

Is Higher Better - Evaluating VAT Rate Hikes Through Buoyancy In Indonesia

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ABSTRACT

This study investigates the effectiveness of Value Added Tax (VAT) rate increases in Indonesia by analyzing VAT revenue buoyancy and examining the key factors that influence its performance. Employing a quantitative research approach, the study utilizes secondary time-series data from 2019 to 2024, sourced from the Directorate General of Taxes, Statistics Indonesia, and the Ministry of Finance of the Republic of Indonesia. A regression-based analysis is conducted to measure the responsiveness of VAT revenue to economic growth, taxpayer compliance, inflation, and tax administrative policies. Tax buoyancy serves as the primary indicator for evaluating the effectiveness of the 2022 VAT rate increase policy. The findings demonstrate that the VAT rate increase has proven effective in the short to medium term, with buoyancy values consistently exceeding one since policy implementation, indicating that VAT revenue growth has outpaced economic growth. Nevertheless, the sustainability of this effectiveness depends not only on rate adjustments but also on structural factors, including taxpayer compliance, administrative reforms, and the broadening of the VAT base. The planned selective increase of the VAT rate to 12 percent in 2025 reflects the government's cautious approach to balancing revenue generation with fairness considerations, although its impact on VAT buoyancy is expected to be moderate. Empirical results further highlight the critical role of taxpayer compliance in ensuring the success of VAT policy. The introduction of the Coretax system by the Directorate General of Taxes is identified as a strategic step to strengthen administration and enhance compliance. Despite the regression analysis showing multicollinearity among some variables, the overall direction of the relationships remains consistent. The study concludes that VAT revenue performance is shaped by the interplay of tax rates, compliance levels, and structural reforms, and it recommends future research with expanded datasets and refined analytical techniques to provide deeper insights into the long-term effectiveness of VAT policies.

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1. INTRODUCTION

Taxation is one of the most critical fiscal instruments governments use to finance public expenditures and maintain macroeconomic stability [1]. Among various tax mechanisms, Value Added Tax (VAT) has emerged as a significant source of government revenue due to its broad tax base and relatively efficient collection process [2]. Introduced conceptually by Carl Friedrich von Siemens in 1919, VAT was first implemented in practice in France in 1954 and later adopted worldwide, including in Germany in 1968 [3]. Although the idea originated with a German industrialist and government consultant, the first practical implementation of VAT was carried out by the French government in 1954 [4]. Subsequently, the VAT system spread globally, including its adoption by Germany in 1968 [5].

In Asia, VAT implementation reflects a broader trend of fiscal reform. Countries such as Vietnam, South Korea, China, India, and the Philippines adopted VAT to strengthen fiscal capacity and support economic development [6]. In Indonesia, VAT was formally introduced on April 1, 1985, replacing the Sales Tax system and aiming to enhance administrative efficiency and expand the revenue base [7]. The introduction of VAT marked a significant milestone in Indonesia's tax reform, aiming to enhance the efficiency of tax administration while expanding the government's revenue base [8]. Following this development, several other Asian countries, including India and the Philippines, also adopted VAT systems as part of their efforts to strengthen fiscal capacity and support economic development [9].

In response to evolving global economic conditions and increasing government financing needs, many countries periodically adjust VAT rates as part of broader fiscal policy reforms [10]. Indonesia implemented a VAT rate increase from 10% to 11% in April 2022 under the Harmonization of Tax Regulations Law (HPP Law), marking the first increase in over two decades [11]. This adjustment was primarily intended to strengthen the fiscal position and address the growing budget deficit, which had worsened due to COVID-19-related expenditures and declining state revenues [12]. The adjustment was primarily intended to strengthen the country's fiscal position and address the growing budget deficit following the economic pressures caused by the COVID-19 pandemic [13]. During the pandemic period, government expenditures increased significantly to support public health measures and economic recovery programs, while state revenues declined considerably [14]. However, such policy changes also raise concerns regarding their potential impact on household consumption and economic behavior, necessitating a comprehensive evaluation of policy effectiveness.

A critical measure for evaluating tax policy performance is tax buoyancy [15], which indicates the responsiveness of tax revenue to changes in Gross Domestic Product (GDP) [16]. Tax buoyancy assesses how efficiently a tax system converts economic growth into government revenue, making it a key indicator for evaluating the effectiveness of VAT rate adjustments [17]. Previous studies suggest that VAT is one of the most stable and productive revenue sources because it is collected at multiple stages of production and distribution [18]. Empirical research further indicates that increases in VAT rates can enhance revenue collection, provided the policy does not substantially depress household consumption [19].

Despite the well-documented benefits, VAT rate increases remain a subject of debate. On one hand, higher VAT rates improve fiscal capacity and support government expenditure; on the other hand, they risk increasing the tax burden on households and affecting purchasing power. Consequently, this study addresses the research question of whether the recent VAT rate increase in Indonesia effectively improves tax revenue performance without imposing excessive economic burdens. To tackle this problem, the study plans to calculate VAT tax buoyancy before and after the VAT rate increase for the 2019–2024 period, and analyze factors influencing VAT revenue performance under the new policy.

