

The Effect of Tax Audit, Taxpayer Behavior and Tax Regulations on Taxpayer Perceptions and Tax Compliance

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Abstract

Taxes serve as a primary source of state revenue, ensuring the provision of public services and sustaining economic and social stability. Understanding the factors that influence tax compliance and taxpayer perceptions is essential for improving the effectiveness of tax policies. This study aims to examine the influence of tax audits, taxpayer behavior, and tax regulations on tax compliance and taxpayer perceptions. A quantitative survey method was employed, involving data collection from taxpayers, followed by analysis using Structural Equation Modeling (SEM) to test the proposed hypotheses and explore relationships among variables. The findings indicate that taxpayer behavior and tax regulations significantly influence tax compliance, suggesting that clear and well-structured regulations, along with responsible taxpayer behavior, can enhance compliance rates. Additionally, taxpayer behavior and tax competence play a significant role in shaping taxpayer perceptions of the tax system. However, the study reveals that tax audits and tax regulations do not have a significant direct impact on taxpayer perceptions, implying that other mediating factors may contribute to how taxpayers perceive taxation policies. These results highlight the crucial role of taxpayer behavior and regulatory frameworks in ensuring compliance and fostering positive taxpayer attitudes. This research provides valuable insights into the complex interactions between tax-related variables, offering practical implications for policymakers and tax authorities in designing more effective taxation policies, improving tax administration, and promoting voluntary compliance through better taxpayer education and engagement strategies.

Keywords: Tax Audit, Taxpayer Behavior, Tax Compliance, Taxpayer Perceptions, Tax Regulations.

Introduction

This research can also fill this empirical gap and create a deeper understanding of this complex process; this research is expected to make a valuable contribution to the marketing and consumer behavior literature. In addition, the findings of this research are expected to provide a foundation for more strategic and informed decision-making for businesses, allowing them to utilize the full potential of advertising to drive consumer interest and increase their profits. Therefore, this study aims to analyze the effect of product advertising on buying interest mediated by product knowledge and product quality. Tax is one of the main sources of state revenue which plays an important role in carrying out various development programs and public services. In this context, tax audits, taxpayer behavior and tax regulations are key elements that have a significant impact on the effectiveness of a country's tax system (1, 2). An in-depth study of the effect of these variables on taxpayer perceptions and the level of tax compliance is essential for

understanding the dynamics of the taxation system and public financial management (3). The importance of the variables examined in this study cannot be overlooked. Tax audit as part of tax law enforcement has a central role in ensuring taxpayer compliance and avoiding tax avoidance practices that are detrimental to the state (4, 5). Taxpayer behavior, which includes their attitudes, perceptions, and actions towards tax obligations, directly affects the level of tax compliance (6). Meanwhile, tax regulations serve as legal guidelines governing the obligations and rights of taxpayers, as well as creating a framework for implementing an efficient and fair tax system (7, 8). In the context of Indonesia, tax audit procedures and taxpayer responsibilities are governed by Law No. 6/1983 on General Provisions and Tax Procedures (UU KUP) and its amendments, which provide the legal framework for audit, assessment, and enforcement processes by the Directorate General of Taxes. As we embark on further exploration, it becomes imperative to

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scrutinize the evolving landscape of taxation in the digital era. The advent of technology introduces both challenges and opportunities, redefining the parameters of tax audits, taxpayer behavior, and regulatory frameworks (9). The integration of artificial intelligence, blockchain, and data analytics into tax administration systems presents novel possibilities for enhancing the efficiency and effectiveness of tax audits (10). Understanding how these technological advancements influence taxpayer behavior and interact with existing tax regulations will be pivotal in shaping adaptive and future-proof fiscal policies (11). Moreover, the globalization of economies necessitates a cross-border perspective in studying tax systems. Collaborative efforts to address issues of tax evasion, transfer pricing and harmonizing international tax regulations are becoming increasingly crucial (7). Investigating the impact of global economic trends on taxpayer behavior and the efficacy of tax audits can provide valuable insights for policymakers navigating the complexities of an interconnected world. In the quest for a holistic understanding of the dynamics between tax audits, taxpayer behavior, and tax regulations, interdisciplinary research collaborations are essential. Collaborations between economists, psychologists, legal scholars, and technologists can foster a comprehensive approach that transcends traditional disciplinary boundaries (12). Such collaborations can generate innovative solutions and policy recommendations that account for the multifaceted nature of taxation (6). In essence, the continuous exploration of these interconnected elements is not just an academic pursuit but a pragmatic necessity for governments seeking to adapt to the evolving socio-economic landscape (13). By embracing technological advancements, acknowledging the global nature of economic activities, and fostering interdisciplinary collaborations, nations can position themselves at the forefront of effective tax administration, ensuring sustainable revenue streams for comprehensive development programs and public services.

While the literature has long recognized the impact of tax audits, taxpayer behavior, and tax regulations on perceptions and compliance, a comprehensive empirical understanding remains elusive, prompting a call for further investigation (14). The complexities surrounding the

interactions between these variables demand a nuanced exploration, particularly in diverse socio-economic contexts. Crucial questions persist, including the nuanced ways in which these variables interplay to shape tax compliance and how evolving tax regulations dynamically influence taxpayer perceptions and behavior.

Furthermore, from a theoretical standpoint, there exists a notable gap in seamlessly integrating economic and legal behavior theories within the broader context of taxation (15). While these theories offer valuable insights into the motivational and hindering factors impacting compliance, a holistic framework is needed to assimilate these theoretical underpinnings with the intricacies of tax regulations and the efficacy of tax audits. Bridging these empirical and theoretical gaps will not only deepen our understanding of taxpayer behavior but also inform the development of more effective policies that resonate with the ever-evolving dynamics of taxation systems (16). As we endeavor to address these gaps, the synthesis of empirical evidence and theoretical frameworks will pave the way for a more comprehensive and actionable understanding of the factors influencing tax compliance in a rapidly changing global landscape. With its distinctive approach, this study sets out to meticulously analyze the interplay between tax audits, taxpayer behavior, and tax regulations, unraveling their collective impact on tax perceptions and compliance (17, 18). Notably, the research aims to explore the often-overlooked dimensions of dynamic changes in tax regulations, seeking to unveil their ripple effects on the intricate dynamics of taxpayer behavior and perceptions. Through this lens, the study aspires to provide a nuanced understanding of the multifaceted factors influencing tax compliance. The anticipated deeper insights from this research hold the potential to elucidate the mechanisms through which interventions in tax audits and regulations can shape and influence taxpayer behavior. By unraveling these connections, the study aims to furnish authorities with valuable input for designing more effective tax policies that are responsive to the evolving needs of both the state and its taxpayers. Thus, the overarching objective of this study is to contribute not only to the academic discourse but also to offer practical, evidence-based guidance to policymakers tasked

with steering the course of taxation in an ever-changing landscape.

