Accounting conservatism across 2021–2025: Does firm size matter? Evidence from Indonesian food and beverage firms

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Abstract

Accounting conservatism is expected to rise with economic uncertainty, yet international evidence is mixed and Indonesian evidence is thin. This exploratory study examines whether the market-to-book value ratio (MTBV), a market-based indicator of conservatism, changed after 2021 among Indonesian food and beverage firms, and whether the change differed by firm size. The 2022–2025 period of geopolitical conflict, inflation, and monetary tightening serves as unmeasured context. The sample comprises 32 IDX-listed firms (160 firm-years), split at median total assets into 16 large and 16 small firms. Given strong right skew, Friedman tests with Holm-adjusted Durbin–Conover comparisons were applied within groups, and the group-by-year interaction was tested using firm-level changes and a mixed model of log MTBV. Large firms' median MTBV declined after 2021, bottomed in 2023–2024, and partly recovered by 2025 (moderate effect); 2021 differed from 2023–2025. Small firms showed no reliable change. The interaction was not significant across robustness checks. Lower MTBV literally implies lower conservatism, but MTBV conflates reporting prudence with price movements. Firm size is not shown to shape conservatism's response to uncertainty; conditional measures and a measured uncertainty variable are needed.

Keywords: accounting conservatism, market-to-book ratio, firm size, earnings quality, nonparametric tests

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Introduction

Between 2021 and 2025 firms operated under considerable macroeconomic uncertainty. Recovery from the pandemic was followed by the war in Ukraine, which disrupted energy and food supplies, and by inflation that led central banks to raise interest rates sharply. These conditions raised the risks that firms face from raw material prices, exchange rates, and demand. Keynes (1937) describes uncertainty as a condition in which the future cannot be predicted with confidence, and in which decision makers therefore act more cautiously.

Financial reporting is one place where caution becomes visible. Accounting conservatism is the tendency to require a higher degree of verification for recognizing good news than bad news (Basu, 1997). Two forms are distinguished. Conditional conservatism concerns the timely recognition of losses relative to gains, whereas unconditional conservatism arises from accounting rules that understate book value irrespective of news (Beaver & Ryan, 2005). Conservatism is usually explained by contracting, litigation, taxation, and regulation (Watts, 2003), and it is associated with greater information asymmetry between managers and outside investors (LaFond & Watts, 2008).

Whether uncertainty makes firms more or less conservative is an open empirical question, because the international evidence is mixed in sign. Bellikli and Daştan (2025) report higher conservatism when global economic policy uncertainty rises among BIST 100 firms in Turkey, whereas Kim and An (2025) find that higher policy uncertainty reduces conservatism in Korean firms, particularly financially distressed and non-manufacturing firms. Alkhalaileh et al. (2024) study Gulf Cooperation Council firms and find that corporate governance moderates the relation between policy uncertainty and conservatism. A study that expects firms to become more cautious under uncertainty therefore needs to state why, and to be explicit about the direction that its measure implies. To our knowledge, evidence on how conservatism evolved across the 2021–2025 period in Indonesian firms is thin.

Firm size is a second dimension. Larger firms face greater visibility, litigation exposure, and political scrutiny (Watts, 2003), which may make their reporting more responsive to changing conditions. Indonesian studies of size and conservatism disagree: Solichah and Fachrurrozie (2019) report a positive effect,

Wirawan (2024) reports no significant effect, and Prahasini Sekarwesma et al. (2025) report a negative effect. These studies relate the level of conservatism to size. They do not test whether size changes the way conservatism moves over time.

This study examines the food and beverage subsector of the Indonesia Stock Exchange (IDX), whose firms are exposed to commodity, exchange-rate, and supply-chain shocks. It addresses two research questions. RQ1: Did the MTBV-based conservatism of food and beverage firms change between 2021 and 2022–2025? RQ2: Did that change differ between large and small firms? The paper makes three contributions. First, it tests the size claim directly, through a group-by-year comparison, instead of contrasting the p-values of two separate within-group tests. Second, it reports Holm-adjusted pairwise results and effect sizes. Third, it documents the sample and the classification rule transparently.