The objectives of this research are: (1) to measure VAT tax buoyancy in Indonesia before and after the VAT rate increase, (2) to evaluate the effectiveness of the VAT policy adjustment in enhancing government revenue, and (3) to identify the key determinants affecting VAT revenue performance. The theoretical foundation draws from fiscal policy and public finance theory, particularly concepts of tax efficiency, fiscal responsiveness, and the behavioral effects of taxation (Musgrave & Musgrave, 1989; Alm et al., 2019). By building on prior studies on VAT effectiveness and tax buoyancy (Keen & Smith, 2006; Bird & Gendron, 2007), this study seeks to fill a contextual gap by providing an updated assessment specific to Indonesia's post-COVID-19 fiscal scenario. The expected contribution of this research is twofold. Academically, it extends the literature on fiscal policy evaluation and VAT revenue performance in emerging economies. In practice, it offers policymakers insights into designing sustainable tax strategies that balance fiscal needs with economic welfare. Ultimately, the findings are hoped to inform evidence-based decision-making for future VAT adjustments and broader fiscal reforms in Indonesia.

2. METHOD

This study employs a quantitative research approach, focusing on the collection and statistical analysis of numerical data from secondary sources. The quantitative approach is appropriate because the main objective of this research is to examine the relationships among several macroeconomic and tax administration variables and their influence on tax revenue performance, particularly in relation to the tax buoyancy of Value Added Tax (VAT). By using quantitative methods, the study produces results that are objective, measurable, and statistically testable, thereby enabling a more systematic evaluation of the effectiveness of the VAT rate increase policy in Indonesia.

The type of research applied in this study is descriptive quantitative research. Descriptive research aims to provide a comprehensive overview of trends and developments in tax revenue and economic growth before and after the VAT rate increase. In this context, the study analyzes the dynamics of VAT revenue, Gross Domestic Product (GDP), and other related economic indicators to understand how fiscal policy adjustments influence tax performance. The descriptive analysis is intended to illustrate the patterns of VAT revenue collection and the broader macroeconomic conditions surrounding the implementation of the VAT rate adjustment policy.

The analytical technique used in this research is a binary logistic regression model. This model is used to examine the relationship between the dependent variable and a set of

independent variables that may influence tax buoyancy. In this framework, tax buoyancy is represented by the regression coefficients that indicate the responsiveness of tax revenue to changes in economic and administrative factors. Logistic regression is selected because it allows the researcher to analyze the probability of changes in tax buoyancy before and after the VAT rate increase, while simultaneously considering the influence of several explanatory variables.

This study utilizes annual time-series data obtained from official government institutions, including the Directorate General of Taxes (DJP), Statistics Indonesia (BPS), and the Ministry of Finance of the Republic of Indonesia (Kemenkeu). The data cover the period from 2019 to 2024, encompassing the period before and after the 2022 VAT rate increase implemented in 2022. The use of time-series data enables the researcher to observe changes in economic indicators and tax performance across different periods, thereby providing a clearer understanding of the policy's impact on VAT revenue responsiveness.

Several variables are incorporated in the analysis to capture the factors influencing VAT tax buoyancy. The first variable is national VAT revenue during the period 2019–2024. This variable represents the primary dependent variable used to evaluate VAT collection performance following the rate adjustment policy. The second variable is Gross Domestic Product (GDP), which serves as an indicator of national economic growth and reflects the overall level of economic activity that may influence tax revenue generation. The third variable is the VAT compliance rate, measured by the percentage of registered taxpayers who fulfill their VAT payment obligations. This variable reflects the effectiveness of tax administration and taxpayer compliance behavior.

In addition, the study also incorporates the inflation rate as an explanatory variable. Inflation is included because changes in the price level may affect household purchasing power and consumption patterns, which in turn influence VAT revenue. Finally, the research considers other discretionary tax policies, such as VAT incentives and the implementation of digital tax administration systems, including the electronic tax invoice system (e-faktur). These policy instruments are included in the analysis because they may influence tax compliance and the efficiency of revenue collection.

By integrating these variables into a quantitative analytical framework, this study seeks to evaluate the effectiveness of the VAT rate increase policy and identify the key determinants of VAT tax buoyancy in Indonesia. The results of this analysis are expected to provide empirical evidence to support the development of more effective tax policies and to contribute to the broader literature on fiscal policy evaluation.

3. RESULTS AND DISCUSSION

3.1. Results

The results of the logistic regression analysis indicate that.

Table 1. Iteration History

Iteration	-2 Log likelihood	Coefficients	
		Constant	
Step 0	1	7,639	,667
	2	7,638	,693
	3	7,638	,693

- a. Constant is included in the model.
- b. Initial -2 Log Likelihood: 7,638
- c. Estimation terminated at iteration number 3 because parameter estimates changed by less than ,001.

Table 1 presents the Maximum Likelihood estimation, showing that the model converged at the third iteration with a -2 Log-Likelihood value of 7.638. The change in the constant coefficient stopped at B = 0.693, after previously being 0.667 in the first iteration. This convergence indicates that the parameters have stabilized, with changes of less than 0.001, allowing the regression results to be interpreted. This is important as it ensures that the constructed model provides optimal coefficient estimates.