Tax Audit

Tax audits constitute a fundamental aspect of tax administration, serving to verify the accuracy of tax returns, deter tax evasion, and uphold the integrity of the tax system (19). Employing diverse methodologies ranging from random selection to targeted risk assessment and leveraging technological advancements like data analytics, tax authorities aim to enhance audit effectiveness (20). Empirical evidence suggests that higher audit rates and penalties correlate with increased taxpayer compliance, yet challenges such as resource constraints and taxpayer resistance persist (21). Moving forward, research should prioritize addressing these challenges and exploring innovative audit approaches to ensure continued efficacy and fairness in tax compliance enforcement.

Taxpayer Behavior

Taxpayer behavior, a focal point in tax compliance research, encompasses a spectrum of actions and decisions undertaken by individuals and entities in response to tax policies, enforcement measures, and social norms (22). The literature reveals a multifaceted understanding of taxpayer behavior, influenced by economic incentives, psychological factors, and socio-cultural contexts. Behavioral economics theories, such as prospect theory and social norms theory, shed light on how taxpayers weigh the costs and benefits of compliance, perceive risks of detection, and respond to peer behavior and societal expectations (23). Moreover, empirical studies highlight the role of trust in government institutions, fairness perceptions, and tax morale as crucial determinants shaping taxpayer compliance behavior. Understanding these intricate dynamics is essential for designing effective tax policies, enforcement strategies, and interventions aimed at fostering voluntary compliance and reducing tax evasion.

Tax Regulations

Tax regulations constitute a cornerstone of fiscal policy, shaping the legal framework governing taxpayer obligations and rights (7). Extensive literature examines the complexity, evolution, and impact of tax regulations on compliance behavior, economic activity, and government revenue (24). Scholars have explored various dimensions of tax regulation, including its role in achieving policy

objectives, its interaction with administrative practices, and its implications for taxpayer compliance costs and incentives. Moreover, research highlights the challenges posed by tax complexity, ambiguity, and loopholes, which can undermine fairness, efficiency, and the effectiveness of tax systems. Insights from behavioral economics, legal studies, and public policy analysis contribute to a nuanced understanding of how tax regulations influence taxpayer behavior and shape broader socio-economic outcomes. As tax systems continue to evolve in response to changing economic conditions and societal needs, ongoing research is essential for informing evidence-based policy reforms and regulatory innovations that promote equity, efficiency, and compliance in taxation.

Taxpayer Perceptions

Taxpayer perceptions represent a crucial area of inquiry within tax compliance research, elucidating the cognitive, affective, and socio-cultural factors that influence individuals' attitudes and behaviors towards taxation (21). The literature extensively explores how taxpayers perceive the fairness, transparency, and efficacy of tax systems, as well as their trust in government institutions and compliance intentions. Psychological theories, such as the theory of reasoned action and social identity theory, offer insights into the cognitive processes and social influences shaping taxpayer perceptions and decision-making (25). Empirical studies reveal the significance of perceived procedural justice, tax morale, and public service quality in shaping taxpayer attitudes and compliance behavior. Moreover, research emphasizes the role of communication strategies, tax education initiatives, and enforcement practices in shaping taxpayer perceptions and fostering voluntary compliance (20). By understanding the multifaceted nature of taxpayer perceptions, policymakers can design more effective tax policies and administration strategies that enhance compliance, trust, and public welfare.

Tax Compliance

Tax compliance, a central focus of tax administration and policy, encompasses the extent to which taxpayers fulfill their legal obligations to report and pay taxes accurately and on time (26). Extensive literature examines the determinants, consequences, and interventions related to tax

compliance across various contexts. Drawing from economic, psychological, and sociological perspectives, scholars investigate factors influencing compliance behavior, including economic incentives, social norms, trust in government, and perceptions of fairness. Empirical research underscores the importance of enforcement mechanisms, tax complexity, and taxpayer education in shaping compliance outcomes. Furthermore, studies highlight the implications of non-compliance for revenue collection, equity, and the effectiveness of tax systems (27). By advancing our understanding of tax compliance dynamics, this body of literature informs the development of evidence-based policies and strategies aimed at promoting voluntary compliance, reducing tax evasion, and enhancing the efficiency and equity of tax administration.

Conceptual Collaboration

The conceptual framework serves as the bedrock of our study (Figure 1), steering our investigation into the impacts of "The Effect of Tax Audit, Taxpayer Behavior, and Tax Regulations on Taxpayer Perceptions and Tax Compliance." It delineates the interconnections among these pivotal variables, shaping our hypotheses and research approach. In this segment, we will outline and substantiate the elements of this framework, alongside charting a course for forthcoming analysis and discoveries (28). The conceptual framework in this study adopts and adapts elements from existing models such as the Deterrence Theory (for audit enforcement), the Theory of Planned Behavior (for taxpayer behavior), and Normative Theory (for regulation design) to ensure conceptual clarity and theoretical alignment.

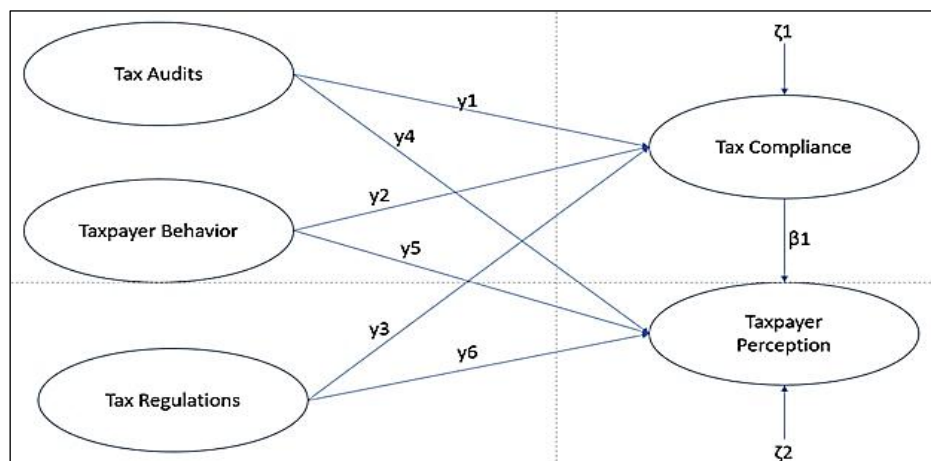


Figure 1: Conceptual Model

This research uses a causal model to test the relationship between these variables. This model will be analyzed using path analysis techniques or structural equation modeling (SEM) to test the proposed hypotheses and understand the direct and indirect influences between variables. This research proposes seven hypotheses that describe the relationship between these variables. Here are the details of the hypothesis:

H1: Audit and Tax Compliance

Stricter tax audits will increase taxpayers' tax compliance.

