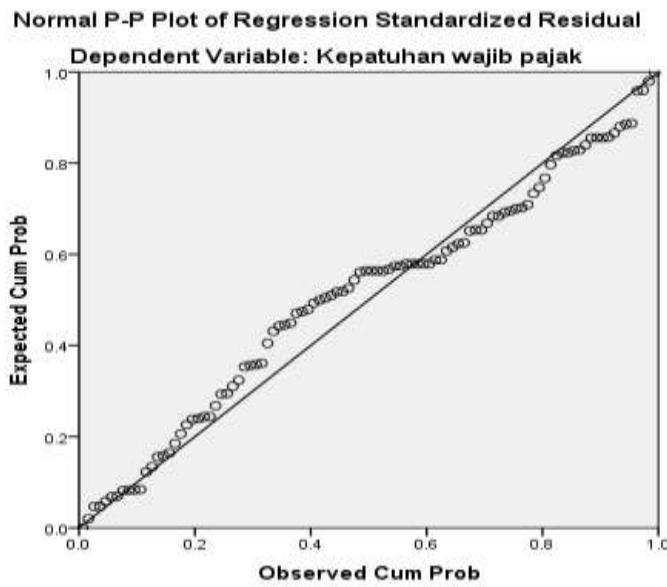


Figure 1. Data Normality Test

Source: Processed primary data using SPSS version 20

Based on the figure above, it can be observed that the data points are distributed along the diagonal line, indicating that the sample data follow a normal distribution pattern. Thus, it can be concluded that the normality assumption for this regression model was met, validating the data for further inferential analysis. The next step involved conducting a multicollinearity test to determine whether any high intercorrelation existed among the independent variables in the regression model. This test evaluates the Tolerance and Variance Inflation Factor (VIF) values as diagnostic indicators. If the Tolerance value is greater than 0.10 and the VIF value is less than 10, it implies that there is no indication of multicollinearity, meaning that the independent variables operate independently and do not distort the regression coefficients (Gujarati & Porter, 2020).

Table 5. Multicollinearity Test Results

Coefficients ^a							Collinearity Statistics	
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.		
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	1.273	.706		1.801	.075		
	Tax Amnesty Program	.117	.066	.119	1.775	.079	.735	1.361
	Income	.567	.085	.575	6.652	.000	.443	2.259
	Moral Obligation	.299	.084	.296	3.548	.001	.475	2.104
	Tax Access	-.147	.069	-.138	2.147	.034	.805	1.242

a. Dependent Variable: Taxpayer Compliance

Source: Processed primary data using SPSS version 20

Based on the Coefficient Output Table, the tolerance value for the *Tax Amnesty Program* variable (X1) is 0.735 with a VIF of 1.361; the *Income* variable (X2) has a tolerance of 0.443 and a VIF of 2.259; the *Moral Obligation* variable (X3) records a tolerance of 0.475 and a VIF of 2.104; and the *Tax Access* variable (X4) shows a tolerance of 0.805 and a VIF of 1.242. These results demonstrate that all variables in the model have tolerance values above 0.10 and VIF values below 10, indicating that the regression model is free from multicollinearity problems. This suggests that each independent variable contributes

uniquely to explaining taxpayer compliance without excessive overlap or interdependence among the predictors.

The next stage of classical assumption testing is the heteroscedasticity test, which aims to determine whether there is variance inequality (heterogeneity) in the residuals across observations in the regression model. The presence of heteroscedasticity indicates that the variance of the residuals is not constant, potentially leading to inefficient estimates and biased standard errors. Conversely, if the residuals are randomly distributed—without forming a specific pattern—around the regression line, it can be concluded that the data are free from heteroscedasticity, thus satisfying another key assumption of the classical linear regression model.

