

Market Risk as a Moderator of the Income Smoothing–Firm Value Relationship: Evidence from Indonesia

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ABSTRACT

Income smoothing can stabilize reported earnings but may obscure a firm's true performance and weaken its valuation. This study examines the effects of income smoothing and firm reputation on firm value. A quantitative fixed-effects value relationship: Evidence from panel regression was conducted using 1,216 firm-year observations from 335 non-financial companies listed on the Indonesia Stock Exchange during 2018–2022. The results show that income smoothing has a significant negative effect on firm value ($b = -23.826$, $p = 0.0206$), while firm reputation has a significant positive effect in Model 1 ($b = 0.029$, $p = 0.0001$) but becomes insignificant in Model 2 ($p = 0.1811$). The income smoothing $\times$ market risk interaction is negative and significant ($b = -0.041$, $p = 0.0472$), indicating that market risk moderates the relationship in the opposite direction to the hypothesized strengthening effect. The findings suggest that higher market volatility may intensify the valuation penalty associated with income smoothing, while the valuation benefit associated with firm reputation depends on model specification.

Keywords: Firm Reputation; Firm Size; Firm Value; Income Smoothing; Leverage; Market Risk; Profitability

JEL Classification: G14; G32; M41

INTRODUCTION

Firm value reflects investors' assessment of a company's current performance and future cash-flow prospects. Recent Indonesian evidence shows that profitability, leverage, firm size, investment policy, and disclosure quality can shape that assessment, although their effects vary by sector and model specification (Avinda et al., 2025; Dewi & Novitasari, 2022; Kepramareni & Pradnyawati, 2024). These factors are therefore included as contextual considerations or controls rather than treated as substitutes for the study's focal variables. Profitability indicates the capacity to generate returns from assets, leverage captures long-term financing exposure, and firm size reflects the scale and information environment in which investors evaluate reported performance (Khalifaturofi'ah & Setiawan, 2025; Setiowati et al., 2023).

Firm reputation summarizes stakeholders' accumulated judgments about a company's credibility, conduct, and ability to deliver value. Because it is an intangible asset, reputation can reduce uncertainty, support access to resources, and influence the premium investors assign to expected earnings (Kaur & Singh, 2018; Roberts & Dowling, 2002). Recent Indonesian studies likewise connect stronger corporate reputation with market valuation and stakeholder support (Daromes et al., 2022; Qonita et al., 2022). A damaged reputation can have the opposite effect by weakening trust in management and the information it provides.

Income smoothing is an accrual-based form of earnings management that reduces fluctuations in reported profit across periods. Managers may use accounting discretion to communicate private information, but they may also use it opportunistically to conceal weak performance or achieve contracting targets. Recent evidence shows that firm size, profitability, governance, and financial distress influence the incentives and opportunities for earnings management (Almubarak et al., 2023; Bhegawati et al., 2024; Prasetyo & Prasetyo, 2025; Safira et al., 2022). The valuation consequence therefore depends on whether investors view smoother earnings as informative or as a loss of reporting credibility.

Financial statements are a primary source for assessing performance, risk, and firm value, so their usefulness depends on faithful and credible reporting. Accrual discretion that obscures underlying conditions increases information asymmetry and can lead investors to discount reported earnings. Evidence from Southeast Asia shows that reporting incentives and institutional conditions affect earnings-management behavior (Fuad et al., 2022), while recent Indonesian evidence associates earnings management with lower firm value when investors perceive the reporting choice as opportunistic (Fatmasari & Nurcahyono, 2026). These concerns motivate a direct test of whether income smoothing is reflected in the valuation of listed Indonesian firms.

Evidence on the valuation of smoothed income is not uniform. Studies in regulated and emerging markets report that smoothing can reduce firm value, while the strength and direction of that association may change with ownership, market conditions, or the measurement approach (Abdullahi et al., 2023; Abogun et al., 2021; Dyusseminina et al., 2024). Research during the COVID-19 period also shows that uncertainty changes the context in which investors interpret intentional smoothing (Santos et al., 2024). Yet evidence on market risk as a moderator remains limited for Indonesia, where institutional conditions and investor responses may differ from those documented elsewhere.

Accordingly, this study examines the effects of income smoothing and firm reputation on firm value and tests whether market risk moderates the income smoothing-firm value relationship among non-financial companies listed on the Indonesia Stock Exchange

(IDX) during 2018–2022. This setting is significant because Indonesia combines a growing capital market with substantial differences in firm size, profitability, ownership, and reporting incentives. The analysis focuses on whether investors discount accrual-based smoothing after those observable characteristics are controlled. It also distinguishes the direct reputation effect from the moderated smoothing effect, which prevents the two information mechanisms from being conflated. The novelty of this study lies in testing market risk as a contingency factor in an Indonesian panel while using a market-based reputation proxy validated for Indonesian listed firms (Edi & Wati, 2022). This design extends evidence that has primarily come from Nigeria and other emerging-market settings (Abdullahi et al., 2023; Abogun et al., 2021).