H2: Taxpayer Behavior and Tax Compliance

Positive taxpayer behavior will increase their tax compliance.

H3: Tax Regulations and Tax Compliance

Clear and fair tax regulations will increase taxpayers' tax compliance.

H4: Audit and Taxpayer Perceptions

Tax audits influence taxpayers' perceptions of tax obligations and authorities.

H5: Taxpayer Behavior and Taxpayer Perceptions
Taxpayer behavior influences their perception of tax obligations and authorities.

H6: Tax Regulations and Taxpayer Perceptions
Tax regulations influence taxpayers' perceptions of tax obligations and authorities.

H7: Tax Compliance and Taxpayer Perceptions
The level of tax compliance influences taxpayers' perceptions of tax obligations and authorities.

Methodology

Type of Research

The chosen research methodology for this study is a quantitative survey research approach, as outlined. This method is employed with the specific goal of systematically analyzing the intricate relationships among tax audits, taxpayer behavior, and tax regulations, and their collective impact on shaping taxpayer perceptions and influencing tax compliance. By utilizing a quantitative survey, the study seeks to gather numerical data that can be statistically analyzed, providing a quantitative foundation for drawing conclusions and making inferences. This approach allows for a structured investigation into the variables under consideration, facilitating a rigorous examination of the dynamics between tax audits, taxpayer behavior, tax regulations, and their ultimate effects on taxpayer perceptions and compliance levels. The quantitative survey methodology is well-suited for providing empirical evidence, offering a systematic and measurable foundation for addressing the research questions and achieving the study's objectives.

Population and Sample

In the context of investigating tax compliance within the banking sector in Indonesia, the study adopts the banking industry as its primary population. The assumption is made that each bank encompasses two offices equipped with a dedicated tax department. Consequently, the overall population considered for this research comprises a total of 290 offices. To ensure a representative and meaningful sample, a minimum of 168 respondents is deemed necessary. The sampling methodology employed in this study is simple random sampling. This method is chosen based on the consideration that the banking industry exhibits a high degree of homogeneity. Both the organizational structure and the banking administration system across various banks are relatively uniform, as they are regulated by the Central Bank. This regulatory framework ensures that there is minimal variation in the working systems of different banks. Therefore, the choice of simple random sampling is grounded in the assumption that any selected respondent will possess a relatively similar perception of the questionnaire, facilitating a more consistent and comparable dataset for analysis. By employing this sampling strategy, the study aims to capture a

diverse yet representative cross-section of the banking industry, allowing for robust insights into the factors influencing tax compliance within this specific sector. The inherent homogeneity of the industry contributes to the validity of the findings, as it minimizes potential biases stemming from significant variations in organizational structures or operational procedures. Overall, the research design emphasizes methodological rigor to ensure the reliability and generalizability of the study's outcomes.

Respondents were recruited ethically, and all participants volunteered to be part of the study. Prior to answering the research questionnaire, consent was obtained, and respondents were informed that their responses would be published. The purpose of the research was explained, and respondents were given the freedom to choose whether to answer each question. Additionally, informed consent was secured from all participants involved in the study. Respondents were informed about the study's objectives, procedures, potential risks and benefits, and their rights. Their data confidentiality was guaranteed, and they were assured of their right to withdraw from the study at any time without consequences. Consent was obtained both in writing and verbally, based on the respondents' preference. This research was conducted in accordance with ethical and regulatory guidelines governing research involving human participants.

Research Instrument Data Collection Techniques

In conducting this research, a crucial aspect involves the utilization of a carefully designed research instrument, specifically a questionnaire incorporating the Likert scale as the reference for scoring (29). The questionnaire serves as the primary tool for collecting data, allowing for a structured and standardized approach to gather insights from respondents. The Likert scale, a widely employed method in survey research, enables the measurement of attitudes, perceptions, and opinions on a graduated scale, offering a quantitative representation of participants' responses (30).

Table 1 provides comprehensive variable descriptions, delineating the key aspects and dimensions under investigation. These variables are strategically chosen to encapsulate the multifaceted nature of the study, incorporating

factors related to tax audits, taxpayer behavior, tax regulations, and their collective impact on taxpayer perceptions and compliance. Each variable in the questionnaire is systematically outlined, providing clarity on the specific aspects being measured and ensuring uniformity in respondents' interpretation. The Likert scale, with its range of response options, allows participants to express their agreement, disagreement, or neutrality on a continuum, thereby facilitating a nuanced understanding of their perspectives. This methodological choice not only enhances the precision of data collection but also enables a statistical analysis that can reveal patterns,

correlations, and trends within the responses. By employing a Likert scale-based questionnaire, this research aligns with established practices in survey research, ensuring a systematic and quantifiable exploration of the targeted phenomena. The variable descriptions in Table 1 serve as a roadmap for respondents, guiding them through the specific elements under scrutiny. Ultimately, this robust and well-structured research instrument is designed to yield comprehensive insights, contributing to a thorough analysis of the complex dynamics surrounding tax compliance in the banking sector of Indonesia.

