Retailization of the Capital Market and Firm Value: The Effect of Local Individual Ownership on the Indonesia Stock Exchange, 2018-2024

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Abstract

The Indonesian stock market has undergone rapid retailization, yet little is known about whether a larger share of local individual shareholders is reflected in firm valuation. This study examines the effect of local individual ownership on firm value among companies listed on the Indonesia Stock Exchange (IDX). Using an unbalanced panel of 4,855 firm-year observations from 921 firms over 2018–2024, firm and year fixed-effects models are estimated with the natural logarithm of Price to Book Value as the dependent variable, controlling for local institutional ownership, firm size (log of total assets), leverage, and profitability, with standard errors clustered by firm. Local individual ownership is negatively and significantly associated with firm value ($\beta = -0.815$; $p < 0.01$); a one-standard-deviation increase in individual ownership corresponds to a price-to-book ratio about 21% lower. The result holds with Tobin's Q as an alternative measure, lagged ownership, ownership measured over total shares outstanding, a balanced panel, sector-by-year effects, alternative winsorization, and the exclusion of financial firms, but loses significance when foreign and local corporate ownership are added simultaneously, reflecting the compositional nature of ownership data. The findings are consistent with noise-trader-risk and weak-monitoring explanations and do not support the investor-recognition view. The study also shows that using market capitalization as the size control mechanically links the regressor to the dependent variable and reverses the conclusion.

Keywords: *Retail Investors, Individual Ownership, Firm Value, Noise Trader Risk, Indonesia Stock Exchange.*

A. INTRODUCTION

Indonesia's capital-market investor base has grown rapidly in recent years. The Indonesia Central Securities Depository (KSEI) recorded 14.84 million Single Investor Identifications (SID) at the end of 2024, up from 12.16 million SID at the end of 2023, of which 6.37 million were stock investors (Antara, 2024). The Financial Services Authority (OJK) also reported that retail investors' share of stock-market transaction value increased from around 38% in 2024 to approximately 50% throughout 2025, a relatively high proportion compared with markets that rely more heavily on institutional investors (IDN Financials, 2026). This increase was accelerated by the COVID-19 pandemic, when the availability of digital platforms and the influence of public figures encouraged new retail investors to enter the market (Tamara et al., 2023).

This shift is also reflected in the structure of share ownership. In the IDX ownership-composition data used in this study, average local individual ownership

per listed company increased from 23.7% in 2018 to 34.4% in 2024, while average local institutional ownership (mutual funds, pension funds, and insurance companies) fell from 10.3% to 4.3% (Figure 2). This study refers to this phenomenon as capital-market retailization. Part of the increase stems from the entry of newly listed companies, which are generally dominated by individual investors: among 479 companies observed consistently over all seven years, individual ownership rose more moderately, from 22.6% to 26.5%.

Retailization raises an important corporate-finance question: is an increasingly individual-investor-dominated shareholder base reflected in firm valuation? Theories offer competing predictions. The investor-recognition hypothesis (Merton, 1987) argues that a broader investor base lowers the cost of capital and thus increases firm value. In contrast, the noise-trading perspective (Black, 1986; De Long et al., 1990) argues that stocks held by investors who trade based on sentiment face additional risk, pushing prices below their fundamental values. Individual investors also tend to buy stocks that attract attention (Barber & Odean, 2008; Barber et al., 2022), while dispersed ownership weakens incentives to monitor management (Jensen & Meckling, 1976; Shleifer & Vishny, 1986).

Research in Indonesia on ownership structure and firm value has generally focused on institutional ownership and reported positive effects (Surjadi et al., 2018; Suhandi, 2021; Diyanti et al., 2026). These studies use samples from particular sectors or indices over relatively short periods, and individual ownership is rarely treated as the main variable. In addition, some studies measure firm size using market capitalization, even though Price to Book Value (PBV) is itself the ratio of market capitalization to book equity, making this control mechanically connected to the dependent variable.

This study aims to examine the effect of local individual ownership on firm value among IDX-listed companies that meet the criteria for 2018–2024. It makes three contributions. First, it provides large-scale evidence (4,855 observations from 921 listed companies) on the relationship between ownership retailization and valuation using firm and year fixed effects and clustered standard errors. Second, it tests the robustness of the results across ten alternative specifications, including ownership measured relative to total shares outstanding. Third, it empirically demonstrates how the choice of firm-size proxy can reverse the conclusion. In practical terms, the findings are relevant to OJK and the IDX in formulating policies to deepen the investor base, as well as to listed companies in designing investor-relations strategies.

B. LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

1. Agency Theory and Monitoring

Jensen and Meckling (1976) explain that the separation of ownership and control creates agency costs because managers do not always act in shareholders' interests. Monitoring management is costly, so only shareholders with sufficiently large ownership stakes have incentives to do so (Shleifer & Vishny, 1986). Institutional investors, with their scale and expertise, are considered capable of performing this

function. Gompers and Metrick (2001) show that institutional demand is associated with stock prices, while Aggarwal et al. (2011) find that institutional ownership across countries is associated with improvements in corporate governance and firm value. By contrast, retail individual investors hold small, dispersed stakes and therefore face a free-rider problem in monitoring. The larger the share held by this group, the weaker external monitoring of management may become.

2. Noise Trading, Sentiment, and Individual Investor Behavior

Black (1986) introduced the concept of a noise trader, an investor who trades on information unrelated to fundamental value. De Long et al. (1990) show that noise traders create additional risk that rational investors cannot diversify away, meaning that assets heavily traded by noise traders tend to be priced below their fundamental values.

Evidence supports the view that individual investors are more vulnerable to behavioral biases: they trade excessively and achieve lower performance (Barber & Odean, 2000), buy stocks that attract attention (Barber & Odean, 2008), prefer lottery-like stocks (Kumar, 2009), and their trading systematically affects prices (Kumar & Lee, 2006; Baker & Wurgler, 2006). Barber et al. (2022) find that episodes of massive buying by retail investors through trading apps are followed by negative returns. However, the evidence is not entirely uniform: Welch (2022) shows that the aggregate portfolios of retail trading-app users did not underperform during the period examined.

3. Investor Recognition and Entrenchment

An opposing prediction comes from the investor-recognition hypothesis. Merton (1987) shows that in markets with incomplete information, stocks known to more investors have a lower cost of capital and higher prices. If increased individual ownership reflects a broader investor base, its relationship with firm value should therefore be positive. On the other hand, the individual-ownership category in the composition data also includes controlling owners who are natural persons. Ownership in East Asia, including Indonesia, is generally concentrated in families (La Porta et al., 1999), and Claessens et al. (2002) show that control rights exceeding cash-flow rights can reduce firm value through an entrenchment effect. Morck et al. (1988) also demonstrate that the relationship between insider ownership and valuation may be nonlinear.

4. Previous Studies and Hypothesis Development

Surjadi et al. (2018) find that institutional ownership positively affects Tobin's Q among manufacturing firms during 2006–2015 using pooled OLS. Suhandi (2021) reports similar results for companies in the LQ45 index during 2015–2019, as do Diyanti et al. (2026) for manufacturing firms during 2020–2023. These studies treat non-institutional ownership as a residual category and do not directly examine individual ownership during the retailization period. Based on arguments concerning

noise-trader risk, weak monitoring by dispersed shareholders, and the possible entrenchment of individual owners, this study proposes a negative-direction hypothesis, with the investor-recognition hypothesis serving as an alternative prediction:

H_1: Local individual ownership has a negative effect on firm value.

C. METHOD

This study uses a quantitative approach with a causal-associative design. The population consists of all companies listed on the IDX during 2018–2024: 1,018 companies with 5,545 firm-year observations. The sample was selected through purposive sampling based on five criteria: (1) financial-ratio and ownership-composition data are available; (2) all study variables are complete; (3) PBV is positive; (4) total assets are available in the financial statements; and (5) total equity is positive, because PBV with negative equity cannot be interpreted and cannot be transformed using the natural logarithm. The selection process in Table 1 yields 4,855 observations from 921 listed companies. The financial sector (696 observations) remains included in the main sample; results excluding financial firms are reported as a robustness test.