Two limits are stated at the outset. MTBV is a price-based indicator of unconditional conservatism and not a measure of conditional conservatism, and uncertainty is represented only by the calendar structure of the period, not by an uncertainty index. The study therefore addresses whether the MTBV-based indicator changed and whether size mattered for that change. It does not identify uncertainty as the cause. The study is thus exploratory and descriptive: it documents the timing and size pattern of a market-based indicator and does not test a causal mechanism.

Literature review

No single theory yields an unambiguous prediction about how conservatism should move under uncertainty, and the predictions differ in sign. Four arguments are relevant.

First, a precautionary argument suggests that heightened uncertainty raises the value of cautious reporting. Conservatism limits overstatement of earnings and assets when future cash flows are harder to verify, and it supports debt and compensation contracts (Watts, 2003). Second, signaling theory (Spence, 1973) views financial statements as a means for better-informed managers to convey credible information. Conservatism can be seen as such a signal, and the demand for it should rise when information asymmetry rises (LaFond & Watts, 2008).

Khalil et al. (2020) argue, using Turkish firms, that weak investor protection and high information asymmetry raise the demand for conservative reporting. Signaling by itself does not specify how large the response should be or why it should vary with size, so it is treated here as reinforcing the information-asymmetry channel. Third, litigation and regulatory exposure, which are plausibly stronger for larger and more visible firms, increase the cost of overstating performance (Watts, 2003). Fourth, a countervailing argument holds that managers facing deteriorating conditions have incentives to avoid reporting losses, which would lower conservatism. Kim and An (2025) invoke weak institutional structures in this connection.

Conditional conservatism is typically measured through the asymmetric timeliness of earnings with respect to returns (Basu, 1997; Ryan, 2006). That measure has been criticized for bias (Dietrich et al., 2007; Ball et al., 2013; Badia et al., 2021). Dutta et al. (2024) distinguish the smoothing and asymmetric-timeliness roles of accruals, which bears on accrual-based measures. Firm-year alternatives include the C-Score (Khan & Watts, 2009) and accrual-based measures (Givoly & Hayn, 2000). Unconditional conservatism is commonly proxied by the market-to-book ratio, because understated book values raise market value relative to book value (Beaver & Ryan, 2000, 2005).

MTBV is a coarse proxy. It also reflects growth opportunities, risk, discount rates, intangible assets, and market sentiment, and Roychowdhury and Watts (2007) show that market-to-book and asymmetric timeliness capture conservatism over different horizons and are affected by other factors. These are the very factors that moved during 2021–2025. The sign convention used here is the standard one: ceteris paribus, a higher MTBV indicates stronger understatement of book value and therefore higher unconditional conservatism, and a ratio below one indicates that the market values the firm below its book value, so no unconditional buffer is visible. The analysis applies this rule consistently to the results.

The mixed international evidence implies that the sign of the relation is context-dependent: positive in Turkey (Bellikli & Daştan, 2025), negative in Korea (Kim & An, 2025), and conditional on governance in the Gulf Cooperation Council (Alkhalaileh et al., 2024). These studies use conditional measures and explicit

uncertainty indices, such as the policy uncertainty index of Baker et al. (2016). Indonesian studies argue that conservatism supports transparency and stakeholder trust during crises (Jusman & Lestari, 2024; Pulungan, 2025). The present design has neither a conditional measure nor an uncertainty index, so it cannot adjudicate between these results. It can, however, document the direction and timing of a market-based indicator through the period.

Watts (2003) attributes part of conservatism to litigation and regulation, which are plausibly greater for large firms. Empirical Indonesian evidence on size is mixed and concerns levels (Solichah & Fachrurrozie, 2019; Wirawan, 2024; Prahasini Sekarwesma et al., 2025). Yulianti et al. (2026) show that size moderates the relation between leverage and conservatism. No study cited here examines whether size alters the change in conservatism across years.