Table 1: Research Variables Lattice

Variable full name	Variable name in LISREL	Dimensions	Indicators	Statement Code
Tax Audits	Audit	Compliance	Readiness for examination	X1
			Information regarding inspection	X2
			Attitude on examination results	X3
		Professionalism	Examiner understands of accounting.	X4
			Application of the principle of form over substance.	X5
Taxpayer Behavior	Behav	Tax Morale	Desire to do tax evasion	X6
			The desire to do tax avoidance	X7
			Desire to improve accounting	X8
		Communication	Communication with Tax Consultants	X9
			Communication with tax authorities	X10
Tax Regulations	Ruling	Tax Complexity	Lots of tax laws	X11
			Public review of new tax regulations	X12
			Understanding of tax regulations	X13
Taxpayer Perception	Percep	Ruling Substance	Benefits of paying taxes	Z1
		Formal	Accuracy of subsidies from taxes	Z2
		Compliance	Service satisfaction level	Z3
		Materials		
Tax Compliance	Comp	Compliance		
		Tax Benefit	Understand tax rights and obligations	Y1
			SPT submission accuracy	Y2
		Tax Fairness	The truth of calculating taxes	Y3
			Correct reporting of income and expenses.	Y4

The questionnaire items were adapted from previous validated studies to ensure relevance and reliability. A pilot test was conducted with 20 respondents from the banking sector to test clarity, consistency, and reliability before full-scale data collection.

Data Analysis Techniques

In the realm of data analysis for this research, a comprehensive approach will be undertaken, leveraging Confirmatory Factor Analysis (CFA) as outlined in past research (31) and Structural Equation Modeling (SEM) techniques pioneered.

These advanced statistical methods are chosen to unravel the intricate causal relationships among the variables under scrutiny, namely tax audits, taxpayer behavior, tax regulations, taxpayer perceptions, and tax compliance. The initial phase of analysis involves the application of Confirmatory Factor Analysis (CFA). This step is crucial as it aims to assess the measurement model's validity, verifying the effectiveness of the chosen instruments and their alignment with the underlying theoretical constructions. Prior to SEM estimation, assumptions including normality, homoscedasticity, and multicollinearity were

tested. The data met the required thresholds, indicating no major violations that would compromise the validity of the structural model. This validation, based on established frameworks (32), ensures that the chosen variables accurately represent the intended dimensions of tax audits, taxpayer behavior, and tax regulations.

Following the confirmation of the measurement model, the study proceeds to construct a Structural Equation Model (SEM). This structural model is instrumental in formally delineating the causal pathways through which tax audits, taxpayer behavior, and tax regulations influence taxpayer perceptions and, ultimately, tax compliance. Past research provides guidance in developing this model, which serves as a comprehensive representation of the complex interplay among the studied variables (33). A critical aspect of the analysis involves conducting a model suitability test, ensuring that the proposed model aligns well with the data collected (34). This step is pivotal for affirming the model's accuracy and relevance in capturing the dynamics of the observed relationships. The interpretation of results encompasses a thorough examination of path coefficients and their statistical significance (35). This scrutiny provides a nuanced understanding of the strengths and directions of the relationships between tax audits, taxpayer behavior, tax regulations, taxpayer perceptions, and tax compliance. In essence, the chosen data analysis methods aim not only to test theoretical constructs but also to unravel the underlying mechanisms governing tax compliance within the banking sector of Indonesia. By embracing advanced statistical techniques, this research endeavors to contribute not only to theoretical knowledge but also to offer practical insights for policymakers and industry stakeholders, fostering a more informed approach to taxation strategies and regulatory.

Ethical Approval

To ensure compliance with ethical guidelines in research involving questionnaires, surveys, interviews and focus groups, we inform you that this research has received approval from the Ethics Committee of the Directorate of Postgraduate Programs at Bina Darma University, Palembang. Ethical approval was received before conducting human interviews, to ensure that all activities adhered to ethical standards from the start. Apart from that, in the data collection process all

procedures were carried out properly and in accordance with the provisions of the applicable code of ethics and we ensured that no ethical procedures were violated. The research entitled "The Influence of Tax Audits, Taxpayer Behavior and Tax Regulations on Taxpayer Perceptions and Compliance" was led by Dr. Bakti Setyadi, S.E, M.M, Ak, CA, CPA from Bina Darma University Palembang. This research has received ethical approval with reference number No.97/PPs-UBD/V/2024. This approval guarantees that the research complies with established ethical standards and ensures the protection and welfare of research subjects.

Results and Discussion

Evaluation of Model Validity

Before conducting Structural Equation Modeling (SEM), preliminary diagnostic tests were performed to ensure that the data met key statistical assumptions. The assumption of normality was tested using skewness and kurtosis values, which were found to fall within the acceptable range of ± 2 , indicating that the distribution of data was approximately normal. Homoscedasticity was evaluated by examining residual plots, which showed a random and even distribution, confirming constant variance across observations. Multicollinearity was assessed through the Variance Inflation Factor (VIF), and all variables had VIF values below the critical threshold of 5, indicating no multicollinearity issue. These diagnostic results support the appropriateness of the data for SEM analysis.

Normality Test

To assess whether the dataset follows a normal distribution a critical assumption in structural equation modeling skewness and kurtosis values were examined for all key variables. Table 2 summarizes the results of the normality test.

The results show that all skewness values fall within the acceptable range of ± 1 and kurtosis values within ± 2 , indicating that the distribution of the variables approximates normality. This supports the assumption of normality for subsequent statistical analyses.

Multicollinearity Test

Multicollinearity among independent variables was evaluated using the Variance Inflation Factor (VIF). Table 3 presents the VIF values for each predictor variable included in the model.

Table 2: Normality Test Based on Skewness & Kurtosis

Variable	Skewness	Kurtosis
X1_Audit	0.132	-0.001
X2_Behav	-0.100	0.281
X3_Ruling	0.154	-0.087
X4_Percep	0.039	-0.296
X5_Comp	0.089	-0.263
Y_Compliance	0.038	0.490

Table 3: Variance Inflation Factor (VIF)

Variable	VIF
Constant	106.00
X1_Audit	2.15
X2_Behav	2.15
X3_Ruling	1.86
X4_Percep	1.87
X5_Comp	1.05

All VIF values are well below the commonly accepted threshold of 5, indicating no significant multicollinearity issues among the independent variables. Additionally, an inspection of residual plots confirmed that the residuals are randomly distributed without any systematic patterns, fulfilling the assumption of homoscedasticity. These results confirm the statistical adequacy of the dataset for structural modeling.

Ensuring construct validity is a crucial step in structural equation modeling (SEM), and a widely accepted criterion for good construct validity is a standardized loading factor value of ≥ 0.5 , as indicated. The SEM trajectory diagram presented in Figure 2 illustrates the basic model's path diagram, depicting the relationships between latent and manifest variables and providing a visual representation of the standardized solutions.

