

Taxation and Trading Activity in Digital Asset Markets: Evidence from Indonesia's Cryptocurrency Tax Reform

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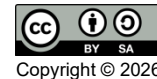
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Abstract

This study investigates the impact of cryptocurrency taxation on trading activity in Indonesia following the implementation of Ministry of Finance Regulation No. 68/2022, which introduced Value Added Tax (VAT) and Income Tax on crypto asset transactions. Drawing on Signaling Theory and Behavioral Finance perspectives, the study examines whether taxation functions as a regulatory mechanism that influences market participation. Using a quantitative ex post facto design, monthly data on cryptocurrency transaction volumes from January 2021 to August 2023 were analyzed, with Bitcoin price included as a control variable. Descriptive statistics, normality testing, and multiple regression analysis were employed to evaluate the relationship between taxation and trading activity. The findings reveal that the tax regulation exerts a significant negative effect on cryptocurrency transaction volumes, while Bitcoin price does not significantly influence local market activity. These results suggest that regulatory costs play a more prominent role than global price dynamics in shaping investor behavior. The study contributes to the emerging literature on digital asset taxation and provides policy insights for balancing fiscal objectives, market development, and investor participation in emerging economies.

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1. Introduction

The rapid expansion of cryptocurrency markets has transformed the global financial landscape, creating new opportunities for investment, innovation, and digital economic activities. Over the last decade, cryptocurrencies have evolved from niche technological assets into mainstream financial instruments traded by millions of investors worldwide. This growth has generated significant regulatory challenges, particularly regarding taxation, investor protection, and market oversight. Governments increasingly face the dilemma of balancing fiscal objectives with the need to foster innovation and maintain market competitiveness. As cryptocurrency adoption continues to expand, understanding how taxation policies influence investor behavior and market activity has become an important area of academic and policy inquiry.

The taxation of cryptocurrency transactions has emerged as a critical issue in many jurisdictions. Regulatory authorities generally view crypto assets as taxable economic activities, yet the implementation of taxation frameworks varies considerably across countries. According to Signaling Theory, regulatory interventions may serve as institutional signals that enhance market legitimacy and

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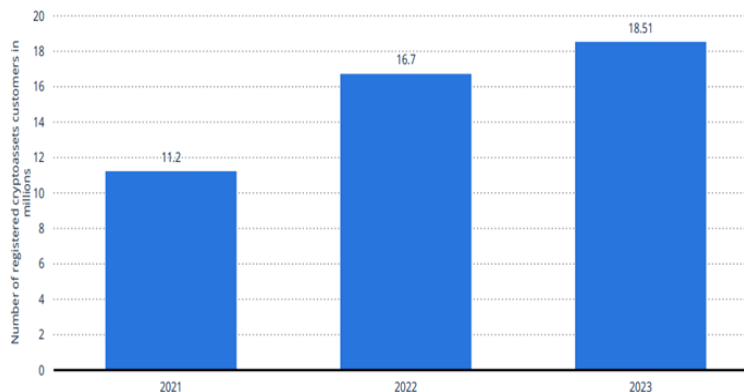
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investor confidence (Spence, 1978). Conversely, the Efficient Market Hypothesis (EMH) suggests that rational investors should incorporate tax costs into pricing decisions without generating persistent market distortions (Fama, 1970). However, Behavioral Finance perspectives argue that investor decisions are often influenced by perceptions of fairness, trust in regulatory institutions, and risk attitudes rather than purely rational calculations (Barberis & Thaler, 2003; Shiller, 2003). Consequently, the effects of taxation on cryptocurrency trading behavior remain theoretically ambiguous and empirically unresolved.

Empirical evidence from international markets demonstrates mixed outcomes regarding cryptocurrency taxation. In developed economies such as the United States and the United Kingdom, capital gains taxation has generally coexisted with continued growth in trading activity, suggesting that transparent tax regimes do not necessarily suppress market participation (Chen & Bellavitis, 2020a; Marian, 2013). In contrast, several Asian jurisdictions, including Japan and South Korea, have experienced challenges related to regulatory fragmentation, investor migration, and tax arbitrage opportunities (CoinLaw, 2025; PwC, 2022). Developing economies face additional concerns because limited enforcement capacity and incomplete disclosure mechanisms may increase tax avoidance risks while governments seek to capture revenue from rapidly growing digital asset markets (Lazea et al., 2025; Verma & Tiwari, 2024). These contrasting experiences highlight the importance of examining country-specific regulatory outcomes.

Indonesia provides a particularly relevant setting for investigating these issues. Through the enactment of Minister of Finance Regulation No. 68/PMK.03/2022, the government formally imposed Value Added Tax (VAT) and Income Tax (PPh) on cryptocurrency transactions, integrating crypto assets into the national taxation framework. This policy positioned Indonesia among the first emerging economies in Southeast Asia to establish a comprehensive tax regime for digital asset trading. The regulation reflects the government's commitment to recognizing cryptocurrency transactions (See Figure 1) as legitimate taxable activities rather than purely speculative instruments.