The precautionary, signaling, and litigation arguments imply that conservatism should be higher in the high-uncertainty years 2022–2025 than in the preceding recovery year 2021, and that the increase should be larger for large firms, whose litigation and regulatory exposure is greater. In MTBV terms, this predicts higher MTBV after 2021. The hypotheses are stated accordingly.

H_{1a}: MTBV-based conservatism of large food and beverage firms is higher in 2022–2025 than in 2021.

H_{1b}: MTBV-based conservatism of small food and beverage firms is higher in 2022–2025 than in 2021.

H_2: The increase in MTBV-based conservatism after 2021 is larger for large firms than for small firms.

H1a and H1b are supported only if the omnibus test is significant and the Holm-adjusted comparisons with 2021 are significant and positive. H2 is supported only if the group-by-year interaction is significant and the change is larger for large firms.

Research method

This study uses a quantitative comparative design. The population comprises the 59 firms in the food and beverage subsector of the IDX non-cyclical consumer sector during 2021–2025. Purposive sampling retained firms that (1) were listed in the subsector throughout 2021–2025, (2) published complete

annual reports and financial statements for all five years, and (3) reported positive equity throughout. Twenty-three firms were excluded for incomplete reports and four for negative equity, leaving 32 firms and a balanced panel of 160 firm-years. Incomplete reporting is most likely among recently listed or delisted firms, and negative-equity firms have the lowest book values. The sample is therefore tilted toward established, solvent firms, and the results should not be generalized to the whole subsector. The subsector is also heterogeneous. It includes plantation companies (for example AALI, LSIP, and SIMP), poultry and feed producers (for example CPIN, JPFA, and MAIN), and processed food and beverage manufacturers (for example ICBP and ROTI), whose valuations respond to different cycles.

Financial statements and annual reports were obtained from the IDX website (www.idx.co.id). Financial statements do not contain share prices.

MTBV is calculated as in Equations (1) and (2), following Beaver and Ryan (2000).

$$MTBV = \frac{Market\ price\ per\ share}{Book\ value\ per\ share} \quad (1)$$

$$Book\ value\ per\ share = \frac{Total\ equity}{Number\ of\ shares\ outstanding} \quad (2)$$

Ceteris paribus, a higher MTBV indicates higher unconditional conservatism, and a ratio below one indicates a market valuation below book value. MTBV does not measure the conditional timeliness of loss recognition defined by Basu (1997). Movements in MTBV are therefore described as changes in MTBV-based conservatism only with the proviso that MTBV also reflects growth, risk, discount rates, and market sentiment.

Firms were ranked by their average total assets over 2021–2025 and divided at the median of the 32 firm averages into 16 large and 16 small firms. Classification is fixed at the firm level, so the same firms appear in every year, as the repeated-measures design requires. The compiled total-assets series contain apparent unit inconsistencies, for example BWPT in 2024 (about ten times the neighbouring years) and SGRO in 2022–2025 (one-tenth to one-hundredth of its 2021 value), which distort the five-year average. As a sensitivity check, firms were therefore also classified by total assets in 2021, the base year, which is free of

these entries and places SGRO and ROTI, instead of STTP and TGKA, among the large firms (Table 4). Dichotomizing size discards information, and firms near the cut-off are close in size. The sensitivity check addresses this only partly.