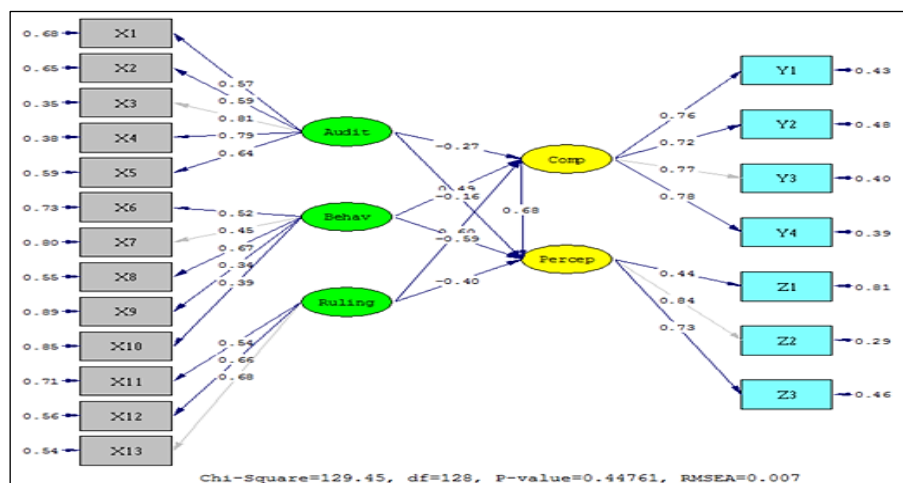
**Figure 2:** Basic Model Path Diagram – Standardized Solutions

Figure 2 indicates that the measurement model underwent a rigorous evaluation to assess the construct validity of the variables. Attention was directed towards the standardized loading factor (SLF) values associated with the 21 manifest variable indicators. The trajectory diagram reveals that out of the 21 manifest variable indicators, four indicators (X7, X9, X10, and Z1) exhibited standardized loading factor values below the

threshold of 0.5. Specifically, these indicators fell short of the recommended level, potentially suggesting weaker relationships between these manifest variables and their corresponding latent variables in the model. However, despite the presence of these indicators with SLF values below 0.5, the overall conclusion drawn from the trajectory diagram and subsequent analysis is that the construct validity of the measurement model is

considered good. This determination is based on the majority of the manifest variable indicators demonstrating standardized loading factor values equal to or greater than the recommended threshold. The identification of the weaker indicators prompts attention to these specific variables for further scrutiny or potential refinement in future iterations of the model. In summary, the SEM trajectory diagram provides valuable insights into the construct validity of the measurement model. While some indicators fall below the recommended threshold, the overall assessment is favorable, affirming the model's capability to effectively capture the relationships between latent and manifest variables in the study

of tax audits, taxpayer behavior, tax regulations, and their influence on taxpayer perceptions and compliance.

Overall Model Fit

The Overall Model Fit Test aims to evaluate the degree of goodness of fit between the data and the model. The SEM concept in assessing model fit does not only depend on one fit index, but considers all fit indices (36). Through the results of the overall model fit test, in general the model proposed in this study can be said to be fit. The following is a summary of the overall model fit in Table 4, assessment results using the LISREL tool.

Table 4: Result of Goodness of Fit

No	GOF size	Model Eligibility Value (Accept Parameters)	Estimation Results	Model Match
1	Chi-Square/ λ^2 (Discrepancy)	The smaller the better. ρ -value ≥ 0.05 (non-significant).	129,45 ρ -value = 0,45	Good fit
2	Root Mean Square Error of Approximation (RMSEA)	≤ 0.05 : Good fit 0.05–0.08 : Acceptable 0.08 – 0.10 : Marginal fit ≥ 0.10 : Poor fit	0,0074	Good fit
3	Normed Fit Index (NFI)	$\geq 0,9$: Good fit 0,80 – 0,9 : Marginal fit	0,95	Good fit
4	Goodness of Fit Index (GFI)	Between 0 (poor fit) to 1 (perfect fit). ≥ 0.9 : Good fit 0.80 – 0.9 : Marginal fit	0.94	Good fit
5	Root Mean Square Residual (RMR) Standardized RMR	$\leq 0,05$: Good fit	0,043 0,053	Good fit

Evaluation of the feasibility of the model (Goodness of Fit, GOF) based on information from Table 2 produces encouraging indications. First, the Chi-Square/ λ^2 (Discrepancy) value is 129.45 and the ρ -value (probability) is 0.45 indicating that the model has a good fit with the observed data. This agreement is strengthened by the fact that the ρ -value exceeds the 0.05 threshold, indicating its non-significance, and indicating a good agreement (17). Furthermore, analysis using the Root Mean Square Error of Approximation (RMSEA) with a value of 0.0074 indicates that the model has a good fit, considering that the RMSEA value is less than 0.05, which indicates a good fit between the proposed model and the data. actual. This result is also reflected in the Normed Fit Index (NFI) with a

value of 0.95, which exceeds the 0.9 threshold and indicates that the model has a good fit level. The Goodness of Fit Index (GFI) with a value of 0.94 also indicates that the model has a good fit, because a GFI value of greater than 0.9 indicates a good fit between the model and the data. Furthermore, Root Mean Square Residual (RMR) and Standardized RMR with values of 0.043 and 0.053 respectively also indicate that the model has a good level of fit, considering these values are less than 0.05.

Overall, the results of the model feasibility evaluation show that the applied model has a good fit with the existing data. The values obtained from various parameters of the feasibility evaluation of the model indicate that the model has a good fit

level with the existing observational data. Therefore, these results provide support for the use of Structural Equation Modeling techniques in analyzing the influence of tax audits, taxpayer behavior, and tax regulations on taxpayer perceptions and tax compliance.

Evaluation of Model Reability

To measure the combined reliability, a Composite Reability Measure (CR) and or Variance Extracted Measure (VE) is used for each latent variable. A variable has good reliability of the construct or latent variable if the CR value ≥ 0.70 , or the VE value ≥ 0.5 (Wijanto, 2008:148). The following is a combined reliability calculation using the Composite Reability Measure/CR and Variance Extracted Measure/VE).