Table 2. Variabel in Equation

	B	S.E.	Wald	df	Sig.	Exp(B)
Step 0 Constant	,693	,866	,641	1	,423	2,000

Subsequently, Table 2 shows that in the initial stage (Block 0), the model included only the constant with a coefficient value of B = 0.693, a standard error of 0.866, a Wald value of 0.641, a significance level of 0.423, and an odds ratio Exp(B) = 2.000. This indicates that, without independent variables, the probability of VAT collection being categorized as effective is twice that of being categorized as ineffective. However, the significance value suggests that the constant alone is insufficient to explain the variation in effectiveness, indicating the need for additional predictor variables to provide a more meaningful model.

Table 3. Variabel Not in Equation

	Score	df	Sig.
Step 0 Variables	X1_taxBouncy	,643	1,422
	X2_PDB	2,571	1,109
	X3_kepatuhan	5,439	1,020
	X4_Inflansi	,722	1,395
	X5_Kebijakan	2,400	1,121
	Overall Statistics	6,000	5,306

The results in Table 3 indicate that the score test shows the compliance variable (X3) is significant (Sig. = 0.020), thus playing an important role in the effectiveness of VAT

collection. The GDP variable (X2) (Sig. = 0.109) and tax policy (X5) (Sig. = 0.121) are not statistically significant, but they show a tendency to influence. Meanwhile, tax buoyancy (X1) (Sig. = 0.422) and inflation (X4) (Sig. = 0.395) do not exhibit any meaningful effect. These findings confirm that, among all variables, taxpayer compliance is the dominant and significant factor, while the other variables provide only indications of influence without strong statistical significance.

Table 4 presents the results of the multicollinearity test. The multicollinearity test indicates that several independent variables exhibit high intercorrelation. Variables Tax Buoyancy (X1), Compliance (X3), and Policy (X5) show Tolerance values below 0.10 and VIF values far above 10 (319.484; 674.861; 882.868, respectively), which strongly suggest the presence of serious multicollinearity.

Table 4. Multicollinearity Test Results

Variable	Unstandardized Coefficient (B)	Standardized Coefficient (Beta)	Tolerance	VIF
(Constant)	10.253	–	–	–
X1_TaxBouncy	-0.435	-1.824	0.003	319.484
X2_GDP	1.709	0.193	0.180	5.550
X3_Compliance	-14.276	-1.586	0.001	674.861
X4_Inflation	-0.035	-0.001	0.107	9.312
X5_Policy	3.573	2.824	0.001	882.868

This condition implies that these predictors share overlapping explanatory power, potentially making regression coefficients unstable and difficult to interpret. Meanwhile, GDP (X2) and Inflation (X4) present more acceptable values, with tolerance levels above 0.10 and VIFs below 10, indicating that multicollinearity is not a critical issue for these two variables. Overall, the results suggest that the model is particularly affected by high correlations among Tax Buoyancy, Compliance, and Policy variables.

3.2. Discussion

The empirical findings of this study indicate that VAT rate increases in Indonesia have been effective in enhancing tax revenue responsiveness to economic growth, as reflected by buoyancy values consistently above one since 2022. The sharp increase in VAT revenue following the 2022 rate adjustment, surpassing nominal GDP growth, confirms that rate changes can immediately strengthen fiscal performance. However, a closer examination reveals that this short-term effectiveness was amplified by post-pandemic recovery and inflationary pressures, highlighting that rate adjustments alone do not fully explain changes in VAT revenue [20].

Among the determinants examined, taxpayer compliance emerged as the most significant factor influencing VAT buoyancy. Empirical tests from 2019–2024 show that higher compliance levels directly correlate with improved revenue performance, confirming the World Bank's [21] findings on Indonesia's VAT compliance gap. The launch of the Coretax DJP system in 2024 represents a strategic administrative reform to improve compliance, reduce leakages, and enable real-time monitoring, reinforcing the idea that structural factors are as critical as rate adjustments in sustaining VAT effectiveness. In the

Asia-Pacific region, the OECD reports that the average tax buoyancy tends to approach 1, both in the short and long term [22]. This implies that tax revenues generally move in line with economic growth, and to increase the tax ratio, many countries must rely on administrative reforms, base broadening, or rate adjustments. Indonesia, as one of the countries with a relatively low tax ratio in the region, has undertaken significant measures through the Tax Regulation Harmonization Law (UU HPP), which increased the VAT rate from 10 percent to 11 percent in April 2022, with a planned rise to 12 percent starting in January 2025, selectively applied to certain goods and services.

Before the rate adjustment, during 2019–2021, Indonesia’s VAT buoyancy was volatile and relatively low. In 2019 and 2020, VAT performance even turned negative due to the economic slowdown and the impact of the Covid-19 pandemic, which suppressed household consumption. Low inflation (around 1.68 percent in 2020) further constrained nominal revenue growth, while economic activity contracted sharply (BPS, 2023). It was only in 2021, with the recovery of consumption and fiscal stimulus, that VAT revenues rose by about 23 percent, leading to improved buoyancy, although stability had yet to be achieved [23].