Descriptive statistics report the mean, standard deviation, median, interquartile range, and range by group and year. MTBV is positively skewed (Table 1), and Shapiro–Wilk tests (Shapiro & Wilk, 1965) reject normality in every group-year cell. Rank-based methods are therefore used on a priori grounds, and the choice is not made on the outcome of a preliminary normality test. Within each group, the Friedman test (Friedman, 1937) compares the MTBV ranks of the same firms across the five years (Equation 3), where n is the number of firms, k the number of years, and R_j the rank sum of year j.

$$\chi_F{}^2 = \frac{12}{nk(k+1)} \sum_{j=1}^{k} R_j^2 - 3n(k+1) \tag{3}$$

Effect size is reported as Kendall's W (Kendall & Babington Smith, 1939), calculated as in Equation (4). Conventionally, W near .1 is small and near .3 is moderate. Pairwise differences between years were tested with the Durbin–Conover procedure (Conover, 1999), with two-sided p-values from a t distribution with (n − 1)(k − 1) degrees of freedom. Because ten comparisons are made in each group, p-values are adjusted by the Holm (1979) method, and unadjusted p-values are shown alongside.

$$W = \frac{\chi^2}{n(k-1)} \tag{4}$$

Two separate within-group tests cannot show that the groups differ. A significant result in one group and a non-significant result in the other is not itself evidence of a difference (Gelman & Stern, 2006). The size claim (H2) was therefore tested directly in two ways. First, for each firm the change in log MTBV was computed as the mean of 2022–2025 minus the 2021 value, and the changes of large and small firms were compared with a Mann–Whitney test (Mann & Whitney, 1947) and a permutation test of the difference in medians (20,000 permutations). Second, log MTBV was modelled with year, size group, and their interaction as fixed effects and a firm random intercept, and the interaction was tested with a likelihood-ratio test on 4 degrees of freedom. The analyses were run in Python (SciPy; Virtanen et al., 2020; statsmodels; Seabold & Perktold, 2010).

Inspection of the compiled data revealed values that call for caution. Seven firms (ANJT, DLTA, FISH, KEJU, LSIP, MAGP, MLBI) record an MTBV below 0.05 in at least one year, 30 firm-years in all. Such values are not plausible for operating listed firms and may reflect inconsistent units between share price and book value per share; for example, KEJU records 0.003 in 2021 and 3.05 in 2022, a ratio of about 1,000. In addition, the compiled series of two firms (CLEO and TGKA) coincide in four of five years, although their total assets differ. The study therefore reports the main results again after excluding the seven firms, after excluding CLEO, and after excluding the seven firms together with both CLEO and TGKA. The flagged values are treated as provisional. Until they are verified, the main analysis retains all compiled values and the results are also reported without the affected firms.

Results

Table 1 and Figure 1 present MTBV by group and year. In large firms, median MTBV declined from 0.851 in 2021 to 0.601 in 2023 and then rose to 0.836 in 2025. The median is below one in every year, and 64% of large-firm observations fall below one. In small firms, medians range between 1.026 and 1.378, around one, and 40% of observations fall below one. Means exceed medians in every year in both groups, and the minimum values show a small number of near-zero observations, so the distributions are right-skewed and heterogeneous. Under the sign convention adopted, the pattern in large firms points to lower, not higher, MTBV-based conservatism after 2021. In level terms, small firms also appear more conservative than large firms, which is opposite to the expectation that larger firms are generally more cautious.

Table 1. Descriptive statistics of MTBV by firm size and year

Group	Year	n	Mean	SD	Median	Q1–Q3	Min–Max
Large	2021	16	1.382	1.644	0.851	0.274–1.618	0.0008–5.631
	2022	16	1.257	1.524	0.695	0.229–1.341	0.0006–5.007
	2023	16	1.148	1.515	0.601	0.205–1.229	0.0005–5.625
	2024	16	1.414	2.384	0.672	0.185–1.524	0.0005–9.794
	2025	16	1.104	1.221	0.836	0.251–1.550	0.0006–4.837
Small	2021	16	3.460	6.923	1.228	0.559–3.582	0.0030–28.58
	2022	16	2.605	4.025	1.378	0.525–3.124	0.0031–16.32
	2023	16	2.140	2.915	1.026	0.551–2.508	0.0030–11.21
	2024	16	2.632	4.001	1.223	0.588–1.822	0.010–14.60
	2025	16	2.727	3.615	1.285	0.931–3.182	0.0021–14.36

Source: Authors' calculations from the firm-level dataset. SD = standard deviation; Q1–Q3 = interquartile range.