Figure 1. Crypto Asset Transaction Value in Indonesia, 2021–2023



Source: Badan Pengawas Perdagangan Berjangka Komoditi (2023)

Following the implementation of PMK No. 68/2022, the Indonesian cryptocurrency market experienced substantial volatility. Data reported by the Commodity Futures Trading Regulatory Agency (Bappebti) indicated a decline in transaction volumes, accompanied by concerns regarding investor migration to foreign exchanges offering lower tax burdens (Badan Pengawas Perdagangan Berjangka Komoditi, 2023). Industry representatives also reported dissatisfaction among domestic investors, who perceived the tax framework as relatively burdensome compared with alternative

trading platforms abroad (Asosiasi Pedagang Aset Kripto Indonesia, 2022). At the same time, Indonesia remained one of the leading countries in the adoption of decentralized finance (DeFi) and peer-to-peer (P2P) trading mechanisms, suggesting the possibility of shifts toward less regulated channels following the introduction of taxation measures (Chainalysis, 2024).

Despite growing scholarly interest, existing studies on cryptocurrency taxation in Indonesia remain fragmented. Baer et al. (2023) examined the regulatory implications of crypto taxation and emphasized its importance for market stability, yet provided limited empirical evidence regarding actual market responses. Wardani and Pesirahu (2023) investigated behavioral intentions toward cryptocurrency investment and found that taxation policies significantly influence investor attitudes; however, their analysis did not evaluate realized trading activity. Consequently, the extent to which taxation policies affect actual transaction volumes remains insufficiently understood.

This study addresses this gap by empirically examining whether the introduction of PMK No. 68/2022 altered cryptocurrency trading activity in Indonesia. Drawing upon Signaling Theory, the Efficient Market Hypothesis, and Behavioral Finance perspectives, the study investigates whether cryptocurrency taxation functions primarily as a mechanism of market legitimization or as a deterrent to investor participation. By analyzing monthly cryptocurrency transaction volumes before and after the implementation of the regulation, this research contributes to the emerging literature on digital asset taxation and provides evidence relevant to policymakers seeking to balance fiscal objectives, regulatory effectiveness, and market development in emerging digital economies.

2. Literature Review

Cryptocurrency and Digital Asset Markets

Cryptocurrency has emerged as one of the most significant innovations in modern financial systems, reshaping traditional approaches to payments, investments, and asset ownership. Initially introduced through Bitcoin in 2009, cryptocurrencies have evolved into a diverse ecosystem of digital assets supported by blockchain technology. Unlike conventional financial instruments, cryptocurrencies operate through decentralized networks that enable peer-to-peer transactions without reliance on central authorities or financial intermediaries. This decentralized architecture has contributed to their rapid adoption while simultaneously creating substantial regulatory and taxation challenges for governments worldwide (Nakamoto, 2008; Chen & Bellavitis, 2020a).

The global growth of cryptocurrency markets has been accompanied by increasing participation from both retail and institutional investors. According to Triple-A (2024), cryptocurrency ownership has expanded considerably across developed and emerging economies, reflecting growing confidence in digital assets as alternative investment vehicles. The attractiveness of cryptocurrencies stems from several characteristics, including high return potential, ease of access, transaction flexibility, and resistance to traditional banking constraints. However, these advantages are often accompanied by extreme price volatility, regulatory uncertainty, and concerns regarding market transparency (Chainalysis, 2024; CoinLaw, 2025).

Indonesia represents one of the fastest-growing cryptocurrency markets in Southeast Asia. The increasing number of crypto investors and the substantial value of digital asset transactions have attracted significant attention from policymakers and financial regulators. Consequently, the government has introduced various regulatory initiatives aimed at enhancing market transparency, protecting investors, and expanding fiscal revenues derived from digital economic activities. Among these initiatives, the implementation of cryptocurrency taxation through Minister of Finance Regulation No. 68/PMK.03/2022 constitutes a major regulatory milestone that transformed the institutional

environment of cryptocurrency trading in Indonesia (Badan Pengawas Perdagangan Berjangka Komoditi, 2023).

Signaling Theory and Cryptocurrency Taxation

Signaling Theory provides an important theoretical foundation for understanding how regulatory interventions influence market behavior. Originally developed by Spence (1978), the theory argues that information asymmetry between market participants can be reduced through credible signals transmitted by institutions, organizations, or policymakers. In financial markets, government regulations often function as signals regarding the legitimacy, stability, and long-term viability of particular assets or investment activities.

Within the cryptocurrency context, taxation policies may generate both positive and negative signals. On one hand, the formal recognition of cryptocurrency transactions as taxable activities may enhance investor confidence by indicating governmental acceptance of digital assets as legitimate economic instruments. Such regulatory recognition can reduce uncertainty and encourage broader participation in cryptocurrency markets. On the other hand, taxation may also be interpreted as an additional transaction cost that decreases the attractiveness of cryptocurrency trading and reduces expected returns for investors. Consequently, investor responses to taxation depend on how regulatory signals are perceived and interpreted within specific market environments (Baer et al., 2023; Lazea et al., 2025).