Table 1. Purposive Sampling Process

Stage	Criteria	Firm-Year	Listed Companies
0	Population: companies listed on the IDX during 2018–2024	5.545	1.018
1	Financial-ratio and ownership-composition data available	5.238	943
2	All study variables complete (no missing values)	5.156	937
3	Positive Price to Book Value (PBV)	4.918	924
4	Total assets available in financial statements	4.888	924
5	Positive total equity (final sample)	**4.855**	**921**

Source: Processed Data (2026)

Secondary data were obtained from IDX share-ownership composition reports, listed-company performance summaries (financial ratios), historical IDX stock-price summaries, and companies' financial statements. The main dependent variable is the natural logarithm of PBV. The logarithmic transformation is used because PBV is highly right-skewed and so that the coefficient can be interpreted as a percentage change. As an alternative measure, the natural logarithm of Tobin's Q is used, following the approach of Chung and Pruitt (1994): market capitalization plus total liabilities divided by total assets. The operational definitions of the variables are presented in Table 2:

Table 2. Operational Definitions of Variables

Variable	Definition	Proxy
Firm value (Ln PBV)	Market valuation relative to book equity	Ln(Market capitalization/Book equity)
Alternative firm value (Ln Q)	Market valuation of firm assets	Ln[(Market capitalization + Total liabilities)/Total assets]
Local individual ownership (INDIVIDU)	Proportion of shares held by domestic individual investors in the ownership composition	Local individual shares/shares recorded in the composition data
Local institutional ownership (INSTITUTIONAL)	Proportion of shares held by domestic mutual funds, pension funds, and insurance companies	Sum of the proportions of the three investor types
Firm size (LNTA)	Scale of firm assets	Ln(Total assets)
Leverage (DER)	Debt financing relative to equity	Total debt/Total equity (times)
Profitability (ROA)	Ability to generate profit from assets	Net income/Total assets (%)

Source: Compiled by the author (2026).

Firm size is proxied by total assets rather than market capitalization. Since Ln PBV = Ln(market capitalization) − Ln(book equity), including Ln(market capitalization) as a control means regressing the dependent variable on one of its own components.

The implications of this choice are explicitly tested in the robustness section. It should also be noted that ownership percentages in the IDX composition data are calculated relative to shares recorded in scripless form, rather than total shares outstanding. Therefore, the robustness tests also recalculate ownership relative to total shares outstanding, estimated by dividing market capitalization by the closing share price.

The panel-data regression model used is: $\text{Ln PBV}_{it} = \alpha_i + \lambda_t + \beta_1 \text{ INDIVIDU}_{it} + \beta_2 \text{ INSTITUSIONAL}_{it} + \beta_3 \text{ LNTA}_{it} + \beta_4 \text{ DER}_{it} + \beta_5 \text{ ROA}_{it} + \varepsilon_{it}$. Where α_i represents firm fixed effects and λ_t represents year fixed effects. Model selection is tested using the Chow test (common effects versus fixed effects) and the Hausman test (1978) (fixed effects versus random effects). Firm fixed effects control for company characteristics that do not change over time, such as management quality or the identity of the controlling shareholder, which may be correlated with ownership structure. Year fixed effects control for aggregate market conditions, including the impact of the pandemic, as well as ownership trends that move together across listed companies (Wooldridge, 2010). Because observations from the same company are correlated, all

standard errors are clustered by firm (Petersen, 2009). All continuous variables are winsorized at the 1st and 99th percentiles. Estimation is performed using Python (the linear models package) and can be replicated using EViews or Stata.

D. RESULTS AND DISCUSSION

1. Descriptive Statistics and Ownership Trends

Table 3. Descriptive Statistics of Study Variables (N = 4,855)

Variable	Mean	Std. Dev	Median	Min	Max
PBV (x)	2,640	5,227	1,161	0,139	39,869
Tobin's Q (x)	1,669	2,047	1,049	0,203	14,669
Local individual (%)	29,601	28,570	19,783	0,079	99,896
Local institutional (%)	6,719	12,363	0,561	0,000	62,267
Ln(Total Assets)	28,511	1,951	28,439	24,522	33,343
DER (x)	1,556	2,256	0,788	0,010	14,216
ROA (%)	2,132	8,424	1,751	−31,701	29,021

Values Are Winsorized at the 1st and 99th Percentiles.

Source: Processed Data (2026).