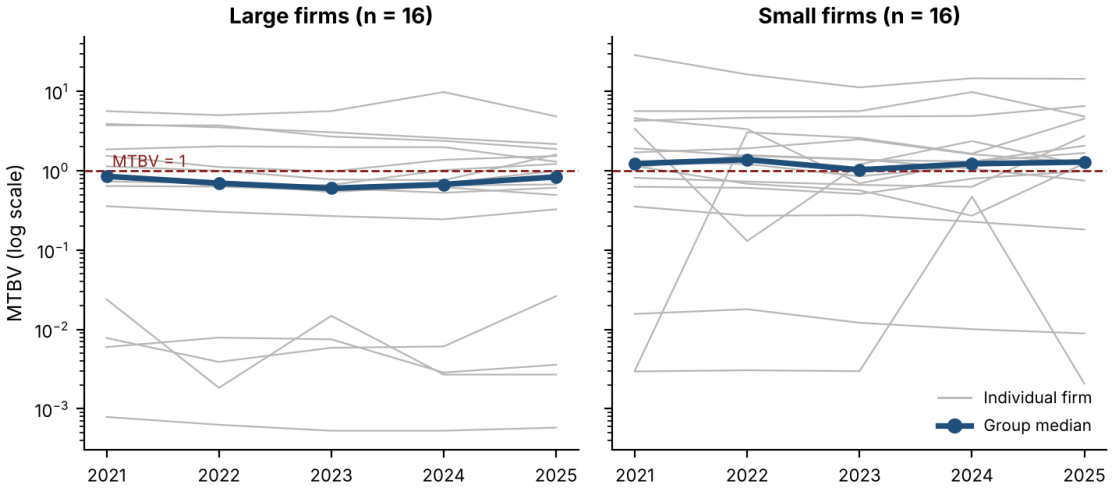


Figure 1. MTBV by firm and year, large and small firms (log scale)

Source: Authors' calculations from the firm-level dataset. The dashed line marks MTBV = 1.

Table 2 reports the Friedman tests. For large firms, the test shows a significant difference across years ($\chi^2(4) = 17.07$, $p = .002$), with a moderate effect ($W = 0.27$). For small firms, it does not ($\chi^2(4) = 5.05$, $p = .282$), and the effect is small ($W = 0.08$). With 16 firms per group, the test has limited power. The non-significant result for small firms is evidence of no reliable change in this sample, not evidence of stability.

Table 2. Friedman tests of MTBV across 2021–2025

Group	n	$\chi^2(4)$	p	Kendall's W	Mean ranks 2021 / 2022 / 2023 / 2024 / 2025
Large	16	17.07	.002	0.27	4.31 / 3.12 / 2.34 / 2.31 / 2.91
Small	16	5.05	.282	0.08	3.62 / 3.25 / 2.56 / 2.62 / 2.94

Source: Authors' calculations from the firm-level dataset. A higher mean rank indicates a higher MTBV.

Table 3 reports the pairwise comparisons. In large firms, three pairs remain significant after Holm adjustment: 2021 versus 2023 (adjusted p = .002), 2021 versus 2024 (p = .001), and 2021 versus 2025 (p = .047, close to the .05 threshold and to be read cautiously). The 2021 versus 2022 comparison (unadjusted p = .019) does not survive adjustment (p = .133). No comparison among 2022–2025 is significant. In every significant pair, MTBV in the later year is lower than in 2021. In small firms, no comparison is significant before or after adjustment; the smallest unadjusted p-value is p = .060. H1a and H1b are therefore not supported. For large firms the difference is significant but its direction is opposite to the hypothesis.