The Indonesian cryptocurrency tax reform provides a useful setting for examining the signaling function of regulation. By introducing Value Added Tax (VAT) and Income Tax obligations for crypto transactions, the government simultaneously increased regulatory oversight and formally acknowledged the economic significance of digital asset markets. The extent to which investors perceive these measures as supportive signals or regulatory burdens remains an empirical question that warrants investigation.

Efficient Market Hypothesis

The Efficient Market Hypothesis (EMH) offers an alternative perspective on the relationship between taxation and market activity. According to Fama (1970), financial markets are efficient when asset prices fully reflect all available information. Under this framework, rational investors incorporate new information into their decisions immediately, ensuring that prices adjust rapidly to changing economic conditions.

Applied to cryptocurrency taxation, EMH suggests that investors should rationally account for tax obligations when evaluating expected returns. If markets operate efficiently, the introduction of taxation should not generate persistent distortions in trading behavior because participants will adjust their expectations and portfolio decisions accordingly. Any initial market reaction should therefore be temporary and gradually disappear as investors adapt to the new regulatory environment.

However, the applicability of EMH to cryptocurrency markets remains contested. Several studies have documented significant inefficiencies in digital asset markets, including speculative trading, herding behavior, information asymmetry, and excessive volatility. These characteristics suggest that investor reactions to regulatory interventions may deviate from purely rational expectations, thereby creating outcomes that differ from EMH predictions (Shiller, 2003).

Behavioral Finance and Investor Responses to Taxation

Behavioral Finance challenges the assumption of perfect rationality embedded within traditional financial theories. Barberis and Thaler (2003) argue that investors frequently rely on psychological heuristics and cognitive biases when making financial decisions. As a result, market behavior may be

influenced by perceptions, emotions, and subjective interpretations rather than solely by objective economic considerations.

In cryptocurrency markets, behavioral factors play a particularly important role because digital assets are characterized by uncertainty, limited intrinsic valuation benchmarks, and intense media attention. Investors often respond strongly to regulatory announcements, policy changes, and public narratives surrounding cryptocurrency adoption. Consequently, taxation policies may influence trading activity not only through direct financial costs but also through psychological mechanisms associated with trust, legitimacy, fairness, and perceived government support (Wardani & Pesirahu, 2023).

Behavioral Finance therefore predicts that cryptocurrency taxation may produce stronger market reactions than would be expected under conventional rational-choice frameworks. Investors may interpret new tax obligations as signals of increased regulatory burden, reduced profitability, or heightened compliance requirements, leading to lower trading participation. Alternatively, taxation may enhance perceptions of legitimacy and reduce uncertainty, thereby encouraging market engagement. The ultimate effect depends on investor perceptions and the broader institutional context in which taxation is implemented.

Empirical Studies and Research Gap

Previous studies have produced mixed findings regarding the effects of cryptocurrency regulation and taxation. Baer et al. (2023) emphasize that taxation can strengthen regulatory oversight and improve market accountability. Similarly, Chen and Bellavitis (2020a) argue that regulatory clarity contributes to the maturation of digital asset markets by reducing institutional uncertainty. Conversely, Lazea et al. (2025) suggest that excessive taxation may discourage investment activity and encourage migration toward less regulated platforms.

At the Indonesian level, empirical evidence remains relatively limited (See Table 1). Existing studies primarily focus on investor perceptions, adoption intentions, or legal aspects of cryptocurrency regulation (Wardani & Pesirahu, 2023). Few studies directly evaluate whether the implementation of cryptocurrency taxation has altered actual market activity as measured by transaction volume. Moreover, prior research rarely integrates Signaling Theory, Efficient Market Hypothesis, and Behavioral Finance into a unified analytical framework capable of explaining investor responses to cryptocurrency taxation.

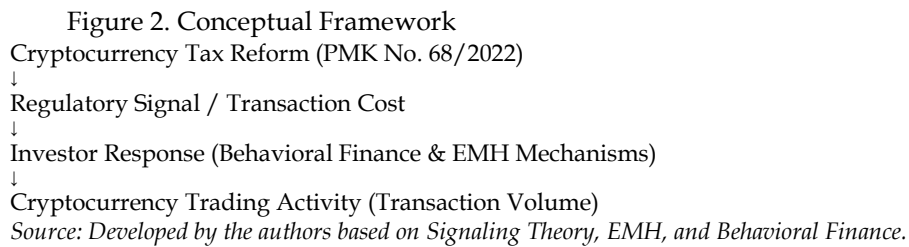
Table 1. Research Gap and Study Contribution

Previous Studies	Main Focus	Limitation	Contribution of This Study
Chen & Bellavitis (2020a)	Cryptocurrency regulation	Limited taxation analysis	Examines taxation effects directly
Baer et al. (2023)	Regulatory oversight	Lack of market-volume evidence	Uses transaction-volume data
Wardani & Pesirahu (2023)	Investor perception	No actual market behavior analysis	Evaluates realized trading activity
Lazea et al. (2025)	Tax policy implications	Limited emerging-market evidence	Focuses on Indonesia as an emerging economy

Source: Developed from the literature reviewed in this study.

