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## The role of earnings quality and future returns: An illustrative simulation of rational decision model

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### ABSTRACT

This research explores earnings quality as a quality measurement of optimism and trust in future returns, where the highly sustainable business has driven up obedience and compliance as a sign of prudent and consistent accounting policy. Manipulation activity is a widely open chance for opportunistic motives, associated with low certainty as a handicap to estimate high accuracy future returns. All observations in the Indonesia-listed manufacturing companies occurred from 2010 to 2022; this causal research uses moderated regression with the dummy variable in testing hypotheses and robust checks. This purposive sampling research has 154 companies with an unbalanced panel; two testing models on equity and earnings are used as sensitivity testing of positive perception. The high-prospected firm pointed out the persistent willingness to implement positive earnings management with this high consistency accounting treatment, which has been transformed into no violation. A positive correlation exists between high earnings quality and future returns, including concentration on real earnings as symbolized by a rational decision model. High-quality accounting information is valid information in predicting the going concerned, linked up to anticipating the peach-lemon effect, where business growth and dividends are used as a signaling effect. This centralized one-platform of the financial reporting system and going private is aimed to minimize the chance of misleading information and anticipate the low-prospected. The highly prospective has high consistency accounting treatment and proper tax management as the validated sustainability indicator, and the rationality modeling is modified from the simplex-linear programming as simulative modeling concerning the Decision Tree and Bayes Theorems.

### 1. Introduction

As proven by some empirical research last decade, high-quality financial reporting has been a crucial prerequisite for investors to monitor and check the capability of management to reach better prospects. The decision usefulness of accounting information is meaningful information because of the high obedience to the regulation (i.e., González-Sánchez et al., 2023; Jian et al., 2023). Structural knowledge of real earnings has recognized that consistency and prudent accounting have connected constructively with the market price movement; inevitably, this adverse signal pointed to a low probability of reaching a highly sustainable business model (i.e., Rezaee and Tuo, 2019; Park et al., 2021). Ping (2016) accentuated that low accruals positively impact investor perceptions with no chance of abnormal returns as a dysfunctional function. Therefore, earnings quality exists as a high-accuracy guideline of optimism and confidence as a decisive standpoint in calculating the expected returns when the volatile movement of agency cost has been a destructive consequence of sustainable performance; subsequently, this pragmatic evidence is reinforced by Akbari et al. (2019), Uzezi (2022), Beardsley et al., (2023), and Al-Asfour and Abu Saleem (2023)), underlining the proper tax management has been prioritized for keeping on the investor's faith and belief.

The dividend is a "puzzle", reflecting a myopia perspective of

designing this payout policy as optimism of future growth opportunities (i.e., He et al., 2017; Alghazali et al., 2023; Sikalidis et al., 2023), Sidhu et al. (2023) found this payout policy measures the managerial capability of keeping on the business sustainability, particularly in anticipating the financial distress. The prominent role of the signaling effect is to smooth the unpredictable movement of market price, signifying the high risk; this research found a classic phenomenon of high-yielded dividend policy as a gap of research, where the annual average dividend payout ratio is higher than sales and earnings growth. In practice, the pattern of this payout policy has been explored in the Indonesia Capital Market, considering the magnificent performance as number 4 worldwide and the highest index growth in the Southeast Asia region area; accurately, the representative data distribution can be used to generalize the current circumstances of the signaling effect (see Appendix 1 Table 6). Concerning the manufacturing industry sector as an ultimate attractiveness in this capital market (see Appendix 1 Table 7), this sector had extraordinary growth during the Pandemic, representing an irrecusable occurrence. An annually detailed average comparison between the dividend payout and the business growth of sales and earnings is depicted in Fig. 1 below.

Fig. 1 points out that implementing the high-yielded dividend policy is aimed at smoothing the intensity of internal conflict and deducting the lower risk; Kato et al. (2002) underlined that this policy is an authentic