Table 3 shows that average local individual ownership (29.6%) is much higher than average local institutional ownership (6.7%). Individual ownership varies substantially across listed companies (a standard deviation of 28.6 percentage points), while institutional ownership is highly skewed: its median is only 0.56%, and 32.2% of observations have a value of zero. The median PBV of 1.16 times and median Tobin's Q of 1.05 times indicate that listed companies are generally valued slightly above their book value.

Figure 2 illustrates the retailization trend during the study period. Average local individual ownership increased each year, while local institutional ownership continued to decline. The dashed lines in the balanced-panel section show that the same direction of change also occurred among the same listed companies, although with a gentler slope. This pattern suggests that the ownership trend is partly aggregate in nature, making year fixed effects necessary to prevent the estimates from being confounded by market-wide trends.

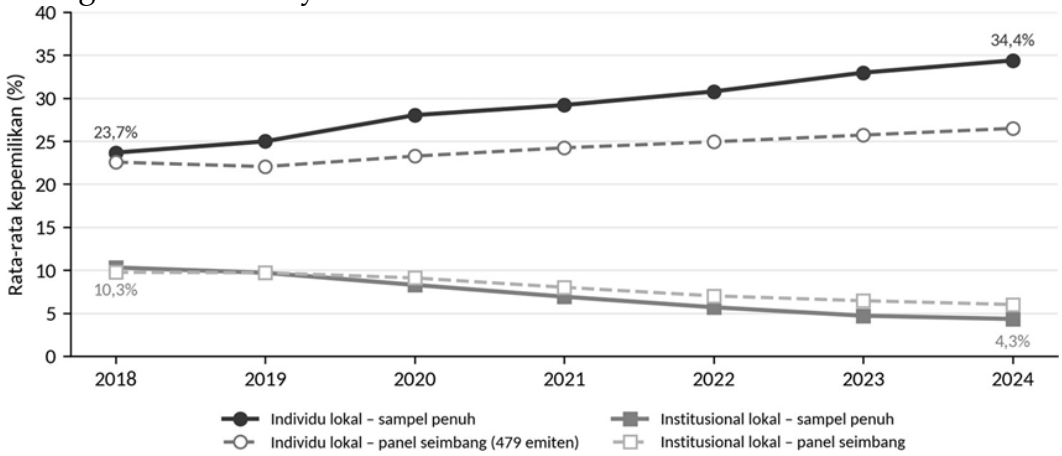


Figure 2. Trends in Average Local Individual and Institutional Ownership, 2018–2024

Source: IDX ownership-composition data, processed (2026).

2. Correlation, Multicollinearity, and Model Selection

Table 4. Pearson Correlation Matrix and Variance Inflation Factors

Variable	(1)	(2)	(3)	(4)	(5)	(6)	VIF
(1) Ln PBV	1						–
(2) INDIVIDU	−0,134	1					1,17
(3) INSTITUTIONAL	0,064	−0,128	1				1,04
(4) LNTA	−0,122	−0,372	0,158	1			1,34
(5) DER	0,099	−0,104	0,050	0,261	1		1,20
(6) ROA	0,165	−0,070	−0,029	0,192	−0,258	1	1,17

Source: Processed data (2026). N = 4,855.

The simple correlation between individual ownership and Ln PBV is negative (r = −0.134). The highest correlation among the independent variables is between INDIVIDU and LNTA (r = −0.372), indicating that smaller listed companies tend to have higher individual ownership. All VIF values range from 1.04 to 1.34, well below the threshold of 10, so multicollinearity is not a concern.

Table 5. Model Selection Test Results

Test	Statistic	Prob.	Decision
Chow test (common vs. fixed effects)	F(920; 3.929) = 9,76	<0,001	Fixed effects
Hausman test (fixed vs. random effects)	$\chi^2(5)$ = 20,18	0,001	Fixed effects

Source: Processed Data (2026).

The Chow test rejects the hypothesis that all firm effects are zero, and the Hausman test rejects the consistency of the random-effects model. Therefore, the fixed-effects model is appropriate. Since tests for heteroskedasticity and autocorrelation in large panel datasets almost always reject the null hypothesis, both issues are addressed directly by clustering standard errors at the firm level.