Accordingly, this study addresses an important gap in the literature by empirically examining whether Indonesia's cryptocurrency tax reform significantly influenced trading activity. By combining regulatory, behavioral, and market-efficiency perspectives, the study contributes to a deeper

understanding of how fiscal interventions affect digital asset markets in emerging economies (See Figure 2).



3. Methodology

Research Design

This study employs a quantitative approach using an ex post facto research design to examine the impact of cryptocurrency taxation on trading activity in Indonesia. The ex post facto approach is appropriate because the study investigates relationships among variables after the implementation of a government policy without direct manipulation by the researcher. Specifically, the study evaluates whether the enactment of Minister of Finance Regulation No. 68/PMK.03/2022, which introduced Value Added Tax (VAT) and Income Tax obligations on cryptocurrency transactions, significantly influenced cryptocurrency trading activity in Indonesia.

The analysis focuses on market behavior before and after the implementation of the regulation, allowing the study to assess the extent to which taxation functions as a determinant of cryptocurrency transaction volume. Consistent with the theoretical perspectives of Signaling Theory, Efficient Market Hypothesis, and Behavioral Finance, the research investigates whether investors respond to cryptocurrency taxation as a signal of market legitimacy or as an additional transaction cost affecting participation decisions.

Data and Sources

The study utilizes secondary data obtained from official and publicly available sources. Monthly cryptocurrency transaction volume data were collected from the Commodity Futures Trading Regulatory Agency (Badan Pengawas Perdagangan Berjangka Komoditi/Bappebti), while Bitcoin price data were obtained from publicly accessible cryptocurrency market databases. The observation period spans from January 2021 to August 2023, providing a total of 32 monthly observations covering periods before and after the implementation of the cryptocurrency tax regulation.

The selected period captures major developments in the Indonesian cryptocurrency market, including the introduction of the cryptocurrency tax framework under PMK No. 68/PMK.03/2022. The dataset therefore enables the analysis of market responses to regulatory intervention within a real-world setting.

Variable Measurement

The dependent variable represents cryptocurrency market activity measured through monthly transaction volume. The independent variable captures the implementation of cryptocurrency taxation through a binary indicator distinguishing the pre-tax and post-tax periods. Bitcoin price is incorporated as a control variable because fluctuations in cryptocurrency prices may influence trading activity independently of regulatory changes.

The study employs one dependent variable, one independent variable, and one control variable (See Table 2).

Table 2. Operational Definition of Variables

Variable	Type	Measurement
Cryptocurrency Transaction Volume	Dependent Variable (Y)	Monthly cryptocurrency transaction value in Indonesia
Tax Regulation	Independent Variable (X ₁)	Dummy variable: 0 = before PMK No. 68/2022, 1 = after PMK No. 68/2022
Bitcoin Price	Control Variable (X ₂)	Monthly average Bitcoin price

Source: Developed by the authors based on the research framework.

Analytical Model

The study applies multiple linear regression analysis to estimate the relationship between cryptocurrency taxation and trading activity. Regression analysis is employed because it enables the simultaneous examination of the effect of tax regulation while controlling for changes in Bitcoin prices.

The empirical model is specified as follows:

$$Y_t = \alpha + \beta_1 Tax_t + \beta_2 BTC_t + \varepsilon_t$$

where: Y_t = Cryptocurrency transaction volume; α = Constant term; Tax_t = Cryptocurrency tax regulation dummy; BTC_t = Bitcoin price; β_1, β_2 = Regression coefficients; ε_t = Error term.

The coefficient β_1 measures the effect of the cryptocurrency tax regulation on trading activity, while β_2 captures the influence of Bitcoin price fluctuations on transaction volume. A negative and statistically significant coefficient for the tax variable indicates that taxation reduces market activity, whereas a positive coefficient suggests that the regulation may support trading activity through increased market legitimacy.

Data Analysis Procedures

Data analysis was conducted in several stages. First, descriptive statistical analysis was employed to summarize the characteristics of the variables, including measures of central tendency and dispersion. Descriptive statistics provide an overview of market conditions before and after the implementation of cryptocurrency taxation.