Following the VAT rate increase in April 2022, VAT revenue growth accelerated sharply. Data from the Ministry of Finance for 2022 show that domestic VAT grew by nearly 40 percent year-on-year through September 2022, significantly outpacing nominal GDP growth of around 15 percent. Consequently, VAT buoyancy in 2022 was well above one, indicating that the rate adjustment effectively enhanced the responsiveness of tax revenues to economic growth [24]. However, this surge was not solely attributable to the rate change, but also to inflation of 5.51 percent in 2022, which boosted the nominal value of consumption [25]. This phenomenon highlights a “one-off effect” that is likely to diminish in the medium term.

By 2023, VAT buoyancy began to normalize. VAT revenue grew at a more moderate pace of around 8 percent, while GDP continued to expand by about 5 percent. Inflation declined to 2.61 percent [26], reducing the nominal push from rising prices. Under these conditions, VAT buoyancy remained above one, but not as elevated as in 2022. These findings are consistent with the international literature, which suggests that tax buoyancy generally reverts to its original level once the effects of new policies and cyclical factors subside [22].

In 2024, the State Budget (APBN) recorded VAT/Luxury Goods Tax (VAT/LGST) revenues of more than IDR 700 trillion, contributing significantly to total tax revenues [27]. Although the growth was not as high as in 2022, buoyancy remained positive and relatively stable. This reflects the effectiveness of the 11 percent VAT rate increase in strengthening the revenue base, while also indicating that VAT revenues continue to respond in line with national economic growth. In other words, the rate adjustment successfully boosted revenues without triggering excessive contraction in household consumption.

Preparations for 2025 introduce new dynamics. The government decided to implement a 12 percent VAT rate selectively on luxury goods and services, while maintaining the 11 percent rate for most items. This policy is designed to balance the need for higher state revenues with the protection of household purchasing power [28]. From a tax buoyancy

perspective, the impact of this selective measure is expected to be smaller than a broad-based increase, since the higher rate applies only to a limited base. However, from a political economy standpoint, this approach illustrates the government's caution in managing public perception, particularly amid concerns over inflation and purchasing power.

From a fiscal theory perspective, tax buoyancy reflects not only tax rates but also the quality of tax administration. A World Bank 2022 study highlights the persistence of a VAT compliance gap in Indonesia, indicating that VAT revenues have not yet reached their full potential due to policy exemptions and taxpayer non-compliance [29]. In this context, enhancing compliance—for instance, through the implementation of the DJP Coretax administrative system—can serve as a structural factor to improve medium-term buoyancy without the need for repeated rate increases. Thus, rate adjustments represent only one instrument within a broader tax reform strategy driven by data and compliance.

Despite the strong VAT buoyancy observed in 2022–2023, several counterarguments warrant consideration. First, the surge in 2022 was largely driven by inflationary pressures and post-pandemic recovery, rather than solely by the rate increase. Second, VAT refund policies and the timing of restitution cycles may distort annual cash revenue profiles, potentially introducing bias into year-on-year data. Third, the selective application of the 12 percent rate is likely to have a limited impact, particularly in the luxury goods sector, which is highly price elastic. Fourth, external challenges, such as global economic slowdowns and commodity price volatility, may dampen domestic consumption and thereby weaken buoyancy.

Nevertheless, empirical evidence indicates that the VAT rate adjustment in Indonesia has been effective in enhancing the responsiveness of revenues to economic growth. Rising taxpayer compliance, administrative reforms, and macroeconomic stability have supported this success. Moreover, the sustainability of the effectiveness of the rate policy will depend on continued efforts to narrow compliance and policy gaps in VAT, thereby ensuring a broader and more stable tax base.

A final reflection is in order. High tax buoyancy is indeed encouraging, but the tax system's focus should not be limited to chasing numbers. The quality of policy, who is being taxed, how the rate structure is designed, and the extent to which administration facilitates compliance will determine fiscal legitimacy in the long run. Thus, interpreting buoyancy after a rate increase is not only technically relevant but also carries broader socio-political dimensions. The true benchmark of Indonesia's tax policy effectiveness lies in maintaining a balance between state revenue and public purchasing power.

Tax buoyancy does not merely reflect VAT rates; rather, it results from a complex interaction among economic growth, taxpayer compliance, inflation, fiscal policy, economic structure, and the quality of tax administration. The IMF 2023 emphasizes that buoyancy is distinct from elasticity, as it combines the revenue response to GDP growth with the effects of discretionary policy. Therefore, sustaining higher buoyancy requires more than just rate hikes; it demands strong structural foundations so that revenues can grow more responsively than the economy itself [30].

Gross Domestic Product (GDP) growth is one of the most important factors in determining tax buoyancy. VAT, as a consumption tax, depends heavily on household

purchasing power, as reflected in GDP. Real GDP contributes significantly to buoyancy in Indonesia's buoyancy, though its influence fluctuates over time. In 2022, when GDP grew by 5.3 percent, VAT revenue rose by more than 25 percent, producing a buoyancy coefficient well above one [16]. However, in 2023, with GDP growth relatively stable at 5.05 percent, VAT revenue growth slowed to only around 8–9 percent [27]. This pattern suggests that while economic growth is a necessary condition, it is not sufficient to explain buoyancy variations without other reinforcing factors.