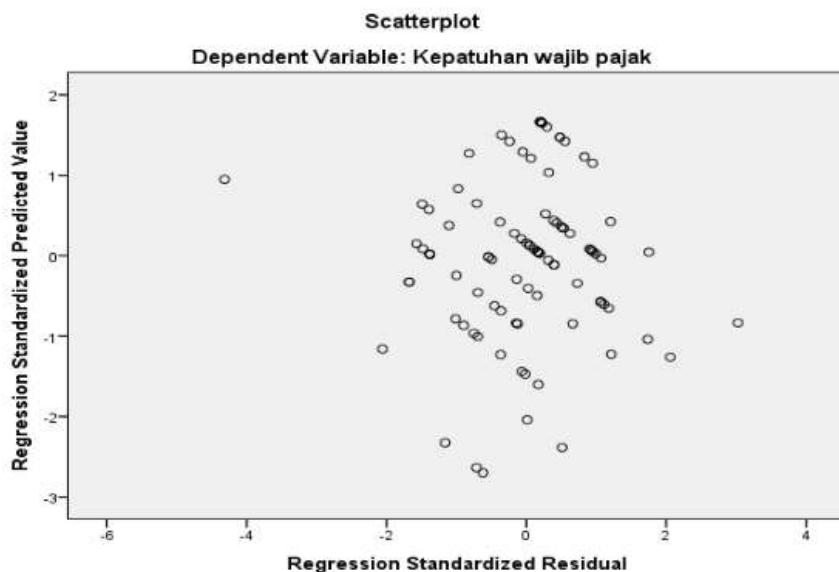


Figure 2. Scaterplot
Source: Processed primary data using SPSS version 20

The scatterplot graph indicates that the data points are randomly distributed and spread both above and below the zero line on the Y-axis without forming any discernible pattern. This random dispersion suggests that heteroscedasticity was not present in the regression model. Therefore, it can be concluded that the model meets the homoscedasticity assumption, meaning that the variance of the residuals is consistent across all levels of the independent variables, ensuring the reliability of the estimated coefficients.

4.3 Multiple Linear Regression Analysis

Multiple linear regression analysis was conducted to examine both the simultaneous and partial effects of the independent variables on the dependent variable. In this study, the independent variables are the Tax Amnesty Program (X_1), Income (X_2), Moral Obligation (X_3), and Tax Access (X_4), while the dependent variable is Two-Wheeled Motor Vehicle Taxpayer Compliance (Y) in Timor Tengah Utara Regency. This method was selected to quantify the strength of contribution of each explanatory variable to taxpayer compliance, both individually and collectively. The regression model was estimated using SPSS version 20, and the results are presented in Table 7, which details the regression coefficients, F-statistics, and significance levels to assess the robustness and explanatory power of the proposed model.

Table 7. The Influence of the Tax Amnesty Program (X_1), Income (X_2), Moral Obligation (X_3), and Tax Access (X_4) on Two-Wheeled Motor Vehicle Taxpayer Compliance (Y) in Timor Tengah Utara Regency.

Variable	Regression Coefficient (B)	F_{hitung}	F_{tabel}	Sig
Constanta (β_0)	1,273	51,869	2,47	0,000

Tax Amnesty Program (X1)	0,117			
Income (X2)	0,567			
Moral Obligation (X3)	0,299			
Tax Access (X4)	-0,147			
R	0,828			
R Square	0,686			

Source: Processed Primary Data Using SPSS Version 20

The results of multiple linear regression analysis show that three independent variables—tax amnesty programs, income levels, and moral obligations —have a positive and significant effect on motorcycle taxpayer compliance in TTU Regency. In contrast, tax access has a negative and significant effect. The adjusted R² value indicates that approximately 68.4% of the variation in taxpayer compliance can be explained by the four variables included in the model, while the remaining variance is attributed to other unobserved factors, such as enforcement strength, fiscal literacy, and administrative transparency.

4.4 Discussion

4.4.1 The Effect of the Tax Amnesty Program on Taxpayer Compliance

The statistical analysis reveals that the Tax Amnesty Program variable (X₁) has a regression coefficient of 0.117 with a significance level of 0.079, indicating a positive and significant relationship with Two-Wheeled Motor Vehicle Taxpayer Compliance (Y) in the Timor Tengah Utara Regency. The positive coefficient implies that improved implementation of the tax amnesty program corresponds to higher taxpayer compliance. This finding demonstrates that policies involving penalty waivers and tax relief effectively encourage taxpayers—especially those who were previously delinquent or reluctant due to administrative and financial burdens—to meet their fiscal obligations. Empirically, the tax amnesty program in the TTU has proven to be an effective fiscal instrument for promoting short-term compliance and expanding the local tax base.