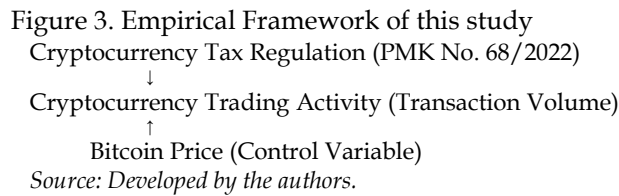
Second, normality testing was performed to evaluate whether the data satisfied the assumptions required for regression analysis. The normality test was used to assess the distributional characteristics of the residuals and determine the appropriateness of parametric estimation procedures.

Third, correlation analysis was conducted to examine the degree of association among the variables. This step provides preliminary insights into the direction and strength of the relationships between tax regulation, Bitcoin price, and cryptocurrency transaction volume.

Finally, multiple regression analysis was performed to test the research hypotheses and estimate the effect of cryptocurrency taxation on trading activity while controlling for Bitcoin price. Statistical significance was evaluated using a significance level of 5 percent ($\alpha = 0.05$). Hypothesis testing was based on the probability values associated with the estimated regression coefficients. A p-value below 0.05 indicates a statistically significant relationship between the explanatory variable and cryptocurrency transaction volume.

Research Framework

The framework (See Figure 3) illustrates that cryptocurrency taxation constitutes the primary explanatory variable affecting transaction volume, while Bitcoin price serves as a control factor representing broader cryptocurrency market dynamics.



4. Results

Descriptive Statistics

This study investigates the effect of cryptocurrency taxation on trading activity in Indonesia using monthly observations covering the period before and after the implementation of Minister of Finance Regulation No. 68/PMK.03/2022. Descriptive statistics were first employed to provide an overview of the characteristics of cryptocurrency transaction volumes during the observation period. The analysis reveals substantial differences between the pre-tax and post-tax periods, suggesting the possibility of structural changes in market activity following the introduction of cryptocurrency taxation.

Table 3. Descriptive Statistics of Cryptocurrency Transaction Volume

Period	N	Mean	Std. Deviation	Std. Error Mean
Before Tax Regulation	16	64.305	28.74712	7.18678
After Tax Regulation	16	14.1088	4.83462	1.20866

Source: Author's elaboration (2025).

Table 3 shows a substantial decline in average monthly cryptocurrency transaction volume following the implementation of the tax regulation. Prior to taxation, the average transaction volume reached IDR 64.305 trillion per month. After the implementation of PMK No. 68/PMK.03/2022, the average volume decreased to IDR 14.1088 trillion per month. This decline represents approximately 78% of the pre-regulation level. Furthermore, the standard deviation decreased from 28.74712 to 4.83462, indicating that transaction volumes became less volatile during the post-tax period. These findings provide preliminary evidence that cryptocurrency taxation may have altered investor participation and market dynamics.

Correlation Analysis

To examine the relationship between cryptocurrency taxation and trading activity, Pearson correlation analysis was conducted (See Table 4). The results indicate an extremely strong association between the tax regulation variable and cryptocurrency transaction volume.

Table 4. Pearson Correlation Matrix

Variables	Tax Regulation	Trading Volume
Tax Regulation	1.000	0.999**
Sig. (2-tailed)	-	0.000
Trading Volume	0.999**	1.000
Sig. (2-tailed)	0.000	-

Note: $p < 0.01$

Source: Author's elaboration (2025).

The correlation coefficient of 0.999 indicates a nearly perfect relationship between the tax regulation variable and cryptocurrency transaction volume. The significance level of 0.000 confirms that

the relationship is statistically significant at the 1% level. The result suggests that the implementation of cryptocurrency taxation coincided with substantial changes in market activity. However, correlation analysis alone cannot establish causality; therefore, regression analysis was subsequently employed to estimate the independent effect of tax regulation while controlling for Bitcoin price movements.

Multiple Regression Analysis

The study applies multiple linear regression analysis to evaluate the impact of cryptocurrency taxation on transaction volume while controlling for Bitcoin price. The estimated regression model is expressed as follows:

$$Y = 28.090 - 33.220(Tax) + 0.001(Bitcoin Price)$$

where: Y = Cryptocurrency transaction volume; Tax = Cryptocurrency tax regulation dummy variable; $Bitcoin Price$ = Monthly Bitcoin price.

The overall significance of the regression model was assessed through Analysis of Variance (ANOVA) (See Table 5).

Table 5. ANOVA Results

Source	Sum of Squares	df	Mean Square	F	Sig.
Regression	21,090.321	2	10,545.160	25.886	0.000
Residual	11,813.545	29	407.364		
Total	32,903.866	31			

Source: Author's elaboration (2025).

The ANOVA results indicate that the regression model is statistically significant ($F = 25.886$; $p = 0.000$). This finding demonstrates that the explanatory variables collectively contribute to explaining variations in cryptocurrency transaction volume. The statistical significance of the model supports the suitability of the regression framework for analyzing the impact of cryptocurrency taxation on trading activity.

The individual effects of the explanatory variables are presented in Table 6.