This study offers theoretical, empirical, and practical contributions. Theoretically, it applies agency theory to two related information signals: discretionary smoothing that may increase information asymmetry and firm reputation that may reduce it. Empirically, it tests whether the valuation effect of smoothing changes with market-wide volatility rather than assuming that the effect is constant. The use of 1,216 firm-year observations across multiple non-financial sectors broadens the Indonesian evidence beyond a single industry. Practically, the results can help regulators target oversight toward the credibility of reported earnings, assist investors in evaluating smooth earnings together with prevailing market conditions, and remind managers that short-term reporting stability may carry a valuation cost. The contribution is limited to associations in archival data and does not establish the motives of individual managers or investors.

LITERATURE REVIEW

Theoretical Framework

Agency Theory

Agency theory explains the contract between shareholders as principals and managers as agents, whose interests and access to information may differ (Jensen & Meckling, 1976). When monitoring is incomplete, managers can use accounting discretion to pursue compensation, financing, or career objectives that do not maximize shareholder value. Income smoothing may therefore represent an agency cost when it conceals economic volatility or weak performance (Abogun et al., 2021; Almubarak et al., 2023). In this study, that logic predicts a negative effect of income smoothing on firm value. A credible firm reputation may reduce information asymmetry, whereas market risk may change how strongly investors respond to smoothed earnings.

Firm Value

Firm value represents the market's assessment of the benefits and risks associated with owning a company's equity. Market-based measures incorporate investors' expectations about profitability, financing decisions, operating scale, and the credibility of disclosed information. Recent studies of Indonesian companies show that financial performance and firm size can affect firm value directly or through moderating and mediating mechanisms (Avinda et al., 2025; Dewi & Novitasari, 2022; Kepramareni & Pradnyawati, 2024). Accordingly, this study uses average share price as the firm-value proxy to remain consistent with the primary income-smoothing and market-risk framework developed by Abogun et al. (2021).

Accordingly, firm value in this study refers to the market's valuation of a company as reflected in its share price. This measure is directly observable and is consistent with Abdullahi et al. (2023) and Abogun et al. (2021), facilitating comparison across emerging markets. Share price incorporates expectations about profitability, financing risk, growth, and disclosure credibility, but it also responds to macroeconomic shocks. The model therefore includes firm-level controls and introduces market risk in the moderated

specification. The interpretation remains conditional on the measure: share price captures equity-market valuation rather than replacement value or a market-to-book ratio. Studies using alternative measures confirm that proxy selection can affect reported relationships (Avinda et al., 2025; Fatmasari & Nurcahyono, 2026).

Hypotheses Development

Income Smoothing on Firm Value

Income smoothing refers to deliberate accounting choices that reduce changes in reported earnings across periods. Accrual-based smoothing commonly offsets changes in pre-discretionary income with changes in discretionary accruals, producing a more stable reported series than the underlying operating performance. This behavior can be informative when managers communicate persistent performance, but it becomes opportunistic when it masks risk or weak fundamentals. Indonesian and international studies continue to document both the prevalence of earnings management and the importance of governance and firm characteristics in constraining it (Bhegawati et al., 2024; Prasetyo & Prasetio, 2025; Safira et al., 2022).

Managers can smooth earnings downward in high-income periods by accelerating expenses or deferring revenue, and upward in low-income periods by reversing those choices where accounting standards permit. These shifts do not necessarily alter cumulative cash flows, but they change the timing and apparent stability of reported performance. The incentives may be stronger when firms face performance pressure, financing constraints, or intense market scrutiny (Almubarak et al., 2023; Setiowati et al., 2023). Because larger firms are more visible and have broader stakeholder groups, size may increase reporting pressure while also strengthening monitoring, making its net association with earnings management an empirical question (Prasetyo & Prasetio, 2025).

From an agency perspective, opportunistic smoothing creates an appearance of stability that may not reflect the firm's economics. If investors detect that mismatch, they may reduce the weight assigned to reported earnings and demand compensation for information risk. The effect is unlikely to be identical across firms because audit quality, ownership, distress, and board structure influence both managerial discretion and monitoring. Recent evidence shows that accrual and real earnings management can affect valuation, but that governance conditions determine whether the market response is negative, positive, or insignificant (Fatmasari & Nurcahyono, 2026; Putra & Zifi, 2022; Simamora et al., 2022). This study isolates the direct smoothing association in Model 1 and then tests whether market-wide volatility changes that association in Model 2.