Taxpayer compliance is the second crucial factor. Fiscal theory stresses that VAT revenue is largely determined by how much of its potential can actually be collected, and in Indonesia, a sizable compliance gap remains. The World Bank 2022 notes that VAT compliance and policy gaps significantly reduce potential revenue [21]. Empirically, a simple logistic regression test using 2019–2024 data shows that compliance is the only statistically significant factor affecting VAT revenue effectiveness. This highlights that higher rates will only yield optimal outcomes if accompanied by improved administrative compliance. The government's launch of the Coretax DJP system in 2024 is a strategic step to address this issue, as it is expected to lower compliance costs, strengthen the database, and enable real-time monitoring [28].

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Discretionary fiscal policy also has a significant influence. During the 2020–2021 pandemic, the government provided various incentives, including VAT exemptions and payment deferrals in several sectors. While these policies were essential to support business continuity, they led to a contraction in VAT revenue and a negative buoyancy in 2020. This aligns with the IMF's 2023 view that discretionary fiscal measures can weaken buoyancy when they involve tax reductions [30]. However, as these incentives were gradually withdrawn in 2022, VAT revenue rebounded sharply. This suggests that fiscal policy can act as either a booster or a drag, depending on its design. In 2025, the policy to raise the VAT rate to 12 percent only for luxury goods is expected to have a limited impact, since the taxable base is relatively small, though politically it is considered a safer move for protecting household purchasing power [31].

Indonesia's economic structure also plays a role in determining buoyancy. VAT generally responds more strongly in the trade and consumer services sectors than in manufacturing, which often benefits from export incentives. In the post-pandemic period, significant contributions have come from the digital and service sectors, which are expanding rapidly but remain only partially captured in the VAT base. The OECD 2024

highlights that many countries face similar challenges, where the digital economy grows faster than tax systems can adapt. Unless the integration of the digital sector improves, Indonesia's VAT buoyancy risks stagnation even amid rising real consumption [22].

Finally, the quality of tax administration is a fundamental factor. Global studies show that modernized administration can boost voluntary compliance and reduce leakages, thereby strengthening buoyancy without repeatedly raising rates [32]. Indonesia has moved in this direction through the implementation of e-invoicing, VAT collection on digital transactions (PMSE), and the Coretax system. These reforms create conditions for revenue to respond more effectively to economic growth, thanks to a more accurate tax base and tighter enforcement. Thus, administration is not merely a technical variable, but a strategic determinant of VAT buoyancy's sustainability.

Nevertheless, interpreting these factors is limited. First, the exceptionally high buoyancy in 2022 was largely driven by inflation and post-pandemic recovery, rather than tariff hikes alone. Second, fiscal incentives can cause VAT buoyancy to fluctuate sharply, making it difficult to ensure long-term trend consistency. Third, analyses based on limited annual data are prone to bias and insufficient for strong generalizations. Therefore, identifying the key determinants of buoyancy should be approached with caution, while emphasizing the need for richer quarterly or panel data.

The reflection from this discussion underscores that taxpayer compliance is the most decisive factor in Indonesia's VAT buoyancy, while GDP growth, inflation, discretionary policies, economic structure, and administrative quality act as additional reinforcing or dampening factors. High buoyancy figures are indeed encouraging, but they do not automatically guarantee sustainability. What matters more is ensuring that structural factors, compliance, a broad tax base, and modern administration are maintained and continuously strengthened. Without these, tariff policies would only generate temporary spikes that quickly fade once economic cycles shift or new incentives are introduced.

The effectiveness of a tax policy can be assessed by the extent to which fiscal objectives are achieved without creating excessive distortions to the economy. In the case of VAT rate increases, effectiveness is reflected in the policy's ability to sustainably enhance tax revenues, as measured by the tax buoyancy indicator. This concept helps determine whether VAT revenues can grow faster than GDP—an indication that policy has successfully increased tax responsiveness. Thus, the effectiveness of a VAT rate hike should be judged not only by short-term revenue gains but also by its sustainability in supporting fiscal stability [30].

An evaluation of the post-rate-hike period, particularly since April 2022, shows significant revenue growth. Data from the Ministry of Finance for 2022 showed that domestic VAT collections grew by nearly 40 percent year-on-year through September 2022, far exceeding nominal GDP growth of about 15 percent. This pushed VAT buoyancy above one, theoretically indicating an effective tariff policy [27]. However, this effectiveness was not solely driven by the rate increase. Inflation, which reached 5.51 percent that year [25], also contributed substantially to nominal revenue growth. Therefore, the effectiveness of tariff policy must be interpreted critically: does the revenue increase reflect genuine policy success, or is it merely a result of inflationary cycles and post-pandemic recovery?.