Table 6. Regression Coefficients

Variables	B	Std. Error	Beta	t	Sig.
Constant	28.090	24.456	-	1.149	0.260
Tax Regulation (X_1)	-33.220	13.295	-0.518	-2.499	0.018
Bitcoin Price (X_2)	0.001	0.001	0.314	1.513	0.141

Source: Author's elaboration (2025).

The coefficient of the tax regulation variable is negative and statistically significant ($B = -33.220$; $p = 0.018$). This result indicates that the implementation of cryptocurrency taxation reduced average monthly cryptocurrency transaction volume by approximately IDR 33.22 trillion, holding other factors constant. The finding supports the proposition that taxation functions as an additional transaction cost that influences investor participation and trading behavior.

In contrast, Bitcoin price exhibits a positive but statistically insignificant coefficient ($B = 0.001$; $p = 0.141$). Although increases in Bitcoin prices are associated with higher transaction volumes, the relationship is not statistically significant at the conventional 5% significance level. This suggests that fluctuations in global Bitcoin prices did not significantly explain variations in cryptocurrency trading activity in Indonesia during the study period.

Summary of Empirical Findings

The empirical results provide three principal findings. First, cryptocurrency transaction volumes declined substantially following the implementation of PMK No. 68/PMK.03/2022. Second, regression analysis confirms that cryptocurrency taxation exerts a statistically significant negative effect on trading activity. Third, Bitcoin price does not significantly influence transaction volume within the Indonesian cryptocurrency market during the observation period. Collectively, these findings indicate that domestic regulatory interventions play a more prominent role than global cryptocurrency price dynamics in shaping market participation and trading activity.

5. Discussion

The findings of this study provide empirical evidence that the implementation of cryptocurrency taxation under Minister of Finance Regulation No. 68/PMK.03/2022 significantly affected cryptocurrency trading activity in Indonesia. The regression results demonstrate that the tax regulation exerts a negative and statistically significant influence on transaction volume, indicating that the introduction of Value Added Tax (VAT) and Income Tax obligations was associated with a decline in market participation. In contrast, Bitcoin price was found to have no statistically significant effect on transaction volume during the observation period. These findings suggest that domestic regulatory interventions played a more substantial role in shaping investor behavior than fluctuations in global cryptocurrency prices.

From the perspective of Signaling Theory, the results indicate that the introduction of cryptocurrency taxation generated a regulatory signal that was interpreted cautiously by market participants. Spence (1978) argues that institutional signals influence decision-making under conditions of uncertainty. In the context of cryptocurrency markets, taxation may serve as an indication of government recognition and formal acceptance of digital assets. However, the Indonesian evidence suggests that investors responded more strongly to the immediate financial consequences of taxation than to the legitimacy signal embedded within the regulation. Rather than encouraging participation through increased legal certainty, the tax framework appears to have been perceived as an additional burden that reduced the attractiveness of cryptocurrency transactions.

The findings also contribute to the ongoing debate regarding the applicability of the Efficient Market Hypothesis (EMH) to cryptocurrency markets. According to Fama (1970), investors should incorporate all available information, including tax obligations, into their expectations and trading decisions. Under such conditions, taxation would be expected to influence market equilibrium without necessarily generating persistent reductions in trading activity. However, the observed decline in transaction volume following the implementation of PMK No. 68/2022 suggests that market participants did not respond solely through rational price adjustments. Instead, the results imply that cryptocurrency markets remain susceptible to behavioral and institutional factors that extend beyond the assumptions of market efficiency.

This interpretation is consistent with Behavioral Finance theory, which emphasizes the importance of psychological factors in investment decision-making (Barberis & Thaler, 2003; Shiller, 2003). Cryptocurrency investors frequently operate in environments characterized by uncertainty, speculative expectations, and rapid information flows. Consequently, policy changes may affect market activity not only through direct economic costs but also through perceptions regarding regulatory fairness, future profitability, and compliance complexity. The negative relationship between taxation and transaction volume suggests that investors perceived the tax policy primarily as a reduction in expected returns rather than as a mechanism for increasing market stability.

The insignificant effect of Bitcoin price on transaction volume provides an additional insight into the dynamics of the Indonesian cryptocurrency market. In many international studies, Bitcoin price

movements are often associated with changes in investor participation because rising prices increase speculative incentives and attract new market entrants (Chen & Bellavitis, 2020a). However, the present findings indicate that local trading activity was not significantly driven by Bitcoin price fluctuations during the study period. One possible explanation is that domestic investors were more responsive to regulatory developments than to broader global market trends. Another possibility is that uncertainty surrounding the implementation of taxation overshadowed the influence of price movements, making regulatory considerations a dominant factor in investment decisions.

The results are broadly consistent with studies suggesting that taxation may reduce cryptocurrency market activity by increasing transaction costs and encouraging investors to seek alternative trading channels (Lazea et al., 2025; Verma & Tiwari, 2024). Reports from industry organizations also indicated concerns regarding the migration of investors to foreign exchanges offering lower compliance costs and fewer reporting obligations (Asosiasi Pedagang Aset Kripto Indonesia, 2022). Such behavior is consistent with economic theories of tax avoidance, whereby market participants adjust their activities to minimize fiscal burdens. If this trend persists, the intended revenue benefits of cryptocurrency taxation may be partially offset by reduced domestic trading activity and the relocation of transactions to offshore platforms.