Table 5: Construct Reability and Variance Extracted

No	Variable	CR ≥ 0.7	Reliability conclusion	VE ≥ 0.5	Reliability conclusion
1	Audit	$0.81 \geq 0.70$	Good	$0.47 \leq 0.50$	Good enough
2	Behav	$0.60 \leq 0.70$	Good enough	$0.24 \leq 0.50$	Not good
3	Ruling	$0.66 \leq 0.70$	Good enough	$0.40 \leq 0.50$	Good enough
4	Percep	$0.84 \geq 0.70$	Good	$0.57 \geq 0.5$	Good
5	Comp	$0.72 \geq 0.70$	Good	$0.48 \leq 0.5$	Good enough

Fourth, "Taxpayer Perception" and "Tax Compliance" show good reliability with CR values of 0.84 and 0.72 respectively, reflecting a consistent measurement tool. The "Taxpayer Perception" variable also has a VE of 0.57, indicating a strong level of contribution of the indicator to this variable. However, for the "Tax Compliance" variable, the VE value of 0.48 indicates that there are still some variations that cannot be explained by the indicators used. Overall, these results provide insight into the reliability of the measurement instruments used in the study. The variables "Taxpayer Perception" and "Tax Compliance" show more positive results with good reliability and strong indicator contributions. On the other hand, variations in the reliability and contribution of indicators to other variables indicate potential improvements that can strengthen measurement instruments. Therefore, this interpretation provides a basis for further improvement and development in subsequent research in an effort to understand more deeply the effect of tax audits, taxpayer behavior, and tax

Based on the data in Table 5, the "Tax Audit" variable shows good reliability with a Critical Ratio (CR) value of 0.81, indicating a consistent measurement tool. Nonetheless, the Variance Extracted (VE) value of 0.47 reveals that some of the variations in this variable cannot be explained by the indicators used. Second, for the "Taxpayer Behavior" variable, a CR value of 0.60 indicates a sufficient level of reliability, but a VE value of 0.24 indicates a need for improvement in the measurement instrument to support further reliability. Third, the variable "Tax Regulations" has sufficient reliability with a CR value of 0.66, while a VE value of 0.40 indicates a strong contribution of indicators to this variable.

regulations on taxpayer perceptions and tax compliance.

Associative Hypothesis Testing Results

After conducting the Overall Model Fit Test, Measurement Model Fit Test and Structural Model Fit Test, the final step is to conduct a Research Hypothesis Test. The results of the three previous tests can be concluded that in general the fit of the model is good (good fit). Thus, hypothesis testing can be continued. Hypothesis testing of this structural model includes two things, namely t-value (1), and coefficient/parameter value or loading factor (2). The t-value and loading factor are taken through the Basic Model path diagram with the Standardized Solution option. To determine whether the relationship between variables is significant, the t-count value must be greater than the t-table value (1.97) at a significance level of $\alpha = 5\%$. The t value is obtained through a comparison between the estimated value of the regression coefficient and the standard error as follows.

Table 6: Summary of SEM Testing Results

Hypothesis	Relationship Between Variables	Path	Loading Factor	t value	Description
H1	Audit → Comp	-0.21		3.21 > 1.97	Significant effect
H2	Behav → Comp	0.49		3.80 > 1.97	Significant effect
H3	Ruling → Comp	0.60		5.26 > 1.97	Significant effect
H4	Audit → Percep	-0.16		1.10 < 1.97	Not Significant
H5	Behav → Percep	-0.59		2.32 > 1.97	Significant effect
H6	Ruling → Percep	-0.40		1.57 < 1.97	Not Significant
H7	Comp → Percep	0.68		2.04 > 1.97	Significant effect

The results of this study can be interpreted based on the information in Table 6 which is described as follows. Delving deeper into the implications of these findings, the negative association between "Tax Audit" (Audit) and "Tax Compliance" (Comp) suggests that the mere presence or increase in tax audits might not be an effective strategy to enhance compliance. This prompts further exploration into the potential reasons behind this inverse relationship, such as the perception of audits as punitive measures rather than constructive tools for compliance improvement. Policymakers may need to reconsider the approach to tax audits, focusing on fostering a cooperative environment rather than solely relying on punitive measures. Conversely, the positive relationships identified in H2 and H3 shed light on the pivotal role of "Taxpayer Behavior" (Behav) and "Tax Regulations" (Ruling) in influencing tax compliance. Understanding the specific behaviors that contribute to compliance and the elements of tax regulations that have a positive impact is crucial. Policymakers may consider designing interventions that promote desirable taxpayer behaviors and refining tax regulations to strike a balance between stringency and practicality. The lack of significant effects in H4 and H6 regarding "Tax Audit" (Audit) and "Tax Regulations" (Ruling) on "Taxpayer Perception" (Percep) highlights the complexity of the relationship between enforcement measures and taxpayer attitudes. Taxpayers might perceive audits and regulations differently, with factors such as communication strategies, transparency, and perceived fairness playing a significant role. Policymakers should thus prioritize clear communication and ensuring that tax enforcement measures are perceived as fair and reasonable by the taxpayer population. The significant negative

relationship in H5 between "Taxpayer Behavior" (Behav) and "Taxpayer Perception" (Percep) suggests that certain behaviors may lead to less favorable perceptions. This underscores the need for a holistic approach that considers not only compliance but also the broader impact of taxpayer behavior on public attitudes towards taxation. Policymakers might explore educational campaigns to improve taxpayer awareness and understanding of the consequences of their behaviors. Finally, the marginally significant positive relationship in H7 between "Tax Compliance" (Comp) and "Taxpayer Perception" (Percep) implies that higher levels of tax compliance are associated with more positive perceptions, albeit modestly. While this may indicate a positive feedback loop between compliance and perception, policymakers should be cautious not to overly rely on compliance as the sole driver of positive taxpayer attitudes. Other factors, such as the quality of public services funded by taxes, also contribute to overall perceptions.

In conclusion, the study not only provides valuable insights into the specific relationships between variables but also opens avenues for further research and policy considerations. A comprehensive approach that considers the nuances of taxpayer behavior, regulatory frameworks, enforcement strategies, and their collective impact on compliance and perception is essential for designing effective and sustainable tax policies.