3. Regression Estimation Results

Table 6. Fixed-Effects Estimation Results

Variable	(1) Ln PBV, firm fixed effects	(2) Ln PBV, firm and year fixed effects (main)	(3) Ln Tobin's Q, firm and year fixed effects
INDIVIDU	−0,859***	−0,815***	−0,472***
	(−5,58)	*(−4,95)*	*(−4,12)*
INSTITUSIONAL	0,802***	0,371	0,177
	(2,95)	*(1,26)*	*(0,81)*
LNTA	−0,115*	0,009	0,036
	(−1,67)	*(0,12)*	*(0,75)*
DER	0,077***	0,073***	−0,004
	(4,89)	*(4,12)*	*(−0,49)*
ROA	0,023***	0,021***	0,006***
	(8,79)	*(7,14)*	*(3,23)*
Firm fixed effects	Yes	Yes	Yes
Year fixed effects	No	Yes	Yes
N observations	4.855	4.855	4.855
N listed companies	921	921	921
Within R^2	0,083	0,078	0,028

Note: *** p<0.01; ** p<0.05; * p<0.10. Figures in parentheses are t-statistics with standard errors clustered by firm. All variables are winsorized at 1%.

In the main specification (Table 6, column 2), local individual ownership has a negative and statistically significant association with firm value at the 1% level (β = −0.815; t = −4.95), supporting H1. Since INDIVIDU is measured as a proportion, a one-standard-deviation increase (28.6 percentage points) is associated with approximately 20.8% lower PBV [exp(−0.815 × 0.286) − 1], controlling for time-invariant firm characteristics and annual market conditions. The coefficient is nearly identical in the model without year effects (β = −0.859) and remains negative and significant when firm value is measured using Tobin's Q (β = −0.472; t = −4.12), equivalent to approximately 12.6% lower Tobin's Q for a one-standard-deviation increase. The smaller magnitude for Tobin's Q is reasonable because this ratio also includes liabilities, which are not affected by market valuation.

Local institutional ownership has a positive and significant effect only in the model with firm fixed effects alone (β = 0.802; t = 2.95). After year effects are included, its coefficient falls to 0.371 and is no longer significant (t = 1.26). This suggests that part of the positive institutional-ownership association in the model without year effects rreflects the downward trend in institutional ownership moving alongside market-valuation dynamics. Among the control variables, ROA has a positive and significant effect in all models. DER is positively associated with Ln PBV but not with Ln Tobin's Q, consistent with the possibility that the DER–PBV relationship is partly mechanical because both use book equity as a denominator. Firm size is not significant after fixed effects are controlled for.

Figure 3 presents this core relationship visually. Both axes are residuals after removing firm fixed effects, year fixed effects, and control variables, so the slope of the line equals the INDIVIDU coefficient in the main model. The negative relationship is consistent across the distribution and is not driven by a handful of extreme observations.

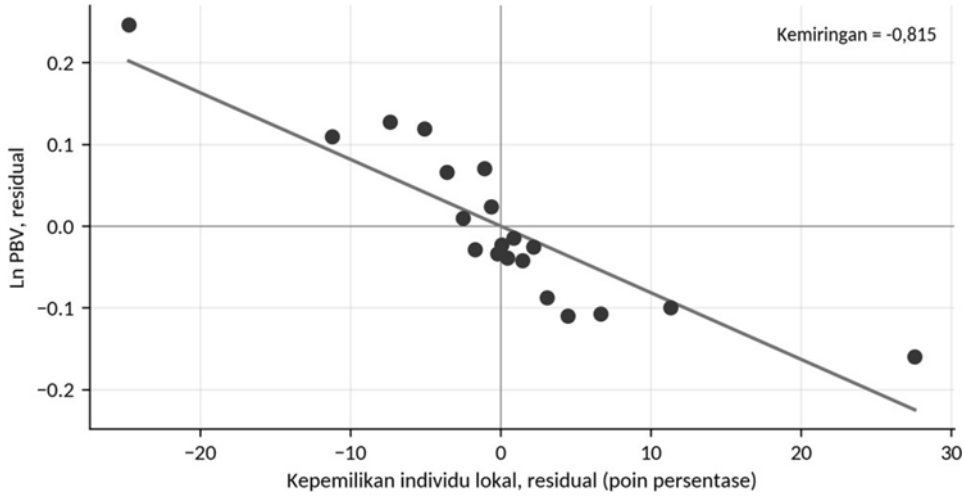


Figure 3. Binned Scatterplot of Local Individual Ownership and Ln PBV (Firm and Year Fixed Effects).