At the same time, the findings should not be interpreted as evidence that cryptocurrency taxation is inherently detrimental to market development. Taxation remains an essential component of fiscal governance and regulatory oversight. The challenge for policymakers lies in designing tax frameworks that achieve revenue objectives without undermining market competitiveness or discouraging legitimate participation. The Indonesian experience demonstrates that while taxation can strengthen regulatory legitimacy, excessive compliance costs may weaken market activity, particularly in emerging digital asset ecosystems where investor confidence and participation remain highly sensitive to policy changes.

Overall, the findings support the argument that cryptocurrency markets are shaped by a combination of regulatory signals, behavioral responses, and institutional conditions. The evidence suggests that investor reactions to taxation cannot be fully explained by traditional market-efficiency assumptions alone. Instead, understanding the consequences of cryptocurrency taxation requires a broader analytical perspective that incorporates both economic incentives and behavioral mechanisms. This contribution is particularly relevant for emerging economies seeking to regulate digital asset markets while maintaining a balance between fiscal objectives and market development.

Policy Implications and Recommendations

The findings have important implications for policymakers seeking to regulate cryptocurrency markets while preserving investor participation and market competitiveness. The negative association between cryptocurrency taxation and transaction volume suggests that investors are highly sensitive to regulatory costs. Consequently, taxation policies should be designed to balance fiscal objectives with the need to sustain the growth of domestic digital asset markets.

First, policymakers should periodically evaluate the effectiveness of the current cryptocurrency tax structure to ensure that tax rates remain proportionate to market conditions and do not create incentives for migration to foreign trading platforms. Second, regulatory authorities should strengthen investor education and communication strategies to improve public understanding of the rationale, benefits, and compliance requirements associated with cryptocurrency taxation. Enhanced transparency may reduce uncertainty and improve perceptions of regulatory legitimacy. Third, coordination among tax authorities, financial regulators, and cryptocurrency exchanges should be

strengthened to facilitate efficient compliance mechanisms and reduce administrative burdens on investors.

Furthermore, future regulatory reforms should consider the rapidly evolving nature of digital asset markets. A flexible and adaptive regulatory framework may be more effective than rigid tax structures in maintaining market competitiveness while ensuring fiscal accountability. By adopting a balanced approach that combines regulatory certainty, investor protection, and reasonable taxation, Indonesia can strengthen its position as a leading digital asset market within the emerging global crypto economy.

6. Conclusion

This study examined the impact of cryptocurrency taxation on trading activity in Indonesia following the implementation of Minister of Finance Regulation No. 68/PMK.03/2022. Using monthly cryptocurrency transaction data from January 2021 to August 2023 and applying multiple regression analysis, the findings demonstrate that cryptocurrency taxation has a statistically significant negative effect on transaction volume. The results indicate that the introduction of Value Added Tax (VAT) and Income Tax obligations on cryptocurrency transactions was associated with a decline in market activity, suggesting that investors responded sensitively to the additional costs imposed by the new regulatory framework. In contrast, Bitcoin price did not exhibit a statistically significant influence on cryptocurrency transaction volume during the observation period, indicating that domestic regulatory factors played a more prominent role than global market price movements in shaping investor behavior.

From a theoretical perspective, the findings contribute to the literature by providing empirical support for Behavioral Finance arguments that investor decisions are influenced not only by expected returns but also by perceptions of regulatory costs and institutional conditions. While Signaling Theory suggests that taxation may enhance market legitimacy through formal regulatory recognition, the evidence indicates that Indonesian investors primarily perceived cryptocurrency taxation as an additional transaction burden. Furthermore, the results offer limited support for the assumptions of the Efficient Market Hypothesis, as the observed decline in trading activity suggests that investor responses extended beyond purely rational market adjustments.

This study contributes to the emerging literature on digital asset taxation by providing evidence from an emerging economy where cryptocurrency regulation is still evolving. Nevertheless, the study is limited by the relatively short observation period and the use of monthly aggregate transaction data. Future research may extend the analysis by incorporating longer time horizons, additional market indicators, and alternative econometric approaches to better capture the dynamic effects of cryptocurrency taxation on investor behavior and digital asset market development.