The significant impact of tax audits on tax compliance, as explained by the theory of deterrence, underscores the behavioral influence of enforcement and supervision on individuals (37). In this context, taxpayers tend to comply with tax obligations to avoid the risk of fines or

sanctions that may be imposed by the taxation authorities (38). This theory posits that taxpayers, motivated by a desire to avoid fines or sanctions imposed by taxation authorities, tend to comply with tax obligations. Tax audits, acting as a credible threat, create a tangible risk of non-compliance, thereby fostering a climate of increased compliance in income reporting and tax payment (16). In contrast, the linkage between taxpayer behavior and their perception of the taxation system finds support in the positive expectation theory. When taxpayers perceive that their compliance contributes to better public services or government policies, they are inclined to hold a positive view of the tax system (27). Compliant taxpayer behavior is theorized to create expectations that their tax contributions positively impact society, fostering a sense of civic responsibility (9). The association between tax regulations and tax compliance aligns with the normative consistency theory, emphasizing that clear and consistent regulations provide guidelines for taxpayers, reducing ambiguity and uncertainty (20, 23). When taxpayers have a clear understanding of the rules, they are more likely to comply with tax obligations, as adherence to established norms fosters a sense of duty.

Interestingly, the finding that tax audits do not significantly affect taxpayer perceptions may be attributed to the greater influence of factors such as general knowledge about taxation, personal experiences, or media representation on these perceptions (21). Tax audits may exert a more direct impact on the level of tax compliance rather than shaping perceptions directly (39). Moreover, the theory of government responsiveness provides insights into how tax compliance influences taxpayer perceptions. Taxpayers who perceive that their obligations are recognized and contribute positively to society tend to hold favorable views of the tax system (40). The positive perception is reinforced by the belief that high tax compliance reflects the government's effective management of public funds, creating a virtuous cycle of trust and cooperation between taxpayers and the government (41). This highlights the symbiotic relationship between compliance, perception, and the effectiveness of public financial management.

Based on the findings, audit strategies should be designed to be more adaptive. For small

businesses, audits are better directed toward education and assistance rather than punitive measures, while larger corporations may require stricter and more comprehensive enforcement. In line with this, regulatory reforms should emphasize simplicity, fairness, and proportionality, aligning tax obligations with the capacity and characteristics of each business segment. Furthermore, this study highlights the conceptual distinction between voluntary compliance driven by trust, transparency, and perceived fairness of the tax system and coerced compliance, which stems from fear of audits and sanctions. Strengthening voluntary compliance should be a priority in future policy design, particularly through improved service quality, inclusive communication, and active public engagement.

Conclusion

Based on the results of this study, it can be concluded that tax audits, taxpayer behavior, and tax regulations have a significant impact on tax compliance and taxpayer perceptions. Taxpayer behavior and tax regulation variables are proven to have a positive and significant effect on the level of taxpayer compliance, while taxpayer behavior and tax competence affect taxpayer perceptions. On the other hand, tax audits and tax regulations do not appear to have a significant impact on taxpayer perceptions. Nonetheless, these findings provide a better understanding of the dynamics between these factors in the context of taxation. However, this study also has several limitations. The use of a survey method may introduce response bias, and the measurement of variables might not fully capture the complexity of the observed constructs. Furthermore, the study's geographic and cultural scope may limit the generalizability of the findings. The lack of qualitative data, such as interviews or open-ended responses, restricts a deeper exploration of taxpayer attitudes and perceptions toward the tax authority. Moreover, the study did not consider contextual challenges such as limited digital literacy, public distrust in tax officials, and weak enforcement infrastructure, all of which could influence compliance. Future research should integrate qualitative approaches and account for these local barriers to provide more comprehensive and actionable insights into tax

compliance behavior. For future research, it is suggested to consider developing more diversified methods to reduce response bias and increase the internal validity of the research. Using a more representative sample and more detailed measurements can lead to more robust findings and broader generalizations. In addition, considering cultural factors or differences in tax practices can provide additional insight into how these factors interact in different contexts. Furthermore, exploring potential additional factors that may affect tax compliance and taxpayer perceptions can provide a richer view of taxation dynamics that is more comprehensive.

Abbreviations

SEM: Structural Equation Modeling, TA: Tax Audit, TP: Taxpayer, TR: Tax Regulations.

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Author Contributions

Bakti Setyadi: Conceptualization, Data Collection, Methodology, Writing – Original Draft, Rosy Armaini: Data Analysis, Review & Editing, Supervision.

Conflict of Interest

The authors declare that there is no conflict of interest regarding the publication of this article.

Ethics Approval

This study was conducted following ethical guidelines and received approval from the Ethics Committee of Universitas Bina Darma. Written informed consent was obtained from all participants.

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References

- Novianti AF, Dewi NHU. An investigation of the theory of planned behavior and the role of tax amnesty in tax compliance. *Indones Account Rev.* 2018;7(1):79.
- Alshrouf M. The effect of tax audit using the computer on tax non-compliance in Palestine. *Int J Acad Res Bus Soc Sci.* 2019;9(3):296–304.
- Setyadi B, Helmi S, Mohammad SI. Effectiveness and efficiency of the state revenue and expenditure budget policy in South Sumatra: Islamic perspective study. *Ikon J Ekon dan Bisnis Islam.* 2023;8(1):103–22.
- Asnawi M. Tax compliance decision analysis: Audit strategy, audit rate, perceived probability of audit, and taxpayer ethics. *Inf Manag Bus Rev.* 2016;8(3):11–21.
- Taing HB, Chang Y. Determinants of tax compliance intention: Focus on the theory of planned behavior. *Int J Public Adm.* 2021;44(1):62–73.
- Biru AM. Factors that affect tax compliance behavior of small and medium enterprises: Evidence from Nekemte City. *Eur J Bus Manag.* 2020;12(19):29–41.
- Villela L, Lemgruber A, Jorratt M. Tax Expenditure Budgets: Concepts and Challenges for Implementation. *Idb Work Pap Ser.* 2010;IDB-WP-131:1–61.
- Sari RI, Nuswantara DA. The influence of tax amnesty benefits perception to taxpayer compliance. *J Din Akunt.* 2017;9(2):176–83.
- Jimenez P, Iyer GS. Tax compliance in a social setting: The influence of social norms, trust in government, and perceived fairness on taxpayer compliance. *Adv Account.* 2016;34:17–26.
- F Allen, X Gu, J Jagtiani. A Survey of Fintech Research and Policy Discussion. *Rev Corp Financ.* 2021;1(June):259–339.
- Nirmalasari L, Alwiyah A, Sunarya PA, Panjaitan AS. A digital marketing strategy based on applications to rise customer satisfaction. *Int J Cyber IT Serv Manag.* 2022;2(2):139–45.
- Navaretti GB, Calzolari G, Mansilla-Fernández JM, Pozzolo AF. FinTech and Banking. Friends or Foes? FinTech and Banks: Friends or Foes? *J Eur Econ – Banks, Regul Real Sect.* 2017;(2017.2):9–30.
- Hasbolah F. The digital accounting entrepreneurship competency for sustainable performance of the rural micro, small and medium enterprises (msmes): An empirical review. *Int J Small Mediu Enterp.* 2021;4(1):12–25.
- Nkundabanyanga SK, Mvura P, Nyamuyonjo D, Opiso J, Nakabuye Z. Tax compliance in a developing country: Understanding taxpayers' compliance decision by their perceptions. *J Econ Stud.* 2017;44(6):931–57.
- O'brien TC, Tyler TR. Rebuilding trust between police & communities through procedural justice & reconciliation. *Behav Sci Policy.* 2019;5(1):35–50.
- Francis O. The influence of tax amnesty programme on tax compliance in Nigeria: The moderating role of political trust. *J Account Tax.* 2019;11(7):120–9.
- Daniel A, Akowe A, Awaje A. Tax compliance behaviour of Small scale enterprises in bassa local government area of Kogi State. *J Good Gov Sustain Dev Africa.* 2016;3(1):58–72.
- Sritharan N, Salawati S. Economic factors impact on individual taxpayers' tax compliance behaviour in Malaysia. *Int J Acad Res Account.* 2019;9(2):172–82.
- Jayawardane D, Low K. Taxpayer attitude and tax compliance decision in Sri Lanka. *Int J Arts Commer.* 2016;5(2):124.
- Hamid NA, Ismail IS, Yunus N, Jali MN, Rosly AS.