Empirical research generally supports a market penalty when smoothing is interpreted as opportunistic. Abdullahi et al. (2023) and Abogun et al. (2021) report a negative association between accrual-based smoothing and firm value in Nigerian non-financial firms. Dyussembina et al. (2024) also find a negative association, although foreign ownership mitigates it, showing that monitoring conditions matter. Indonesian evidence similarly links smoothing or related earnings-management behavior to lower valuation in several samples (Fatmasari & Nurcahyono, 2026; Ng & Chandra, 2023; Rahma & Lastanti, 2023). These findings support the prediction that investors discount earnings whose stability appears managerially produced.

Other findings show why the relationship remains unsettled. Some forms of real earnings management can be rewarded under particular governance arrangements (Putra & Zifi, 2022), while other Indonesian studies find no direct valuation effect for earnings management or smoothing (Olanda & Marietza, 2024; Sinuraya & Mayangsari, 2024). Simamora et al. (2022) further show that the costs and governance context of real

earnings management condition its effect on firm value. These differences may arise from the smoothing proxy, the valuation measure, the observation period, and the market's ability to distinguish informative discretion from concealment. Nevertheless, the agency argument and the balance of directly comparable evidence support a negative prediction.

H1: Income smoothing has a significant negative effect on firm value.

Firm Reputation on Firm Value

Firm reputation is stakeholders' collective evaluation of a company's past actions and its expected ability to deliver valued outcomes (Kaur & Singh, 2018; Roberts & Dowling, 2002). It is multidimensional because employees, customers, creditors, and investors can assess different aspects of the same firm. Reputation nevertheless functions as an intangible asset when favorable evaluations lower uncertainty and support access to capital and other resources. For listed Indonesian firms, Edi and Wati (2022) show that market capitalization, firm age, CSR awards, and the price-earnings ratio remain correlated indicators of reputation. Oktavianus et al. (2022) similarly emphasize the connection between financial performance and corporate reputation in the Indonesian market.

A favorable reputation can influence valuation through two connected channels. First, it signals credible management and reduces uncertainty about future performance, which can lower the information discount applied by outside investors. Second, it can strengthen relationships with customers, employees, creditors, and other stakeholders whose support contributes to future cash flows. Because this study relies on archival market data rather than stakeholder surveys or reputation rankings, it uses PER as a market-based reputation proxy, consistent with the validation evidence reported by Edi and Wati (2022). PER measures the price investors are willing to pay for each unit of earnings and therefore reflects expectations as well as credibility. This operational choice captures an investor-facing dimension of reputation, but it does not encompass the entire multidimensional construct described by Kaur and Singh (2018).

Recent Indonesian studies support a positive reputation-value relationship. Daromes et al. (2022) find that corporate reputation transmits part of the effect of firm size to firm value, while Qonita et al. (2022) identify reputation and financial performance as mechanisms connecting corporate social responsibility to valuation. Oktavianus et al. (2022) also document links among financial performance and reputation, and Ellin and Wati (2023) show that reputation-related financial indicators help explain earnings quality and firm value. These findings indicate that reputation can reduce information asymmetry and strengthen investors' expectations about credible future performance. The evidence supports a positive hypothesis while recognizing that results depend on how reputation is measured.

H2: Firm reputation has a significant positive effect on firm value.

Income Smoothing and Firm Value Moderated by Market Risk

Market risk is the exposure to valuation changes arising from broad movements in equity prices and other market factors. Unlike firm-specific risk, it reflects conditions that affect listed companies simultaneously and cannot be eliminated through simple diversification. Volatile markets increase uncertainty about discount rates, cash-flow expectations, and the informativeness of recent performance. That environment may make stable reported earnings more attractive, but it may also prompt investors to scrutinize discretionary accruals more carefully. This study captures market risk through the annual standard deviation of daily closing values of the IDX Composite Index. A higher value represents

greater market-wide volatility during the relevant observation year (Abdullahi et al., 2023; Abogun et al., 2021). Because the measure is based on index levels rather than firm-specific returns, it should be interpreted as a common market condition rather than each company's beta or idiosyncratic risk.