By 2023, the situation shifted. VAT revenue growth slowed to around 8–9 percent, even as GDP continued to expand by 5.05 percent. With inflation declining to 2.61 percent [26], the strong nominal boost seen the previous year dissipated. Under these conditions, VAT buoyancy remained above one, but closer to its long-term average. This aligns with OECD 2024 findings that buoyancy typically returns to around one once the effects of new policy measures wear off. The trend indicates that the effectiveness of the VAT rate hike was indeed real, but strongest in the initial phase before tapering off as non-tariff drivers such as inflation and recovery momentum weakened [25].

The year 2024 provides further illustration of sustained, though more moderate, effectiveness. VAT and luxury goods tax (PPnBM) revenues exceeded IDR 700 trillion, reflecting consistent contributions to overall tax receipts [24]. With stable economic growth, VAT buoyancy remained positive, albeit lower than in 2022. This suggests that the 11 percent rate policy successfully strengthened the state's revenue base while also preserving household purchasing power. From an effectiveness perspective, this outcome is noteworthy, since one of the main concerns regarding the rate hike was its potential to dampen consumption. The fact that consumption continued to grow steadily indicates that the policy strike a relative balance between revenue generation and macroeconomic stability.

The 2025 policy, which selectively raises the VAT rate to 12 percent on luxury goods and services, introduces a new nuance in assessing effectiveness. Politically, the policy underscores the government's caution not to overburden the majority of the population. However, from a tax buoyancy perspective, the effect is expected to be limited, as the base subject to the higher rate is relatively small and highly price-elastic. Thus, the effectiveness of the 12 percent rate hike in boosting revenues is likely to be less significant than the surge observed in 2022. Nevertheless, the policy may still be considered effective when viewed through the lens of fiscal equity, ensuring that high-income groups contribute more to state revenue [28].

The effectiveness of the VAT rate increase cannot be separated from tax compliance factors. A simple empirical test covering 2019–2024 shows that taxpayer compliance is a significant variable in explaining VAT revenue effectiveness. This finding aligns with the World Bank's 2022 findings, which identified a VAT compliance gap in Indonesia. In other words, without adequate compliance, rate policies risk being suboptimal because the expected revenues may not be realized [21]. The implementation of the Coretax DJP system in 2024 represents a strategic step to enhance the effectiveness of rate policies by strengthening compliance. From a buoyancy perspective, effectiveness thus depends heavily on the interaction between tax rates and administrative compliance.

Important counterarguments must also be considered, as the effectiveness of rate policy may decline over time if not accompanied by structural reforms. First, the revenue surge in 2022 was largely a temporary effect of inflation and post-pandemic recovery, rather than tariff success alone. Second, new tax incentives may reduce revenues at any time, as occurred in 2020–2021. Third, the increasingly digital economy has not been fully integrated into the VAT base, limiting the potential effectiveness of rate hikes unless the base is expanded. Therefore, relying solely on rate increases does not guarantee sustainable effectiveness; a more comprehensive approach is required.

Reflecting on these findings, VAT rate increases in Indonesia can be deemed effective in the short- to medium-term, as indicated by buoyancy values above one since 2022. However, greater sustainability can be achieved only through a combination of rate policy, enhanced compliance, stronger administration, and broader, more inclusive tax bases. While buoyancy figures are important technical indicators, the true effectiveness of fiscal policy lies in its ability to preserve public legitimacy and distributive fairness, ensuring that increased revenues genuinely contribute to sustainable development.

On the technical side, multicollinearity tests revealed that some independent variables had VIF values > 10 and tolerance < 0.10 , particularly for tax buoyancy, compliance, and tax policy variables. This indicates strong correlations among the predictors, which may lead to serious multicollinearity. As a result, logistic regression coefficient estimates may become unstable, and the interpretation of statistical significance may be difficult. Consequently, the interpretation of this study focuses on the direction of relationships among variables and the consistency of the main finding: that VAT rate increases are effective and significantly influenced by taxpayer compliance. Future research with larger samples and quarterly or panel data designs is highly recommended to minimize bias from multicollinearity.

4. CONCLUSION

This study demonstrates that the recent increase in the Value Added Tax (VAT) rate in Indonesia has been effective in improving revenue performance in the short to medium term, as indicated by buoyancy values consistently exceeding 1 since 2022. The findings highlight that while rate adjustments contribute to revenue growth, their sustainability relies heavily on complementary structural factors, including taxpayer compliance, administrative efficiency, and the expansion of the VAT base. The selective increase to 12 percent planned for 2025 illustrates a cautious fiscal strategy aimed at balancing revenue objectives with social equity considerations, though its expected impact on buoyancy appears modest.

The implications of this research extend to both policy and practice. For policymakers, the study underscores the importance of integrating tax rate adjustments with ongoing administrative reforms and compliance-enhancing initiatives, such as the Coretax DJP system, to maximize the effectiveness of VAT as a stable revenue source. For practitioners and the public, the research suggests that a well-administered VAT system can support government expenditures without disproportionately burdening households, provided that compliance mechanisms are strengthened.

Several limitations bound this study. The analysis primarily focuses on the period 2019–2024 and does not capture potential long-term effects beyond 2025. Additionally, the study relies on aggregated national-level data, which may obscure regional variations in tax compliance and consumption behavior. Multicollinearity among some model variables also indicates the need for caution in interpreting the relative influence of individual factors.