Table 3. Durbin–Conover pairwise comparisons with Holm adjustment

Pair of years	Large: t	Large: p	Large: p (Holm)	Small: t	Small: p	Small: p (Holm)
2021–2022	−2.41	.019	.133	−0.68	.501	1.000
2021–2023	−3.99	< .001	.002	−1.92	.060	.599
2021–2024	−4.06	< .001	.001	−1.80	.076	.685
2021–2025	−2.85	.006	.047	−1.24	.220	1.000
2022–2023	−1.59	.118	.627	−1.24	.220	1.000
2022–2024	−1.65	.104	.627	−1.13	.264	1.000
2022–2025	−0.44	.659	1.000	−0.56	.575	1.000
2023–2024	−0.06	.950	1.000	0.11	.911	1.000
2023–2025	1.14	.258	.932	0.68	.501	1.000
2024–2025	1.20	.233	.932	0.56	.575	1.000

Source: Authors' calculations from the firm-level dataset. t is signed as later year minus earlier year; a negative value means lower MTBV in the later year. Degrees of freedom = 60.

The decisive test of the size claim is the direct comparison of the two groups. The median change in log MTBV between 2021 and the 2022–2025 average is −0.176 for large firms and −0.064 for small firms, which correspond to median declines of about 16% and 6%. The difference between groups is not significant (Mann–Whitney U = 104, p = 0.376; permutation p = 0.261). The year-by-size interaction in the mixed model is also not significant (likelihood-ratio $\chi^2(4) = 3.82$, p = 0.431). H2 is therefore not supported. The contrast between a significant result for large firms (p = 0.002) and a non-significant result for small firms (p = 0.282) does not demonstrate that the groups differ, because the direct test finds no difference between them.

Table 4. Robustness of the within-group and group-by-year results

Specification	n (large / small)	Friedman χ^2, large (p)	Friedman χ^2, small (p)	Median Δ log MTBV (large / small)	Mann–Whitney p	Interaction LR $\chi^2(4)$ (p)
Baseline (average total assets)	16 / 16	17.07 (.002)	5.05 (.282)	−0.176 / −0.064	.376	3.82 (.431)
Size by 2021 total assets	16 / 16	19.79 (< .001)	4.85 (.303)	−0.176 / −0.064	.418	4.86 (.302)
Excluding seven firms with MTBV < 0.05	12 / 13	13.93 (.008)	7.08 (.132)	−0.153 / −0.163	.892	1.92 (.751)
Excluding CLEO	16 / 15	17.07 (.002)	5.87 (.209)	−0.176 / −0.163	.540	3.58 (.465)
Excluding seven firms, CLEO and TGKA	11 / 12	15.35 (.004)	8.13 (.087)	−0.164 / −0.188	1.000	2.12 (.714)

Source: Authors' calculations from the firm-level dataset. Δ log MTBV = mean of 2022–2025 minus 2021.

The conclusions are stable. Under every specification, large firms show a significant change across years and small firms do not, and the group-by-year interaction is never significant (interaction p-values range from 0.30 to 0.75). After excluding the seven firms with implausibly low MTBV, the large-firm effect remains (p = .008) and the median declines in the two groups become almost

equal (−0.153 and −0.163). Excluding those seven firms together with CLEO and TGKA, whose compiled series coincide, leaves the large-firm result ($p = .004$) and the absence of a group difference unchanged. These checks address data screening and the size rule. They do not address the proxy problem discussed below.

Discussion

The results can be summarized by direction, timing, and size. Median MTBV of large firms fell from 2021 to a trough in 2023–2024 and partly recovered by 2025, and the 2021 values differ from 2023, 2024, and 2025 after multiplicity adjustment. The effect is moderate ($W = 0.27$). Under the sign convention adopted, this is a decline in MTBV-based conservatism, so the precautionary expectation behind H1a is not supported, and the direction is the reverse of what it predicted. Small firms show no reliable change. The direct group comparison shows no evidence that the changes differ by size, so the claim that size shapes the adjustment is not supported.