The significant positive effect of the tax amnesty program confirms the theoretical premise of the Responsive Regulation Theory Baldwin and Black (2008), which suggests that regulatory flexibility combined with moral persuasion can increase voluntary compliance. This finding aligns with Kurniawan, Mahrinasari, and Bangsawan (2023), who report that tax amnesty initiatives can restore fiscal trust and reduce delinquency when accompanied by effective socialization. In TTU, the program served as a relational instrument, providing taxpayers with psychological relief and fostering renewed engagement with local authorities. These results underscore the importance of maintaining amnesty mechanisms that emphasize *restorative compliance* over punitive enforcement.

From a theoretical standpoint, this result can be explained using the Economic Deterrence Model proposed by Hasseldine and Bebbington (1991), which posits that individuals evaluate the balance between benefits and costs when deciding whether to comply with tax obligations. The tax amnesty policy reduces financial risks arising from fines and interest penalties, thereby decreasing the expected cost of non-compliance and motivating taxpayers to settle their dues. Moreover, this behavioral shift aligns with the Responsive Regulation Theory (Nielsen and Parker (2009), which argues that voluntary compliance can be enhanced when authorities adopt a persuasive rather than punitive approach, providing taxpayers with opportunities to correct non-compliance without excessive coercion. In this sense, tax amnesty functions as a “fiscal relationship restoration mechanism,” promoting a more human-centered interaction between the government and taxpayers instead of relying solely on deterrence or enforcement.

The findings of this study are consistent with those of previous studies. Patria (2023) and Gaol (2023) found that tax amnesty programs significantly improve local tax revenue and taxpayer compliance, particularly in the motor vehicle tax sector. Similarly, Fatmula and Lilis (2017) reported that taxpayers who participated in tax amnesty programs were twice as likely to maintain compliance in subsequent payment periods compared to those who did not. However, many studies also emphasize that the

effectiveness of amnesty programs tends to be temporary unless they are supported by ongoing administrative reforms and sustained improvements in taxpayer awareness.

For the Local Government of Timor Tengah Utara, these findings have important policy implications. The tax amnesty program should not be perceived merely as a short-term fiscal instrument to address arrears but as a transitional mechanism for sustainable compliance. The TTU Regional Revenue Office (UPTD SAMSAT) can enhance the program's long-term effectiveness through three strategic measures: (1) integrating the tax amnesty initiative with fiscal education and public literacy-based outreach; (2) strengthening service transparency to ensure that taxpayers perceive tangible public benefits from their payments; and (3) developing digital tax information systems to facilitate reporting and payment processes. By adopting an adaptive and participatory approach, the tax amnesty program can evolve beyond an administrative remedy and become a catalyst for cultivating a sustainable tax compliance culture at the local level.

4.4.2 The Effect of Income on Taxpayer Compliance

The statistical analysis indicates that the income variable (X_2) has a regression coefficient of 0.567 with a significance level of 0.000, signifying a positive and significant influence on Two-Wheeled Motor Vehicle Taxpayer Compliance (Y) in Timor Tengah Utara Regency (TTU). The positive coefficient implies that higher income levels are directly associated with greater tax compliance. Empirically, this finding demonstrates that financial capability is one of the most dominant factors shaping taxpayer behaviors. Taxpayers with higher incomes generally possess a greater capacity to pay taxes promptly, while those with lower or unstable incomes often face liquidity constraints that lead to tax payment delays or neglect of routine fiscal obligations.

Income level exhibits a positive and significant relationship with taxpayer compliance, reinforcing both the Economic Deterrence and Theory of Planned Behavior (TPB) frameworks. As postulated by Hati, Fitriasih, and Safira (2020) and Nzewi, Olutuase, and Lungisa (2019), individuals with higher economic capacity have greater *perceived behavioral control* and are more likely to comply voluntarily. This is particularly relevant in TTU, where many residents rely on seasonal agriculture and informal trade income. When household earnings stabilize, the capacity and willingness to fulfill tax obligations also improve. These findings are consistent with Nichita et al. (2019), who found that income positively affects compliance in regions with low fiscal literacy. Thus, income functions not only as an economic driver but also as a behavioral enabler of tax compliance.

This result can be theoretically explained using the framework of the Theory of Planned Behavior (TPB) proposed by Siqueira, Nascimento, and Freire (2022). The theory posits that compliance behavior is influenced by three principal components: attitude toward the behavior, subjective norms, and perceived behavioral control. Within the context of taxation, income level is closely related to perceived behavioral control, which reflects the extent to which taxpayers feel financially capable and in control of their resources to fulfill their tax obligations. The higher an individual's income, the stronger their perception of their ability and confidence in fulfilling their tax duties without disrupting economic stability. Conversely, low-income taxpayers perceive internal constraints that reduce their intention and commitment to pay taxes punctually. Thus, income not only represents economic capacity but also functions as a psychological determinant that influences taxpayers' intentions and actual compliance behavior.