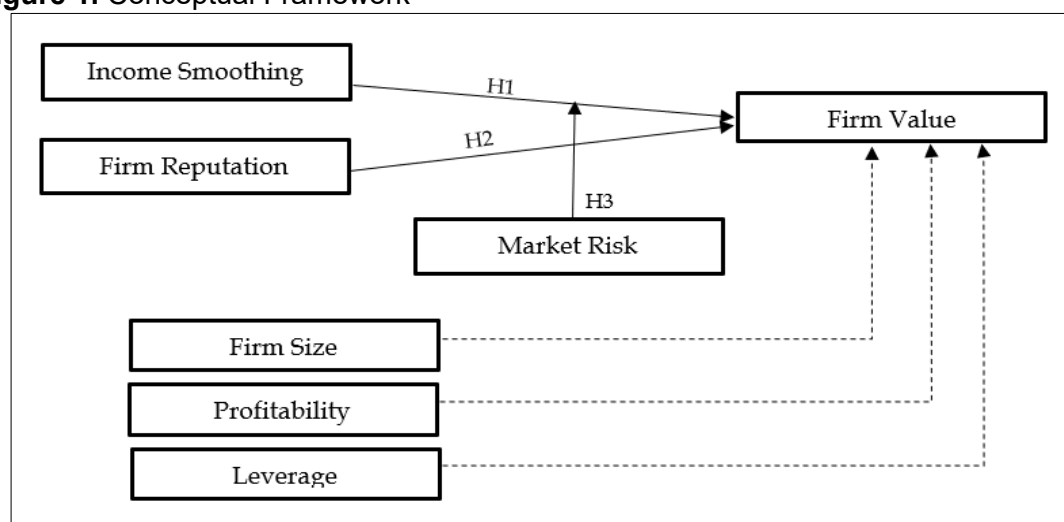
Market risk may change the valuation effect of smoothing because volatility affects both investors' information needs and their tolerance for reporting uncertainty. Abdullahi et al. (2023) and Abogun et al. (2021) find that market risk significantly moderates the smoothing-value relationship, although their positive interaction suggests that smoothing can appear stabilizing in their setting. Indonesian evidence is less conclusive; Rahma and Lastanti (2023) do not find the predicted strengthening effect. Research from the pandemic period also indicates that the valuation of intentional smoothing depends on the surrounding uncertainty (Santos et al., 2024). Given these competing mechanisms, the hypothesis follows the prior market-risk framework but the interaction sign must be interpreted empirically.

H3: Market risk strengthens the relationship between income smoothing and firm value.

Conceptual Framework

Based on the hypotheses developed above, Figure 1 presents the conceptual framework. Income smoothing is expected to reduce firm value because opportunistic accrual choices can weaken the credibility of reported earnings (H1). Firm reputation is expected to increase firm value by signaling credibility and reducing information uncertainty (H2). Market risk is positioned as a moderator because market-wide volatility may change the weight investors assign to apparently stable earnings (H3). The interaction term tests whether the slope linking income smoothing to firm value varies with market risk; its coefficient, rather than the standalone market-risk coefficient, determines the direction of moderation. Leverage, profitability, and firm size are included as controls because recent research identifies them as recurring determinants of earnings management and firm value (Kepramareni & Pradnyawati, 2024; Prasetyo & Prasetyo, 2025; Setiowati et al., 2023).

Figure 1. Conceptual Framework



RESEARCH METHOD

Research Approach and Design

This study adopts a quantitative, explanatory research design using secondary panel data, with the firm-year as the unit of analysis. Panel data permit the analysis to control

for time-invariant firm characteristics while estimating relationships across companies and years. The design tests the direct effects of income smoothing and firm reputation on firm value and the moderating effect of market risk on the income smoothing-firm value relationship. Similar recent Indonesian studies use panel or moderated regression designs to examine firm value and earnings management (Avinda et al., 2025; Prasetyo & Prasetyo, 2025).

Population and Sampling

The population comprises all companies listed on the IDX during 2018–2022. Financial-sector companies are excluded because their regulatory capital, reporting structure, and balance-sheet composition differ materially from those of non-financial firms. Purposive sampling requires each company to be listed continuously during the observation period, publish audited financial statements with a December 31 year-end, and have the share-price data needed for measurement. Of 824 listed entities, 489 fail one or more criteria, leaving 335 companies. Five annual observations per company produce an initial 1,675 firm-year observations. Standardized deleted residuals are then examined, and 459 observations outside the -1.96 to +1.96 interval are classified as outliers and removed. The final dataset contains 1,216 observations and is unbalanced because exclusions do not occur equally across firms or years. Table 1 reconciles the population to the final analytical sample. Because the procedure removes approximately 27% of baseline observations, the limitation section addresses the possible effect on representativeness.

Table 1. Summary of Sampling Process and Research Data

Description	Total
Entities listed on the IDX	824 companies
Entities that do not meet the criteria	(489) companies
Entities as research sample	335 companies
Number of research periods	5 years
Number of baseline data	1,675 observations
Number of data classified as outliers	(459) data
Final amount of research data	1,216 observations

Data Sources and Collection

This study uses secondary data for 2018–2022. Financial-statement variables are collected from audited annual reports published through the IDX and company websites. Year-end share prices and daily closing values of the IDX Composite Index are obtained from Yahoo Finance and cross-checked against the corresponding trading dates. Each accounting variable is aligned with the fiscal year ending December 31, while market-risk observations use all available daily index closings within that calendar year.