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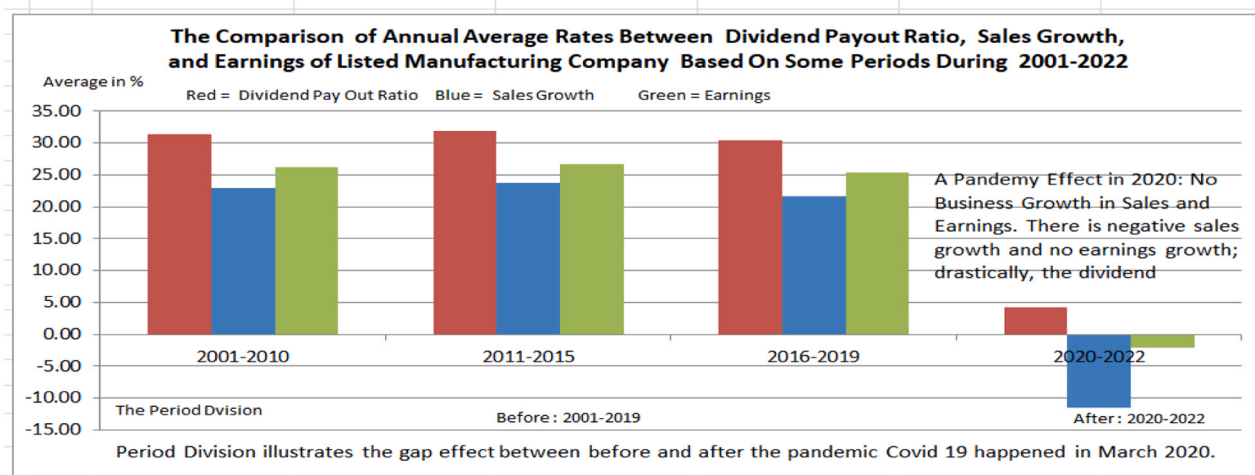


Fig. 1. The Implementation Of A High-Yielded Dividend Policy.  
 Note: Adopted from [IDX \(2021\)](#).

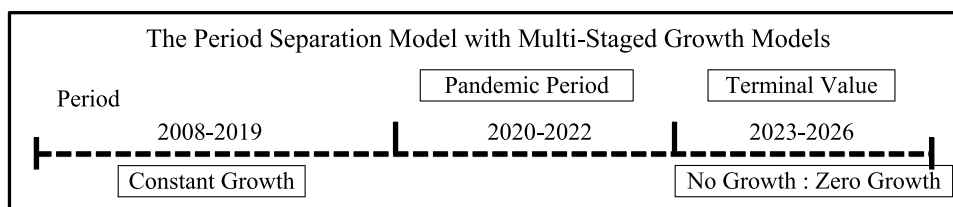


Fig. 2. Predicting the Future Price.  
 Source: To be compiled from [Damodaran \(2012\)](#).

sign of a highly sustainable business model. Then, [Baker and Powell \(2015\)](#) featured that the dividend positively contributes to the future firm value, and [Pathak and Ranajee \(2020\)](#) emphasized that this policy has correlated with earnings quality; this comparable relationship has been attested by [Chansarn and Chansarn \(2016\)](#) and [Deng et al. \(2017\)](#), underlining that the constructive snowball effect of the better prospect, where the low cost of capital is the compensation of initiating an inimitably incremental value.

The implementation manipulation activity has distorted the monitoring process of business sustainability ([Giordino, 2023](#)); this calculation method of real manipulation activity in this research is based on [Srivastava \(2019\)](#), developing a new proxy for an abnormal component of revenue change. [Gross et al. \(2023\)](#) and [Valaskova et al. \(2021\)](#) revealed that various models of negative earnings management related to anticipating economic turbulence are destructive signs of discretionary authority in designing the inconsistency accounting policy. [Li et al. \(2020\)](#) and [Duong \(2023\)](#) emphasized that accruals-based earnings management has been conducted to reduce the bankruptcy risk during an economic downturn; this benefit is to keep trust in debt financing (i.e., [Agustia et al., 2020](#); [Ntokozi et al., 2022](#)). Inevitably, the affiliation between earnings quality and firm performance has been confirmed by [Saleh et al., \(2020\)](#) and [Ma and Yoo \(2022\)](#), insinuating an existing obstacle to predicting future performance; [Islam et al. \(2022\)](#) stressed that earnings quality had been a predictive simulation of anticipating the peach-lemon effect, which [Akerlof \(1970\)](#) underlines.

Persistence in conducting high obedience is an indicator of none manipulation ([Kliestik et al., 2022](#)), [Herusetya et al. \(2023\)](#) emphasized that a low-prospected firm has a high probability of violating the accounting standards; [El Diri et al. \(2020\)](#) found that better prospect could be obtained because of low-concentrated market intensity when the firm has the proclivity to grab optimistically the higher earnings compared to the other market structures. Pragmatically, consistency and prudence

accounting treatment is an efficient contracting, which has confidently contributed to earnings quality; [Habib et al. \(2022\)](#) stress that the destructive consequences of manipulation activity implied high volatility, pronounced for over-undervalued. As the other quality measurement, tax management is used as a favorably validated indicator of tax exposure, whereas the aggressive tax accruals illustrated a low future certainty as a low-prospected firm; [Ryu and Chae \(2014\)](#) and [Delgado et al. \(2023\)](#) underlined the unfavorable perception of this tax regulation's violation, denoting to uncertainty future returns as a pessimistic signal. Consequently, quality financial reporting guarantees the investor to examine accurate firm valuation without misleading information.