In the socioeconomic context of Timor Tengah Utara, the relevance of this theory is particularly evident. The findings of this study reinforce the conclusions of Amran (2018); Rohmah, Nuridah, and Sopian (2024); and Handriyani and Astawa (2022), who consistently report that income exerts a significant influence on taxpayer compliance—both for vehicle and personal income taxes. Their research suggests that higher-income taxpayers tend to possess stronger fiscal awareness and view tax payments as both a moral obligation and a form of civic participation in public development. Conversely, lower-income groups are more prone to tax payment delays because of the greater financial pressure they face within household economies.

In TTU, where most residents are employed in the informal sector, including agriculture, small-scale trade, and transportation, income instability and seasonal economic uncertainty are prevalent. This creates divergent perceptions of behavioral control between high- and low-income groups. Taxpayers with stable income streams exhibit stronger fiscal responsibility and confidence in allocating part of their income to taxes, whereas those with lower or fluctuating incomes experience psychological burdens that discourage timely compliance.

The policy implications of these findings are highly significant for local government. Enhancing taxpayer compliance should not rely solely on law enforcement mechanisms but must also be supported by initiatives that strengthen citizens' economic capacities. The TTU government can expand its tax revenue base through local economic empowerment strategies such as entrepreneurship training, productivity enhancement in the informal sector, and improved access to microcredit for SMEs. Furthermore, better integration between fiscal and microeconomic policies is necessary to ensure that income growth translates into a stronger taxpaying ability. Through this dual approach, combining economic welfare improvement with fiscal awareness development, tax compliance can evolve sustainably and contribute to long-term regional fiscal stability.

4.4.3 The Effect of Moral Obligation on Taxpayer Compliance

The statistical analysis reveals that the Moral Obligation variable (X_3) has a regression coefficient of 0.299 with a significance level of 0.001, indicating a positive and significant effect on Two-Wheeled Motor Vehicle Taxpayer Compliance (Y) in Timor Tengah Utara Regency (TTU). A positive coefficient signifies that the stronger an individual's moral responsibility toward taxation, the greater their likelihood of complying with tax obligations. Empirically, this finding highlights morality as one of the key determinants of voluntary tax compliance, in which taxpayers are motivated not merely by fear of sanctions but by intrinsic awareness and ethical commitment to contribute to collective welfare and regional development sustainability.

In the socio-cultural context of the TTU society, the relevance of the Theory of Moral Reasoning and Ethical Behavior DiFonzo and Bordia (1998) is evident. The people of TTU are characterized by strong social cohesion, high religiosity, and a collective moral ethos rooted in a sense of communal responsibility. These values position obedience, cooperation, and contribution to the public good as integral components of social morality in China. Consequently, paying taxes is not merely perceived as an administrative duty but as a moral expression of solidarity and civic responsibility toward the local community and the government. This perspective suggests that social morality drives fiscal compliance, where external enforcement through sanctions is replaced by internalized social control grounded in shared values and ethics.

Drawing on Kohlberg's stages of moral development, TTU society can be categorized as post-conventional, where moral reasoning is guided by universal ethical principles rather than mere adherence to authority. Individuals who view taxation as a means to achieve collective prosperity are more likely to comply voluntarily. This moral orientation is further strengthened by the influence of traditional leaders, religious figures, and community elders who hold strong moral authority and actively shape public perceptions of social responsibility. In TTU, moral messages conveyed by informal leaders often have a greater behavioral impact than bureaucratic outreach by formal institutions, given the deep emotional and spiritual connections between individuals and their communities (F. Nalle & Ismail, 2024).

Empirical evidence from broader contexts supports these results. Joel, Wisdom, and Bolouimbelemoere (2023) emphasize that tax morale in developing countries is heavily influenced by social norms and collective trust. Similarly, Kirchler, Hoelzl, and Wahl (2008) argue, through the Slippery Slope Framework, that stable tax compliance can be achieved when tax authorities combine social trust with moral fairness. Widyastuti and Wicaksono (2022) found that moral values and social norms significantly enhance tax compliance, particularly in regions with high levels of religiosity. At the local level, Pangastuti and Nalle (2023) identified that ethical conduct and adherence to local cultural values in TTU play critical roles in encouraging public compliance with local regulations, including taxation.