Variable Measurement

Table 2 presents the measures for firm value, income smoothing, firm reputation, market risk, leverage, profitability, and firm size. Income smoothing is estimated with an accrual-based approach: total accruals are modeled using the performance-matched discretionary-accrual specification, and the smoothing index is the correlation between changes in discretionary accruals and changes in pre-discretionary income (Kothari et al., 2005). Because a correlation must lie between -1 and +1, the descriptive values are reported on their decimal scale. More negative values indicate that discretionary accruals offset changes in pre-discretionary income more strongly. Firm reputation is proxied by PER because Edi and Wati (2022) validate PER as a market-based reputation indicator in Indonesian listed companies; it reflects the market premium per unit of earnings but remains narrower than perceptual reputation measures. Market risk is the annual standard deviation of daily IDX Composite closing values obtained from Yahoo Finance, capturing the common volatility faced by listed firms.

Table 2. Measurement of Research Variables

Research Variables	Variable Measurement
Dependent Variable	
Firm Value (Abogun et al., 2021)	FV = Average Share Price
Independent Variables	
Income Smoothing (Abogun et al., 2021)	$ACCRUALS_{it}/TA_{t-1} = \alpha_i + \beta_1 (1/TA_{it-1}) + \beta_2 (\Delta REV_{it}/TA_{it-1}) + \beta_3 (PPE_{it}/TA_{it-1}) + \beta_4 (ROA_{it}/TA_{it-1}) + \mu_{it}$
	PDI = NI-DAP
	IS = Corr(ΔDAP , ΔPDI)
	Where:
	ACCRUALS = Net Income - Cash Flow from Operations
	PDI = Pre-Discretionary Income
	DAP = Discretionary Accruals
	TA = Total Assets at the Beginning of the Year
	ΔREV = Change in Revenue (Revenue- Revenue t-1)
	PPE = Gross Property, Plant, and Equipment
	ROA = Return on Assets (Net Income / TA)
Firm Reputation (Kaur & Singh, 2018)	PER = Share Price/EPS
	Where:
	PER = Price-to-Earnings Ratio
	Share Price = Share Price as of December 31
	EPS = Earnings per Share (Net Income/Weighted Average Number of Common Shares)
Moderation Variable	
Market Risk (Abogun et al., 2021)	MR = Annual SD of Daily IDX Composite Closings
Control Variables	
Leverage (Abogun et al., 2021)	Lev = Long-term Debt/Total Assets
Profitability (Abogun et al., 2021)	ROA = Net Income/Total Assets
	Where:
	ROA = Return on Asset
Firm Size (Abogun et al., 2021)	FS = Ln(Asset)

Data Analysis

The analysis proceeds in distinct stages. First, descriptive statistics are calculated for every variable. Second, standardized deleted residuals (SDR) are examined in SPSS; observations with SDR values below -1.96 or above +1.96 are classified as outliers and excluded, as reported in Table 1. Third, EViews 12 is used for panel-model selection. The Chow test compares the common-effect and fixed-effect models, and the Hausman test compares the fixed-effect and random-effect models. These tests select the estimator; they are not tests of overall model fit or individual hypotheses.

After the estimator is selected, model fit and hypothesis tests are evaluated separately. Adjusted R² reports the proportion of within-sample variation explained after accounting

for the number of predictors, and the F-test evaluates whether the regressors are jointly significant. Individual coefficients are assessed with two-tailed t-tests at the 5% level. H1 and H2 are supported only when $p < 0.05$ and the coefficient sign matches the prediction. For H3, the relevant evidence is the IS $\times$ MR coefficient: significance establishes moderation, while its sign and the marginal effect $\beta_{IS} + \beta_{IS \times MR}(MR)$ determine whether rising market risk strengthens or weakens the income smoothing slope. This distinction avoids treating a significant standalone MR coefficient as evidence of moderation.

Research Model

Two fixed-effect panel models are estimated. Model 1 assesses the direct associations of income smoothing and firm reputation with firm value while controlling for leverage, profitability, and firm size. Its coefficients provide the tests of H1 and H2. Model 2 adds market risk and the product term IS $\times$ MR to estimate whether the income smoothing slope changes with market volatility. The lower-order IS and MR terms remain in Model 2 so that the interaction coefficient has the correct conditional interpretation. The control variables are retained across both specifications to make changes in the focal coefficients comparable. Firm and year subscripts identify each observation, β_0 is the intercept, β_1 – β_7 are estimated slopes, and ϵ is the disturbance term. The functional specifications are as follows:

$$FV_{it} = \beta_0 + \beta_1 IS_{it} + \beta_2 FR_{it} + \beta_3 LEV_{it} + \beta_4 PROF_{it} + \beta_5 FS_{it} + \epsilon_{it} \dots \dots \dots (1)$$

$$FV_{it} = \beta_0 + \beta_1 IS_{it} + \beta_2 FR_{it} + \beta_3 MR_{it} + \beta_4 IS \times MR_{it} + \beta_5 LEV_{it} + \beta_6 PROF_{it} + \beta_7 FS_{it} + \epsilon_{it} \dots \dots \dots (2)$$