Source: Processed data (2026).

4. Robustness Tests

Table 7. Robustness Tests of the Local Individual Ownership Coefficient

Specification	β INDIVIDU	t-stat	Prob.	N	Listed companies	Within R^2
(1) Ownership and size lagged by one year	−0,508***	−3,43	<0,001	3.910	852	0,055
(2) Ownership relative to total shares outstanding	−1,003***	−3,66	<0,001	4.855	921	0,078
(3) Balanced panel (2018–2024)	−0,953***	−4,69	<0,001	3.353	479	0,086
(4) Firm fixed effects + sector × year	−0,775***	−4,70	<0,001	4.855	921	0,078
(5) Winsorized at the 5th and 95th percentiles	−0,740***	−5,29	<0,001	4.855	921	0,085
(6) Excluding the financial sector	−0,743***	−4,18	<0,001	4.159	815	0,088
(7) Dependent variable: Ln Tobin's Q	−0,472***	−4,12	<0,001	4.855	921	0,028
(8) + Foreign and local corporate ownership	−0,596	−1,32	0,187	4.855	921	0,080
(9) Size = Ln market capitalization	0,089	1,00	0,315	4.855	921	0,660
(10) Without the size variable	−0,818***	−4,85	<0,001	4.855	921	0,078

Note: *** p<0.01; ** p<0.05; * p<0.10; standard errors clustered by firm. All specifications use firm and year fixed effects and control for INSTITUTIONAL, LNTA, DER, and ROA, unless otherwise stated. The dependent variable is Ln PBV except in specification (7). Specifications (9) and (10) test sensitivity to the firm-size proxy.

The coefficient for individual ownership remains negative and significant at the 1% level in the first seven specifications (Table 7 and Figure 4). When ownership and size are lagged by one year, the coefficient decreases to −0.508 but remains significant; this reduces, though does not eliminate, the concern that the relationship merely reflects reverse causality—that individual investors enter after valuations fall. The results are also unchanged when ownership is calculated relative to total shares outstanding (β = −1.003), in the balanced panel of 479 listed companies (β = −0.953), with sector-by-year fixed effects that absorb sector-specific shocks, with 5% winsorization, and when financial firms are excluded.

An exception appears in specification (8). When foreign ownership and local corporate ownership are added simultaneously, the INDIVIDU coefficient remains negative (−0.596) but is not significant (t = −1.32). Since all ownership categories sum to 100%, including nearly all categories simultaneously means that each coefficient can only be interpreted relative to the small remaining category and increases standard errors. Therefore, the results are best interpreted as a negative association between individual ownership and firm value relative to the combination of other shareholders. Specification (9) shows sensitivity to the size proxy: when size is measured using Ln market capitalization, within R^2 rises to 0.660 and the INDIVIDU coefficient becomes positive but insignificant. This increase reflects the accounting identity of PBV rather than economic explanatory power. Without any size variable

(specification 10), the result returns to being consistent with the main model.