For future research, it is recommended to expand the dataset to include longer time periods and more granular regional data and to employ advanced econometric techniques to isolate better the effects of structural reforms, compliance, and rate adjustments. Such studies can provide more comprehensive insights into the long-term sustainability of VAT policies and inform evidence-based fiscal decision-making. Overall, this research contributes to

public knowledge by offering a clearer understanding of how VAT policy, compliance, and administrative reforms interact to support government revenue, providing guidance for both policymakers and the general public on effective and equitable taxation strategies.

REFERENCES

- [1] I. Chugunov and M. Pasichnyi, 'Fiscal policy and economic development', *Publ. House "Baltija Publ.*, 2024, Accessed: March 07, 2026. [Online]. Available: <http://www.baltijapublishing.lv/omp/index.php/bp/catalog/download/534/14163/29684-1>
 - [2] E. Bari, T. I. Khan, and M. S. Ullah, 'The Value Added Tax (VAT) Improvement Program', *Jt Agency Res Rep*, vol. 19, pp. 1–38, 2022.
 - [3] J. Bähr, *Carl Friedrich von Siemens 1872–1941: Unternehmer in Zeiten des Umbruchs*. Siedler Verlag, 2023. Accessed: March 07, 2026. [Online]. Available: https://books.google.com/books?hl=id&lr=&id=1BO3EAAAQBAJ&oi=fnd&pg=PA1875&dq=Carl+Friedrich+von+Siemens+&ots=hsgJzJ268_&sig=bYHINMWKcKac576F97c_Ul51qBc
 - [4] A. K. Mehrotra, 'Experts, Democracy, and the Historical Irony of U.S. Tax Policy: Thomas S. Adams and the Beginnings of the Value-Added Tax', *Mod. Am. Hist.*, vol. 5, no. 3, pp. 239–262, Nov. 2022, doi: 10.1017/mah.2022.22.
 - [5] Y. Zu, 'Developing VAT treaties: international tax cooperation in times of global recovery', *Leg. Stud.*, vol. 42, no. 1, pp. 159–177, Mar. 2022, doi: 10.1017/1st.2021.37.
 - [6] E. Go, S. Hill, M. H. Jaber, Y. Jinjark, D. Park, and A. Ragos, 'Developing Asia's fiscal landscape and challenges', *Asian-Pac. Econ. Lit.*, vol. 38, no. 1, pp. 225–258, 2024, doi: 10.1111/apel.12412.
 - [7] R. M. Qibthiyyah, C. Tjen, Y. Abbas, and R. M. Pamaswi, 'The Impact of VAT Rate Changes on Revenues and Trade in ASEAN Countries', *J Australas. Tax Tchrs Assn*, vol. 20, p. 199, 2025.
 - [8] M. I. Fathoni, 'Indonesia's Value Added Tax (VAT) Reform: Fiscal Benefits and Sectoral Impacts', *J. Syntax Admiration*, vol. 6, no. 1, pp. 530–548, Jan. 2025, doi: 10.46799/jsa.v6i1.2039.
 - [9] S. Gupta and J. T. Jalles, 'Priorities for Strengthening Key Revenue Sources in Asia', *Asian Dev. Rev.*, vol. 40, no. 02, pp. 271–303, Sep. 2023, doi: 10.1142/S0116110523500178.
 - [10] S. V. Bogachov, V. P. Vishnevsky, A. V. Gurnak, and V. D. Nekliudova, 'Modern tax trends and economic growth in a turbulent world: Insights from developed and developing economies', *J. Tax Reform*, vol. 10, no. 1, pp. 63–83, 2024.
 - [11] T. Taqwallah and S. N. Nugraha, 'Tax Justice: A Study of Value Added Tax (VAT) Policy in Indonesia', *J. Public Represent. Soc. Provis.*, vol. 6, no. 1, pp. 144–163, Jan. 2026, doi: 10.55885/jprsp.v6i1.754.
 - [12] M. H. Mgammal, E. M. Al-Matari, and T. F. Alruwaili, 'Value-added-tax rate increases: A comparative study using difference-in-difference with an ARIMA modeling approach', *Humanit. Soc. Sci. Commun.*, vol. 10, no. 1, p. 121, Mar. 2023, doi: 10.1057/s41599-023-01608-y.
 - [13] K. D. Dzigbede, R. Pathak, and S. Muzata, 'Budget systems and post-pandemic economic resilience in developing countries', *J. Public Budg. Account. Financ. Manag.*, vol. 35, no. 3, pp. 333–353, Mar. 2022, doi: 10.1108/JPBAFM-03-2021-0036.
 - [14] R. van der Hoeven and R. Vos, 'Reforming the International Financial and Fiscal System Fiscal system for Better COVID-19 and Post-pandemic Crisis Responsiveness', in *COVID-19 and International Development*, E. Papyrakis, Ed., Cham: Springer International Publishing, 2022, pp. 9–27. doi: 10.1007/978-3-030-82339-9_2.
 - [15] S. Gupta, J. T. Jalles, and J. Liu, 'Tax Buoyancy in Sub-Saharan Africa and its Determinants', *Int. Tax Public Finance*, vol. 29, no. 4, pp. 890–921, Aug. 2022, doi: 10.1007/s10797-021-09694-x.
 - [16] S. T. Sinaga, M. Ekananda, B. Y. Gitaharie, and M. Setyowati, 'Tax Buoyancy in Indonesia: An Evaluation of Tax Structure and Policy Reforms', *Economies*, vol. 11, no. 12, p. 294, Dec. 2023, doi: 10.3390/economies11120294.
 - [17] E. Bokwana, 'The analysis of revenue productivity of the tax system in South Africa applying the buoyancy and elasticity measures', University of the Western Cape, 2023. Accessed: March 07, 2026. [Online]. Available: <https://hdl.handle.net/10566/16138>
 - [18] A. S. Almarri, 'How the law can ensure the success of value-added tax', *Int. J. Law Manag.*, vol. 68, no. 1, pp. 43–55, Aug. 2024, doi: 10.1108/IJLMA-06-2024-0217.
 - [19] M. R. de Mooij, M. S. Hebous, and M. M. Keen, *Efficiency Aspects of the Value Added Tax*. International Monetary Fund, 2025.
 - [20] P. Dudine and J. T. Jalles, 'How Buoyant is the Tax System?', 2017.
 - [21] World Bank, *Estimating Value Added Tax (VAT) and Corporate Income Tax (CIT) Gaps in Indonesia*. Washington, DC: World Bank, 2025. doi: 10.1596/42959.
-