The consistency of these findings reinforces the argument that moral obligation and social trust form the normative foundation of tax compliance in border regions such as the TTU. Therefore, efforts to enhance taxpayer compliance should extend beyond administrative or punitive measures to include the moral and cultural dimensions of the local society. The TTU local government and UPTD SAMSAT should design value-based tax literacy strategies that engage religious institutions, customary councils, and social organizations as partners in promoting fiscal awareness. Public education campaigns emphasizing the message that “paying taxes is a moral act for collective progress” can foster a sense of belonging and civic trust in local authorities. This moral economy of taxation approach not only strengthens short-term compliance but also contributes to building long-term social legitimacy for fiscal governance, transforming taxation from a legal obligation into a shared ethical commitment to community development.

4.4.4 The Effect of Tax Access on Taxpayer Compliance

The statistical analysis indicates that the Tax Access variable (X_4) has a regression coefficient of -0.147 with a significance level of 0.034 , demonstrating a negative and significant effect on Two-Wheeled Motor Vehicle Taxpayer Compliance (Y) in Timor Tengah Utara Regency (TTU). The negative coefficient suggests that the lower the accessibility and convenience of tax services, the greater the likelihood of taxpayer service non-compliance. This finding reflects the structural and geographical barriers that residents face in fulfilling their fiscal obligations, such as long travel distances to payment centers, limited digital service infrastructure, and insufficient information on administrative procedures. Such challenges are common in border regions with difficult topographical conditions, as seen in the TTU.

Interestingly, tax access has a negative and significant effect on taxpayer compliance, which diverges from conventional expectations. This paradox can be explained through the lens of North's (1990) institutional theory North (1990) and the Tax Compliance Cost Framework (Prichard, Custers, Dom, Davenport, & Roscitt, 2019). In principle, better access should facilitate compliance by lowering the transaction costs. However, when institutional quality is weak and service delivery lacks consistency, increased access may amplify perceptions of inefficiency and distrust.

In TTU, taxpayers often face long travel distances, irregular mobile SAMSAT schedules, and gaps in digital infrastructure. Although accessibility has improved nominally through mobile units, inconsistent service quality and limited follow-up communication have undermined trust in the system. The results show that the mere availability of access points does not guarantee behavioral compliance; rather, perceived service fairness and administrative reliability are decisive. Similar patterns have been observed in studies from Uganda Namatovu, Oyana, and Sol (2021) and Tanzania Mchopa, Changalima, Sulle, and Msofe (2024), where increased access without adequate institutional reform led to declining compliance levels.

This finding suggests that tax access can exert a context-dependent, bidirectional influence: positive when institutional performance is credible and efficient, and negative when accessibility exposes systemic weaknesses. In the case of TTU, the negative coefficient reflects the persistence of bureaucratic barriers and limited fiscal literacy among taxpayers, which together hinder voluntary compliance. Addressing this issue requires not only improving service access but also enhancing governance quality, digital reliability and taxpayer education.

The results collectively affirm that taxpayer compliance is best understood through an integrative framework that combines economic rationality, moral psychology and institutional capacity. The interplay among these dimensions is particularly evident in border regions such as the TTU, where sociocultural norms intersect with limited administrative structures. The tax amnesty program (institutional trust) and moral obligation (ethical motivation) represent the normative foundations of compliance, while income (economic capacity) provides an enabling condition. In contrast, tax access (institutional performance) acts as a mediating variable, whose effect depends on the quality of local governance. This synthesis highlights the multidimensionality of compliance behavior and supports the

argument that enhancing taxpayer compliance in peripheral economies requires fiscal incentives, institutional integrity, and moral reinforcement.

From a policy perspective, the findings of this study underscore the importance of strengthening both the institutional and behavioral foundations of tax compliance in border regions to increase tax revenue. Enhancing institutional credibility through improved service quality and reliable digital systems at SAMSAT offices is essential for rebuilding taxpayer trust and administrative fairness. Equally important is the promotion of moral and civic education that integrates fiscal awareness into local value systems through active collaboration with religious and traditional leaders. Moreover, targeted economic empowerment programs should be developed to stabilize the income of informal workers, who constitute the majority of taxpayers in the TTU Regency. Finally, policy interventions must adopt a context-sensitive approach, recognizing that accessibility alone is insufficient unless accompanied by transparency, fairness, and consistent institutional performance.