Where:

FV_{it} = Firm value
 IS_{it} = Income smoothing
 FR_{it} = Firm reputation
 LEV_{it} = Leverage
 PROF_{it} = Profitability
 FS_{it} = Firm size
 MR_{it} = Market risk
 IS*MR_{it} = Interaction between income smoothing and market risk

RESULTS

Descriptive Statistic

Table 3 reports the minimum, maximum, mean, and standard deviation of firm value (FV), income smoothing (IS), firm reputation (FR), market risk (MR), leverage (Lev), profitability (Prof), and firm size (FS) for 1,216 firm-year observations. The table is introduced before interpretation so that every value discussed below can be traced directly to the reported statistics.

Table 3. Descriptive Statistic

Variable	N	Min	Max	Avg	Std. Dev
FV	1,216	10.57000	18352.08	504.3642	1016.867
IS	1,216	-0.532580	0.017920	-0.000872	0.015281
FR	1,216	-5300.000	7000.000	19.11190	374.9366
MR	1,216	0.000000	4805.000	94.22002	257.7328
Lev	1,216	0.000000	296.5000	1.472179	16.32737
Prof	1,216	-7.590000	2.070000	-0.012599	0.368189
FS	1,216	20.64000	33.95000	28.64360	1.791922

Table 3 shows that FV ranges from 10.57 to 18,352.08, with a mean of 504.36 and a standard deviation of 1,016.87. IS ranges from -0.532580 to 0.017920, with a mean of -0.000872 and a standard deviation of 0.015281; these decimal-scaled values are

consistent with the correlation-based measure bounded by -1 and +1. FR, measured by PER, ranges from -5,300.00 to 7,000.00, with a mean of 19.11 and a standard deviation of 374.94; negative PER values occur when earnings per share are negative. MR ranges from 0.00 to 4,805.00, with a mean of 94.22 and a standard deviation of 257.73. Lev ranges from 0.00 to 296.50, with a mean of 1.47 and a standard deviation of 16.33. These statistics indicate substantial cross-firm dispersion, but the mean-standard-deviation comparison alone does not establish whether observations are homogeneous or heterogeneous.

Profitability (Prof), measured by ROA, ranges from -7.59 to 2.07, with a mean of -0.0126 and a standard deviation of 0.37. The negative mean indicates that, on average, sample firms reported a net loss equal to 1.26% of total assets. The minimum of -7.59 shows that some firms incurred losses far exceeding their asset base, whereas the maximum of 2.07 indicates net income equal to 207% of total assets for the most profitable observation. Firm size (FS), measured by the natural logarithm of total assets, ranges from 20.64 to 33.95, with a mean of 28.64 and a standard deviation of 1.79. It is the only variable whose standard deviation is smaller than its mean, indicating relatively low dispersion in firm size across the sample.

Panel Data Regression

Table 4 reports the panel regression results for Model 1, which estimates the direct effects of income smoothing and firm reputation on firm value, and Model 2, which adds market risk and the IS $\times$ MR interaction. The upper panel presents the regression coefficients and p-values, and the lower panel presents the model-selection and model-fit statistics. In both models, the Chow test ($p < 0.05$) favors the fixed effect model over the common effect model, and the Hausman test ($p < 0.05$) favors the fixed effect model over the random effect model. Therefore, the fixed effect model is used for hypothesis testing.

Table 4. Panel Regression Results

Variables	Model 1 Coefficient	p-value	Model 2 Coefficient	p-value	Hypothesis	Result
Income Smoothing (IS)	-23.826	0.0206**	15.370	0.0283**	H1	Significant (Negative)
Firm Reputation (FR)	0.029	0.0001***	0.016	0.1811	H2	Significant (Positive)
Market Risk (MR)	—	—	3.010	0.0000***	—	—
IS $\times$ MR	—	—	-0.041	0.0472**	H3	Significant (Negative)
Leverage (LEV)	0.162	0.8598	0.363	0.6769	Control	Not Significant
Profitability (PROF)	229.259	0.0000***	5.353	0.7799	Control	Not Significant
Firm Size (FS)	137.028	0.0000***	71.813	0.0000***	Control	Significant (Positive)
Panel B: Model Statistics						
Chow Test	0.0000	FEM	0.0000	FEM		
Hausman Test	0.0001	FEM	0.0000	FEM		
Adjusted R ²	0.8601		0.9871			