The pattern should not be read as a managerial response to uncertainty. The significant differences lie between 2021 and later years, while the later years are not distinguishable from one another. A pattern in which conservatism tracks evolving uncertainty would predict differences between later years as conditions changed. A one-time shift after 2021 is at least equally consistent with a market-wide revaluation after the post-pandemic period, with changes in discount rates, or with commodity price cycles. Several sample firms are palm-oil plantation or agribusiness groups (for example AALI and ANJT), whose valuations may follow commodity cycles. These explanations are hypotheses, not findings. They cannot be separated here, because the data contain no price and book-value components, no uncertainty index, and no market-wide control.

The level of MTBV matters for interpretation. A median below one in large firms in every year means that the market valued the typical large firm below its book value. Under the sign convention, no unconditional conservatism buffer is visible in these firms, although a market valuation below book value can also reflect low expected profitability, asset impairment risk, or illiquidity. This does not fit the premise that larger firms are generally more cautious. It also reminds

the reader that MTBV measures the market's view of the firm as much as the firm's reporting policy.

Relation to prior work is limited by differences in measurement. Bellikli and Daştan (2025) and Kim and An (2025) reach opposite conclusions on the sign of the uncertainty effect using conditional measures and policy uncertainty indices, so the present results cannot confirm or contradict either. The fall in large-firm MTBV is directionally similar to the decline that Kim and An report, but a market-based level indicator and a conditional timeliness measure answer different questions. On size, the results do not corroborate the positive size effect of Solichah and Fachrurrozie (2019), but those authors study levels, not changes. The mixed size findings in Indonesia (Wirawan, 2024; Prahasini Sekarwesma et al., 2025) are compatible with the absence of a size difference in change found here. The evidence is consistent with the view of Roychowdhury and Watts (2007) and Dietrich et al. (2007) that market-to-book is an unreliable stand-alone measure of conservatism.

Several features of the design limit inference. With 16 firms per group, power is low, and the Friedman test for small firms may have been unable to detect a modest effect. The sample excludes 39% of the population for incomplete reports and four firms for negative equity, which favors established firms. The classification by size is dichotomous. The data screening shows that part of the dataset needs verification, although the main conclusions survive the exclusion of the affected firms. The reference year 2021 is a single baseline with no pre-pandemic years, so a post-2021 decline cannot be separated from the normalization of valuations after an unusual year. The subsector is also heterogeneous, mixing plantation, poultry and feed, and processed food firms, and its composition may drive part of the pattern. Finally, whether MTBV changed because prices or book values changed cannot be decided without the underlying components.

Conclusion

Median MTBV of large Indonesian food and beverage firms declined after 2021 and partly recovered by 2025, with Holm-adjusted differences between 2021 and each of 2023, 2024, and 2025, whereas small firms showed no reliable

change. Neither group showed the increase predicted by the precautionary view, and the direct group-by-year test found no evidence that firm size shapes the change; these conclusions held for an alternative size rule and two data-screening checks. Theoretically, the results do not support a simple precautionary account in which firms become more conservative when uncertainty rises, nor a size-dependent response. Given the mixed international evidence, the sign of the uncertainty–conservatism relation should be treated as context-dependent and tested with conditional measures. Practically, users of financial information should not read movements in MTBV during volatile periods as changes in reporting prudence without decomposing price and book-value effects, and regulators and analysts monitoring reporting quality need measures built on earnings and returns, not on valuation ratios alone.

The main limitations are the mismatch between MTBV and conditional conservatism, the absence of a measured uncertainty variable and of controls for growth, risk, leverage, and profitability, the small group size (16 firms each), selection in the sample, the dichotomous size rule, the single baseline year, the heterogeneity of the subsector, and the data issues identified during screening. Future research should estimate a Basu-type asymmetric timeliness model and the firm-year C-Score (Khan & Watts, 2009) for the same firms; relate conservatism to a measured uncertainty variable, such as the World Uncertainty Index (Ahir et al., 2022) or a policy uncertainty index (Baker et al., 2016), in a panel with firm fixed effects and market-wide controls; decompose MTBV changes into price and book-value components; compare food and beverage firms with non-food firms over the same period; and treat size as a continuous moderator.

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