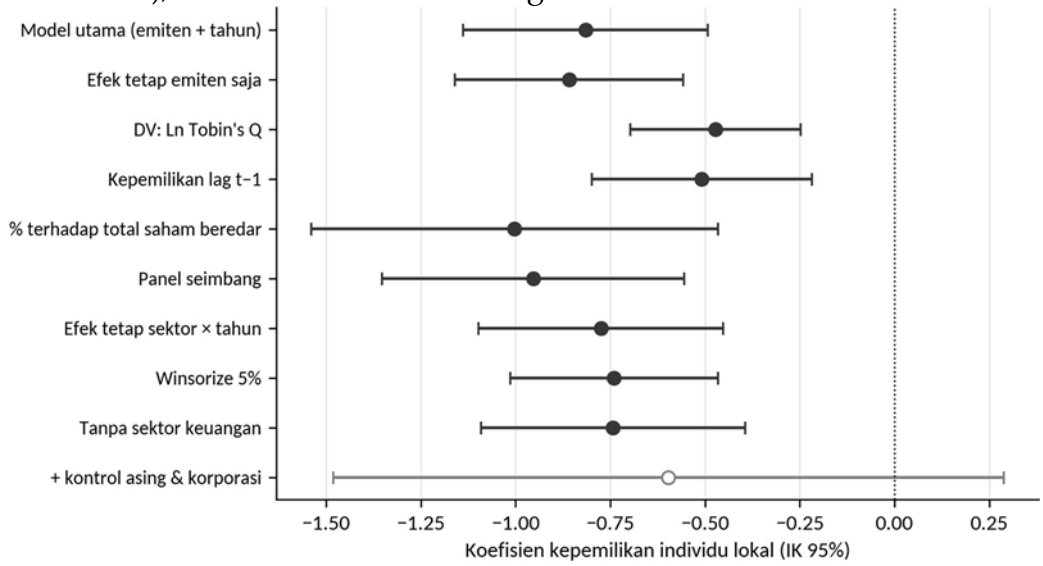


Figure 4. Coefficients for Local Individual Ownership Across Specifications

Source: Processed data (2026).

The finding that local individual ownership is negatively associated with firm value is consistent with two theoretical explanations. First, the noise-trader-risk perspective (Black, 1986; De Long et al., 1990): stocks dominated by investors who trade based on sentiment face additional risk, which is reflected in lower prices. This is consistent with evidence that retail trading is influenced by attention and sentiment (Barber & Odean, 2008; Kumar & Lee, 2006), as well as OJK's concerns about unusual trading practices in stocks heavily traded by retail investors (IDN Financials, 2026). Second, the monitoring perspective (Jensen & Meckling, 1976; Shleifer & Vishny, 1986): ownership dispersed among many small investors weakens external monitoring of management.

This study cannot fully distinguish these two explanations from a third pathway: entrenchment by individual controlling owners (Claessens et al., 2002), because IDX ownership-composition data do not distinguish individual controlling shareholders from retail investors. However, firm fixed effects absorb the identity of controlling owners when it does not change over the study period, so the estimates are primarily determined by changes in individual ownership within the same company. The findings do not support the investor-recognition hypothesis (Merton, 1987), which predicts a positive relationship. The results also complement Welch (2022): the aggregate performance of retail-investor portfolios need not be poor, but companies whose ownership becomes increasingly dominated by retail investors are still valued lower relative to their book value.

For institutional ownership, the results from the model without year effects are consistent with Surjadi et al. (2018), Suhandi (2021), and Diyanti et al. (2026), but do not hold after year effects are controlled for. This difference suggests that studies using pooled models or models without time effects during periods of strong ownership trends risk capturing aggregate trends rather than differences across listed companies.

E. CONCLUSION

This study finds that local individual ownership has a negative and significant association with firm value among IDX-listed companies during 2018–2024, supporting H1. A one-standard-deviation increase in individual ownership is associated with approximately 21% lower PBV. The result is consistent when firm value is measured using Tobin's Q and in most robustness tests, but becomes insignificant when nearly all ownership categories are included simultaneously. Local institutional ownership is not significant after year effects are controlled for. The study also shows that using market capitalization as a firm-size measure creates a mechanical relationship with PBV and reverses the conclusion.

Practical implications should be interpreted cautiously because the results are associational. For OJK and the IDX, retailization should not be assumed to be neutral with respect to valuation; therefore, efforts to deepen the investor base should be accompanied by stronger market surveillance, investor protection, and education emphasizing fundamental-based investing. Efforts to increase domestic institutional investor participation are also relevant to balancing the ownership structure. For listed companies, information transparency and active investor engagement may help reduce the scope for sentiment-driven trading. For researchers, these findings underscore the importance of time effects and selecting a size proxy that is not mechanically linked to the dependent variable.

This study has several limitations. First, the results indicate association rather than causality; endogeneity is tested only using a one-year lag, not instrumental variables or GMM. Second, the local-individual category includes individual controlling owners and is therefore not a pure proxy for retail investors. Third, ownership percentages are calculated relative to scripless shares, and coverage changes across years, although the measurement based on total shares outstanding produces similar results. Fourth, ownership data are compositional, so coefficients depend on the comparison category. Fifth, managerial ownership data are unavailable. Future research should distinguish controlling shareholders from retail investors using data on shareholders owning more than 5%, apply instrumental-variable or GMM approaches, and examine heterogeneous effects across sectors and company sizes.

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