F-test (Prob.)	0.0000		0.0000			
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In Model 1, income smoothing has a significant negative effect on firm value ($\beta = -23.826$; $p = 0.0206$); thus, H1 is supported. Firm reputation has a significant positive effect on firm value ($\beta = 0.029$; $p = 0.0001$); thus, H2 is supported. Among the control variables, profitability ($\beta = 229.259$; $p = 0.0000$) and firm size ($\beta = 137.028$; $p = 0.0000$) have significant positive effects, whereas leverage is not significant ($p = 0.8598$). The adjusted R^2 of 0.8601 indicates that Model 1 explains 86.01% of the variation in firm value, and the F-test ($p = 0.0000$) shows that the independent variables jointly affect firm value. The Model 1 equation is as follows:

$$FV = -23.82638 IS + 0.028968 FR + 0.162070 Lev + 229.2593 Prof + 137.0280 FS.$$

The results of second model show that, after market risk and the interaction term are added, market risk has a significant positive effect on firm value ($\beta = 3.010$; $p = 0.0000$). The $IS \times MR$ interaction is negative and statistically significant ($\beta = -0.041$; $p = 0.0472$), indicating that market risk moderates the income smoothing–firm value relationship. Because the coefficient is negative, the marginal effect of income smoothing on firm value ($15.370 - 0.041MR$) declines as market risk increases, which is opposite to the hypothesized strengthening effect; thus, H3 is not supported. In this model, firm reputation is no longer significant ($p = 0.1811$), firm size remains significant ($p = 0.0000$), and leverage and profitability are not significant. The adjusted R^2 of 0.9871 and the F-test ($p = 0.0000$) indicate a good model fit. The Model 2 equation is as follows:

$$FV = 15.37048 IS + 0.01558 FR + 3.01037 MR - 0.041254 IS*MR + 0.363277 Lev + 5.352685 Prof + 71.81317 FS.$$

DISCUSSION

The Influence of Income Smoothing on Firm Value

Model 1 shows a negative and statistically significant coefficient for income smoothing. Because the sign matches the predicted direction and $p < 0.05$, H1 is supported. The result indicates that greater accrual-based smoothing is associated with lower firm value in the sample. Agency theory offers a plausible explanation: when discretionary accruals obscure underlying volatility, investors face greater information risk and may place less weight on reported earnings (Jensen & Meckling, 1976). The analysis identifies an association rather than directly observing investor beliefs, so the credibility interpretation should be read as theory-consistent rather than as a measured behavioral response.

The negative result is consistent with Abdullahi et al. (2023), Abogun et al. (2021), Dyusseminina et al. (2024), Fatmasari & Nurcahyono (2026), Ng & Chandra (2023), and Rahma & Lastanti (2023). Across these studies, opportunistic smoothing or earnings management reduces the transparency of underlying performance and is associated with a valuation discount. However, the finding differs from evidence of positive or conditional valuation effects for real earnings management (Putra & Zifi, 2022; Simamora et al., 2022) and from studies reporting no direct effect (Olanda & Marietza, 2024; Sinuraya & Mayangsari, 2024). The contrast is credible because accrual smoothing, real operating decisions, sample composition, and governance conditions capture different managerial actions and investor responses.

The Influence of Firm Reputation on Firm Value

In Model 1, firm reputation has a positive and statistically significant coefficient. The sign matches the prediction and $p < 0.05$, so H2 is supported for the direct-effects

specification. The result is consistent with the view that reputation supplies a credibility signal and can reduce the information disadvantage faced by outside investors. Because PER is the operational proxy, the coefficient specifically captures the market premium attached to earnings, not every stakeholder dimension of reputation. In Model 2, the coefficient remains positive but becomes statistically insignificant ($p = 0.1811$) after MR and $IS \times MR$ enter the model. This change indicates that the positive association is not robust to the moderated specification and may share explanatory variation with market conditions. The conclusion therefore emphasizes the supported Model 1 result while reporting the Model 2 qualification transparently.

The Model 1 finding aligns with Daromes et al. (2022) and Qonita et al. (2022), who show that reputation can support firm value by reducing uncertainty and strengthening stakeholder confidence. It is also consistent with Edi and Wati's (2022) evidence that PER captures a market-based dimension of reputation in Indonesian listed firms. Ellin & Wati (2023) and Oktavianus et al. (2022) further demonstrate that reputation is intertwined with financial performance and the quality of information available to investors. The loss of significance in Model 2 cautions against treating the direct effect as invariant: once market risk and the interaction are added, the unique contribution of the PER-based reputation proxy is no longer statistically distinguishable from zero.