Collectively, these strategies provide a comprehensive foundation for fostering voluntary compliance and ensuring that local tax systems in peripheral regions function as fiscal mechanisms and instruments of inclusive development and social trust.

5. Conclusion

5.1 Conclusion

This study examined the determinants influencing the compliance behavior of motorcycle taxpayers in Timor Tengah Utara (TTU) Regency, focusing on the effects of the tax amnesty program, income level, moral obligation, and tax access. The findings reveal that tax amnesty programs, income levels, and moral obligations positively and significantly influence taxpayer compliance, whereas tax access has a negative and significant effect. These results highlight the complex interactions between economic capacity, moral values, and institutional conditions in shaping compliance behavior within a border-region context.

Theoretically, this study contributes to the literature by integrating Economic Deterrence, Theory of Planned Behavior, and Institutional Theory into a unified framework that explains taxpayer behavior in peripheral economies. The results extend existing theories by demonstrating that the relationship between tax access and compliance may be bidirectional, depending on the quality and credibility of the local institutions. In this sense, accessibility alone does not ensure compliance unless it is accompanied by fairness, efficiency, and trust in tax administration. From a practical perspective, the findings emphasize the importance of strengthening institutional credibility, enhancing moral and civic education, and promoting economic empowerment among informal-sector taxpayers. These strategies are particularly relevant for regions such as the TTU, where geographical isolation and limited administrative resources require innovative and community-based approaches to fiscal governance.

Despite its valuable insights, this study has several limitations. The cross-sectional design restricts causal inference, and the sample is geographically limited to one border regency, which may affect the generalizability of the results. Future research should employ longitudinal or mixed-method approaches to explore behavioral dynamics over time and expand the analysis to other border regions for comparative validation purposes. In conclusion, taxpayer compliance in border areas is a multidimensional phenomenon shaped by institutional trust, moral obligations, and economic capacity. Building effective and inclusive fiscal systems, therefore, requires not only administrative reform but also the cultivation of social trust and moral responsibility among taxpayers, ensuring that taxation becomes a shared commitment to equitable and sustainable regional development.

5.2 Recommendations

Based on the empirical and theoretical findings, several recommendations can be drawn to enhance taxpayer compliance and guide future research in this area. From a policy perspective, local governments, particularly in border regions such as Timor Tengah Utara (TTU), should focus on strengthening the institutional credibility of tax administration. Improving the service quality and digital reliability of SAMSAT operations will not only reduce transaction costs but also rebuild taxpayers'

trust in public institutions. The implementation of the tax amnesty program should be sustained through continuous public education and transparent monitoring to ensure that its positive behavioral impact remains beyond the short-term. In addition, targeted economic empowerment initiatives are needed to stabilize the income of informal sector taxpayers, who constitute the majority of motor vehicle owners in TTU. Therefore, fiscal policies should be linked to local economic development programs that enhance earning capacity and reduce tax delinquency. Strengthening moral and civic education, particularly through partnerships with religious leaders and customary authorities, can reinforce ethical awareness and collective responsibility for tax compliance.

Meanwhile, the government should view tax access not only as a matter of infrastructure availability but also as part of a broader institutional reform. Accessibility must be accompanied by administrative fairness, transparency, and responsive service delivery. Mobile SAMSAT units, integrated online payment systems, and taxpayer assistance centers can serve as strategic instruments for improving compliance, provided they are supported by consistent supervision and clear accountability mechanisms.

From an academic standpoint, future research should explore the mediating role of institutional trust and the moderating influence of fiscal literacy on compliance behavior. Longitudinal studies and comparative analyses across different border regions could further enrich our understanding of how cultural, institutional, and economic contexts interact to shape taxpayer behavior. Expanding this line of inquiry will contribute to the development of a more context-sensitive model of local tax compliance, which is especially relevant for decentralized economies such as Indonesia. Overall, the integration of economic, moral, and institutional approaches provides a comprehensive pathway for enhancing tax compliance. Strengthening these interrelated dimensions is essential not only for improving fiscal performance but also for building a more inclusive and accountable system of local governance in Indonesia's peripheral regions.

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