- Taxpayer perceptions of tax awareness, tax education, and tax complexity among small and medium enterprises in Malaysia: A quadrant analysis approach. *Univers J Account Financ.* 2022;10(1):231–42.
21. Sebele-mpofu FY, Chinoda T. Tax knowledge, tax system complexity perceptions and attitudes of the commercial sugarcane farmers and their influence on tax compliance in the lowveld area, Zimbabwe. *Int J Innov Sci Res Technol.* 2019;4(4):407–18.
 22. Savitri E, Musfialdy. The effect of taxpayer awareness, tax socialization, tax penalties, compliance cost at taxpayer compliance with service quality as mediating variable. *Procedia - Soc Behav Sci.* 2016;219:682–7.
 23. Kasper M, Kogler C, Kirchler E. Tax policy and the news: An empirical analysis of taxpayers' perceptions of tax-related media coverage and its impact on tax compliance. *J Behav Exp Econ.* 2015;54(2):58–63.
 24. Aprilian RI, S MA. Analysis of tax compliance of msme owners after the tax harmonisation law. *J Ilm Manajemen, Ekon Akunt.* 2023;7(3):525–38.
 25. Gadzali SS, Yunizar Y. Job resource demand for research performance in private university through work engagement. *J Investasi.* 2023;9(1):8–23.
 26. Yanto Y, Aprilian RI. Dampak digital marketing terhadap brand awareness pada UMKM di Kota Pangkalpinang. *J Ilm Manajemen, Ekon Akunt.* 2023;7(3):477–89.
 27. Nurkhin A, Novanty I, Muhsin M, Sumiadji S. The influence of tax understanding, tax awareness and tax amnesty toward taxpayer compliance. *J Keuang dan Perbank.* 2018;22(2):240–55.
 28. Hair JF, Black WC, Babin BJ, Anderson RE. *Multivariate data analysis.* 7th ed. Harlow: Pearson. 2017.
 29. Rahayu S, Saputra YMD, Helmi S, Asriadi AM M. Promotion's power in halal product purchases: the mediating role of trust and knowledge. *Cogent Bus Manag.* 2025;12(1):1–20.
 30. Helmi S, Sofyan Y, Chantika T, Muh Asriadi AM. Linking Culture to Performance: How Organizational Culture Drives Employee Success at PT Cyberindo Aditama (CBN). *Int Res J Multidiscip Scope.* 2025;6(1):441–50.
 31. Hair JF, Black WC, Babin BJ, Anderson RE. *Multivariate data analysis.* 8th ed. Hampshire: Cengage Learning; 2019.
 32. Helmi S, Setyadi B, Wedadjati RS, Asriadi AM M, Yahya N. Empowering msme women: a community-based approach to digital literacy and marketing skills. *J Ilm Ilmu Terap Univ Jambi.* 2025;9(1):313–22.
 33. Anwar C, Sofyan H, Ratnaningsih N, AM MA. Digital technology practices for vocational teachers in the industrial revolution 4.0: Mediating technology self-efficacy. *J Pedagog Res.* 2024;8(1):172–90.
 34. Am MA, Setiawati FA. Examining the psychometric properties of the career commitment instrument through classical test theory and the graded response model. *J Educ Res Eval.* 2023;7(3):455–68.
 35. AM MA, Setiawati FA, Hadi S, Istiyono E. Psychometric properties career of commitment instrument using classical test theory and graded response model. *J Pedagog Sociol Psychol.* 2023;5(2):26–40.
 36. AM MA, Helmi S, Kassymova GK, Retnawati H, Hadi S, Istiyono E. Effect of job satisfaction on service quality mediated by lecturer performance at state universities. In: *Challenges of Science. Int Pract Internet Conf Proc.* 2022;62–71. doi:10.31643/2022.08.
 37. Sebhat W, Assfaw AM. Analysis of tax compliance and its determinants: evidence from kaffa, bench maji and sheka zones category B tax payers, SNNPR, Ethiopia. *J Account Financ Audit Stud.* 2019;5(1):32–58.
 38. Manual V, Xin AZ. Impact of tax knowledge, tax compliance cost, tax deterrent tax measures towards tax compliance behavior: A survey on self-employed taxpayers in West Malaysia. *Electron J Bus Manag.* 2016;1(1):56–70.
 39. Inasius F. Factors influencing sme tax compliance: Evidence from Indonesia. *Int J Public Adm.* 2019;42(5):367–79.
 40. Le HTH, Tuyet VTB, Hanh CTB, Do QH. Factors affecting tax compliance among small-and medium-sized enterprises: Evidence from Vietnam. *J Asian Financ Econ Bus.* 2020;7(7):209–17.
 41. Gangl K, Hartl B, Hofmann E, Kirchler E. The relationship between Austrian tax auditors and self-employed taxpayers: Evidence from a qualitative study. *Front Psychol.* 2019;10(2):1–13.