Empirically, this research proves that the rational investor's decision to maximize the utility is a predictable consciousness of violation in designing the high-consistency accounting treatment accompanied by carrying out fair value measurement. High-quality financial reporting can illustrate high-predictable returns realistically, which makes a positive contribution to economic macro, particularly the high probability of full employment as a trickle-down effect of expanding the maximum economic-scaled production (i.e., [Eldomiaty and Chong Ju Choi, 2005](#); [Wang and Li, 2020](#)). From a new perspective, the monitoring of a high-low prospected firm has been a crucial decision directed to intercept the probability of suffering a total loss, 0which is measured by high or low tax compliance as proof of future certainty (i.e., [Jacob and Schütt, 2019](#); [Akbari et al., 2019](#); [Al-Asfour and Abu Saleem, 2023](#)).

Firstly, this research has tested this productively predicting future performance, connected to the unstably existing business survival. The persistent integrity characteristic of conducting the professional ethic code in illustrating high future certainty specifies a minimum manipulative accounting number (i.e., [Kliestik et al., 2022](#); [Efendi et al., 2023](#)) and no biased error of firm valuation (i.e., [Datta et al., 2013](#); [Lei and Gu, 2016](#); [Sanusi et al., 2023](#)); discernibly, [Chen and Wu \(2021\)](#) underlined that short-selling was a pessimistic response due to low-quality

accounting information. Secondly, this research has tested the powerful impact of dividend and sales growth on earnings quality as affirmative motives for implementing positive earnings management, which is used as these moderation variables in proofing the rationality of decision-making. The comprehensive illustration of mapping the reciprocally typical model between the investor and management has been the existence of game theory, where the probability of each party's decision can be estimated by using Bayes Theoremas (i.e., Franklin and Morris, 2002; Askari et al., 2019; Hutton and Stocken, 2021) and the prospect theory, which inspires belief and faith in positive future expectations as a two-way communication model (Kahneman and Thaler, 2006). As originality, this mapping with the Decision Tree has been combined with the artificial intelligence model, which is adopted conclusively the simplex-linear programming model as a portfolio optimization selection model based on Trippi and Lee Jae (1996) and Assad et al. (2023), linking up to the positive relationship between financial reporting and high-efficiency investment,

Therefore, this contribution stresses the regulator's primary responsibility supervising function, which is associated with trust in the capital market, implementing a punishment and reward model directed to a delisting procedure (Qiu and Zhang, 2022); this go-private is recommended for the low-prospected firm, which has suffered negative growth and equity. There is some strict regulation of anticipating the gap between tax-book accruals (i.e., Ryu and Chae, 2014; Kaidoński and Jewartowski, 2020); a centralized one-platform financial reporting service is aimed at assessing high-quality information as a protective public policy.

Finally, the structure of this research is detailed: the introduction consists of the gaps in research, the research problem, and its novelty, which is supported by the literature review, concerned with the theoretical illustration. The Research Method section explains the theoretical model as a grand theory and proposes hypotheses; the statistical testing in the Result section used moderated multiple regression with endogeneity testing, which stipulates an all-inclusive finding. The Discussion section highlighted the mapping of investor decisions and quality accounting information as the theoretical implication, and modified simulative prediction modeling is the practical implication; the last section presents the conclusion, recommendations, and limitations of this research as a wide-ranging illustration of maximizing future returns by implementing the novel portfolio-optimized model, including the appendix for showing the comprehensive illustration. This research has provided new insight into the simulative mapping model of the rational decision model, aiming to capture a better understanding of conducting positive earnings management as an affirmative sign of high future certainty and predictable future performance.

## 2. Literature review

The new paradigm in explaining the capital market's turbulence used the positive approach, commonly known as The Positive Accounting Theory, which points out the social and political cost of financial reporting, pushing on opportunity behavior and efficient contracting in calculating the real earnings. The unconstructive relationship between real earnings management and managerial bonuses, Moradi et al. (2015) revealed that management has a proclivity to improve future performance, which is aimed to signal the misleading guideline of future firm value; Haga et al. (2018) accentuated the unenthusiastic role of the social cost of opportunistic motives because of low earnings persistence and Jeong and Choi, (2019) associated with the volatile fluctuation of market price as a sign of future uncertainty. Referring to flexibility in designing the accounting policy, Barker et al. (2021) found an inconsistent approach in calculating the intangible asset based on IFRS; virtually, the "prudent" judgment and