References

- Asosiasi Pedagang Aset Kripto Indonesia. (2022, October 28). *Kolaborasi ASPAKRINDO dan DJP Kemenkeu tingkatkan penerimaan pajak transaksi aset kripto*. <https://aspakrindo.org/kolaborasi-aspakrindo-dan-djp-kemenkeu-tingkatkan-penerimaan-pajak-transaksi-aset-kripto/>
- Badan Pengawas Perdagangan Berjangka Komoditi. (2023). *Laporan tahunan Bappebti 2023: Penguatan peran Bappebti di tengah ketidakpastian global*. https://bappebti.go.id/Annual_report_bappebti/download/annual_report_bappebti_2023_06_01_zqx1swwu.pdf
- Baer, K., de Mooij, R., Hebous, S., & Keen, M. (2023). Taxing cryptocurrencies. *Oxford Review of Economic Policy*, 39(3), 478–497.
- Bakri, M. R., Utami, A., & Hakim, A. M. (2022). PPh atau PPN: Menakar kebijakan perpajakan terhadap cryptocurrency di Indonesia. *Eqien*, 9(1), 394–396.

- Barberis, N., & Thaler, R. (2003). A survey of behavioral finance. In G. Constantinides, M. Harris, & R. Stulz (Eds.), *Handbook of the economics of finance* (Vol. 1, pp. 1053–1128). Elsevier.
- Chainalysis. (2024). *The 2024 geography of crypto report*. <https://www.chainalysis.com/wp-content/uploads/2024/10/the-2024-geography-of-crypto-report-release.pdf>
- Chen, Y., & Bellavitis, C. (2020). Blockchain disruption and decentralized finance: The rise of decentralized business models. *Journal of Business Venturing Insights*, 13, e00151. <https://doi.org/10.1016/j.jbvi.2019.e00151>
- CoinLaw. (2025, August). *Global cryptocurrency taxation policies and statistics*. <https://coinlaw.io/global-cryptocurrency-taxation-policies-statistics>
- Corbet, S., Lucey, B., Urquhart, A., & Yarovaya, L. (2019). Cryptocurrencies as a financial asset: A systematic analysis. *International Review of Financial Analysis*, 62, 182–199.
- Fama, E. F. (1970). Efficient capital markets: A review of theory and empirical work. *The Journal of Finance*, 25(2), 383–417. <https://doi.org/10.2307/2325486>
- Lazea, G.-I., Balea-Stanciu, M.-R., Bunget, O.-C., Sumănu, A.-D., & Coraș, A.-M. G. (2025). Cryptocurrency taxation: A bibliometric analysis and emerging trends. *International Journal of Financial Studies*, 13(1), 37.
- Marian, O. (2013). Are cryptocurrencies super tax havens? *Michigan Law Review First Impressions*, 112, 38–48.
- Nakamoto, S. (2008). *Bitcoin: A peer-to-peer electronic cash system*. <https://bitcoin.org/bitcoin.pdf>
- OECD. (2020). *Taxing virtual currencies: An overview of tax treatments and emerging tax policy issues*. OECD Publishing.
- Peraturan Badan Pengawas Perdagangan Berjangka Komoditi Nomor 5 Tahun 2019 tentang Ketentuan Teknis Penyelenggaraan Pasar Fisik Aset Kripto (Crypto Asset) di Bursa Berjangka. (2019). https://bappebti.go.id/resources/docs/peraturan/sk_kep_kepalabappebti/sk_kep_kepalabappebti_2019_02_01_w9i365pf_id.pdf
- Peraturan Menteri Keuangan Nomor 68/PMK.03/2022 tentang Pajak Pertambahan Nilai dan Pajak Penghasilan atas Transaksi Perdagangan Aset Kripto. (2022). <https://jdih.kemenkeu.go.id/api/download/7e87ffb9-d6b1-41a1-8f57-1ad6b868feec/68~PMK.03~2022Per.pdf>
- Peraturan Menteri Perdagangan Nomor 99 Tahun 2018 tentang Kebijakan Umum Penyelenggaraan Perdagangan Berjangka Aset Kripto (Crypto Asset). (2018).
- PwC. (2022). *Global crypto tax report 2022*. <https://www.pwc.com/gx/en/financial-services/pdf/global-crypto-tax-report-2022.pdf>
- Shiller, R. J. (2003). From efficient markets theory to behavioral finance. *Journal of Economic Perspectives*, 17(1), 83–104. <https://doi.org/10.1257/089533003321164967>
- Spence, M. (1978). Job market signaling. In P. Diamond & M. Rothschild (Eds.), *Uncertainty in economics* (pp. 281–306). Elsevier.
- Triple-A. (2024). *The state of global cryptocurrency ownership in 2024*. <https://www.hkdca.com/wp-content/uploads/2024/09/state-of-global-cryptocurrency-ownership-2024-triplea.pdf>
- Verma, A., & Tiwari, L. K. (2024). Cryptocurrency and its regulation in India. In *International Conference on Mathematical Modelling, Applied Analysis and Computation* (pp. 265–277).
- Wardani, D. K., & Pesirahu, E. V. (2023). Pengaruh pemungutan pajak atas transaksi cryptocurrency dan literasi keuangan terhadap niat berinvestasi pada cryptocurrency. *Jurnal Informatika Ekonomi Bisnis*, 254–258.