- [22] OECD, 'Revenue Statistics in Asia and the Pacific 2024: Tax Revenue Buoyancy in Asia', *Revenue Stat. Asia Pac.*, vol. 2024, Jun. 2024, doi: 10.1787/e4681bfa-en.
- [23] E. Haryono, 'Inflasi Desember 2022 Terkendali dan Diprakirakan Kembali ke dalam Sasaran pada 2023'. Accessed: March 07, 2026. [Online]. Available: https://www.bi.go.id/id/publikasi/ruang-media/news-release/Pages/sp_250123.aspx
- [24] P. Y. Sadewa, 'APBN menjadi instrumen kebijakan yang antisipatif dan responsif menghadapi dinamika global dan domestik"', 2025.
- [25] Badan Pusat Statistik, 'The year-on-year (y-on-y) inflation in December 2022 was 5.51 percent. The highest inflation saw in Kotabaru at 8.65 percent.' Accessed: March 07, 2026. [Online]. Available: <https://www.bps.go.id/en/pressrelease/2023/01/02/1949/the-year-on-year--y-on-y--inflation-in-december-2022-was-5-51-percent--the-highest-inflation-saw-in-kotabaru-at-8-65-percent-.html>
- [26] Badan Pusat Statistik Indonesia, 'Inflasi year-on-year (y-on-y) pada Desember 2023 sebesar 2,61 persen. Inflasi tertinggi terjadi di Sumenep sebesar 5,08 persen.' Accessed: Mar. 07, 2026. [Online]. Available: <https://www.bps.go.id/id/pressrelease/2024/01/02/2299/%20inflasi-year-on-year--y-on-y--pada-desember-2023-sebesar-2-61-persen--inflasi-tertinggi-terjadi-di-sumenep-sebesar-5-08-persen-.html>
- [27] S. M. Indrawati, 'Apbnkita Kinerja Dan Fakta', 2024.
- [28] Y. Yahya, 'Kebijakan Pajak Pro-Rakyat, Presiden Prabowo Tegaskan Tarif PPN 12% Hanya untuk Barang Premium'. Accessed: March 07, 2026. [Online]. Available: <https://www.pajak.go.id/index.php/id/berita/kebijakan-pajak-pro-rakyat-presiden-prabowo-tegaskan-tarif-ppn-12-hanya-untuk-barangjasa>
- [29] Q. Grzegorz Rong, Poniowski, 'Economic Policy : Estimating Value Added Tax (VAT) and Corporate Income Tax (CIT) Gaps in Indonesia', World Bank. Accessed: March 07, 2026. [Online]. Available: <https://documents.worldbank.org/pt/publication/documents-reports/documentdetail/099030225225027356>
- [30] J. Flores, A. Cornevin, and J. P. Angel, 'A Deep Dive into Tax Buoyancy: Comparing Estimation Techniques in a Large Heterogeneous Panel', *IMF Work. Pap.*, vol. 2023, no. 071, p. 1, Mar. 2023, doi: 10.5089/9798400238376.001.
- [31] G. Suroyo, 'Indonesia's president says VAT hike to apply only on luxury goods | Reuters'. Accessed: March 07, 2026. [Online]. Available: <https://www.reuters.com/markets/asia/indonesias-president-says-vat-hike-apply-only-luxury-goods-2024-12-31/>
- [32] D. Mihaljek, 'Rebellion, Rascals, and Revenue: Tax Follies and Wisdom through the Ages', *Public Sect. Econ.*, vol. 46, no. 1, pp. 171–178, 2022.
-