Market Risk as a Moderating Variable in the Influence of Income Smoothing on Firm Value

Model 2 reports a negative and statistically significant $IS \times MR$ coefficient. The interaction confirms moderation, but its direction is opposite to the positive strengthening effect predicted in H3; H3 is not supported. The conditional slope of income smoothing is $15.370 - 0.041MR$, so each one-unit increase in MR reduces the estimated IS slope by 0.041 units. At sufficiently high MR values, the conditional association becomes more negative, meaning that volatility intensifies the valuation penalty attached to smoothing rather than making smooth earnings more reassuring. Agency theory is consistent with this pattern if uncertainty increases scrutiny of managerial discretion and investors demand a larger discount for information risk. Because the study does not directly measure scrutiny, risk perception, or investor beliefs, this explanation remains an interpretation of the coefficient rather than an observed mechanism.

The negative interaction differs from the positive moderating pattern reported by Abdullahi et al. (2023) and Abogun et al. (2021). It is closer to the Indonesian evidence of Rahma and Lastanti (2023), which does not support the predicted strengthening effect, and to the broader conclusion that uncertainty changes how the market evaluates intentional smoothing (Santos et al., 2024). In the present sample, the marginal coefficient of income smoothing becomes smaller as MR rises, so high volatility reduces rather than strengthens the estimated relationship. One possible interpretation is that market-wide uncertainty causes investors to rely less on apparently stable accounting earnings, but this mechanism was not measured directly and should be tested in future research.

CONCLUSION

This study examines income smoothing and firm reputation as determinants of firm value and tests market risk as a moderator using 1,216 firm-year observations from 335 non-financial companies listed on the IDX during 2018–2022. Model 1 shows that income smoothing has a significant negative association with firm value. Firm reputation has a significant positive association, although its coefficient becomes insignificant after the moderated terms enter Model 2. The $IS \times MR$ interaction is negative and significant. Market risk therefore moderates the relationship, but the direction is opposite to the

predicted strengthening effect. The evidence indicates that the valuation association of smoothed earnings is conditional on market volatility and that conclusions about reputation depend on the model specification.

The findings are consistent with agency theory: information asymmetry gives managers discretion over reported earnings, while investors can respond by discounting information they consider less credible. Managers should prioritize transparent reporting and explain genuine operating volatility rather than present mechanically stable earnings. Investors should assess the accrual basis of earnings together with market conditions, because the interaction shows that the valuation association changes with volatility. Regulators and audit committees can focus monitoring on large discretionary-accrual offsets during periods of elevated market risk. Boards should require management to document material accrual judgments, compare them with operating cash flows, and explain year-to-year changes to audit committees. Such governance can help distinguish economically justified estimates from discretionary adjustments that merely make the earnings path appear stable. The positive Model 1 reputation coefficient also suggests that credibility has economic value, although its loss of significance in Model 2 means that reputation should not be presented as uniformly protective. These implications concern reporting quality and interpretation; they do not establish that every instance of smoothing is fraudulent.

LIMITATION

This study has several limitations. First, the constructs rely on proxies: PER captures only a market-based dimension of firm reputation, the annual standard deviation of daily index closings captures market-wide volatility rather than firm-specific exposure, and the correlation-based income-smoothing index depends on the estimated discretionary-accrual model. Alternative measures may therefore produce different coefficients. Second, outlier treatment excludes 459 of 1,675 firm-year observations, or approximately 27% of the baseline data. Although this procedure limits the influence of extreme residuals, it may reduce representativeness and alter the composition of the unbalanced panel. Third, the five-year period covers only 2018–2022 and includes Indonesian non-financial companies, so the estimates may reflect country-specific institutions, pandemic-era conditions, and sector composition. Fourth, the models do not directly observe managerial intent, investor beliefs, audit quality, governance, ownership, or financial distress. The significant associations should consequently be interpreted as conditional archival evidence rather than proof that smoothing caused the reported changes in firm value.

Future research should compare correlation-based smoothing with alternative accrual and real-activity measures and should replace or supplement PER with reputation rankings, stakeholder surveys, media sentiment, or award-based indicators. Robustness tests could retain extreme observations through winsorization, use different residual thresholds, and report estimates before and after outlier treatment. A longer panel and cross-country design would help separate period-specific Indonesian conditions from more general market responses. Researchers could also calculate market risk from index returns rather than index levels and test firm-specific beta or idiosyncratic volatility. Governance, ownership, audit quality, and financial distress may explain why investors interpret smoothing differently across firms (Almubarak et al., 2023; Dyussembina et al., 2024; Fatmasari & Nurcahyono, 2026).

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DECLARATION OF CONFLICTING INTERESTS

The authors declare that there are no conflicts of interest regarding the research, authorship, and publication of this article.

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