high-consistency accounting judgment in minimizing the uncertainty level. Remarkably, the different perceptions of assessing the future cash flows, where the current expenses are used to generate future earnings, there is a need to separate the current expenses from investment activity. For anticipating the role of creative accounting practice, the conservative model was tested to have a positive impact on market price (Ha, 2023); the responsiveness of ensuring more accurate firm value and many perceptions of estimating going concerned business model, earnings quality is developed into insurable mindfulness of obedience and compliance (Gross et al., 2023). Mehrani et al. (2017), Ramalingegowda et al. (2021), Wilson et al. (2022) and Bukalska and Wawryszuk-misztal (2023) proved that institutional investors have high expectations of earnings quality as the pattern of the rational decision model in monitoring the highly prospective investment, which is the protective authority of guaranteeing expected future returns in the secured safe area. Hypothetically, the role of decision usefulness accounting information has been tested as an implication of Game Theory, which emphasizes that perseverance for the maximum returns gives confidence and faith in implementing positive earnings management as a functional role in fostering a positive expectation (Wang et al., 2021). Prospect Theory has emboldened the rationally perceived decision, stressing unethical opportunistic behavior; the future expectation can be constructed by high earnings persistence for anticipating the speculative motives as a meaningless investment decision.

Theoretically, earnings quality as a pattern of efficiency contracting has been developed as an optimistic guideline of high future certainty and "good prospect"; discretionary accruals and manipulation activity are the existing handicaps in monitoring business sustainability (i.e., Pompili and Tutino, 2019; Dempster and Oliver, 2019; Danning, 2023). Putatively, the positive signal illustrated a low probability of violation and the smooth movement of the market price; Nguyen et al. (2022), Efendi et al. (2023), and Gross et al. (2023) found a mutual relationship between high-consistency accounting treatment and rational investment decisions as proof of persistent integrity characteristics for conducting the ethics code professionally, this similar result has reinforced Salehi et al. (2017) with underlining the vital role of high transparency and accountability in minimizing distorted information. Persistence personality in minimizing the widely open chance for manipulation activity is recognized as high obedience to accounting standards as a constructive sign of high earnings quality associated with business sustainability (i.e., Dang and Pham, 2022; Nguyen, 2022; Durana et al., 2022; Fonou Dombeu and Namlala, 2023); therefore, the first hypothesis is proposed as follows.

**H1.** : Manipulation Activity Quality positively influences the Future Market Value.

Tax compliance indicates the low probability of tax investigation as a quality measurement with zero tolerance for any violation (i.e., Lee, 2016; Idris et al., 2022; Durana et al., 2022). The institutional investor is highly conscientious about unpredictably and improperly in designing tax policy, which harmfully perceives opportunistic accruals and volatile agency costs (i.e., Mehrani et al., 2017; Garel et al., 2021; Sakaki et al., 2021). Tax management played a critical role in illustrating real firm value; Osegbue et al. (2018) and Liu and Lee (2019) underlined the unconstructive impact of inconsistency on future value. Miiller and Martinez (2016) and Yorke et al. (2016) underline that the chance of tax-book accruals is wide open, which has an uncomplimentary consequence of tax violation; all stakeholder has an interest in producing high-quality financial reporting as a trustable signal of smooth movement market price. Beardsley et al. (2023) pointed out that tax-related earnings management was confirmed to control a negative "risk effect"; Akbari et al. (2019) demonstrated that the effect of income smoothing and earnings quality on the relationship between tax

avoidance and firm value implying the usefulness of knowledge management for improving the high-quality accounting procedure (Elsayed, 2023). For crucial alertness of subsequent effect, Salehi and Salimi (2017) and Uzezi (2022) elucidated that the foremost prerequisite of proper tax management has stimulated positive expectation, mitigating the probability of tax exposure. Jacob and Schütt (2019) pronounced a two-way traffic connection model between tax avoidance and future certainty; Delgado et al. (2023) found an accepted counter-reaction between tax management and opportunistic motives, where aggressive tax accruals have been evidenced to have a detrimental effect on sustainability business model. A progressive association between tax compliance and future value has optimally generated confidence about expected future returns, illustrating the unethical choice of tax avoidance and tax non-compliance judgment; Al-Asfour and Abu Saleem (2023) have attested that normative ethical tax decision creates a high-trust culture of supervising and monitoring the highly prospective; hence, the second hypothesis is developed as follows,

**H2.** : Tax Management positively influences the Future Market Value.

As a dynamically shifting paradigm in this manufacturing industrial sector, Mealy and Teytelboym (2022) have revealed that total concentration on green capabilities has triggered the management to transform into a green industrial policy as a comparative advantage; this change in industrialization concept has bonded to the economic complexity as a well-verified parameter of the better prospect of business chance. Tentatively, the principal prerequisite of financing the green process as an innovative and risky decision is to need investment funding with a low cost of capital to form a stringent environmental public policy. Simplicity, the dividend is ascertained to foresee the expected future returns (i.e., Kato et al., 2002; Taleb, 2012), which had a discouraging motive of opportunistic motive, which is narrated to high earnings quality (i.e., Chansarn and Chansarn, 2016; He et al., 2017; Deng et al., 2017; Pathak and Ranajee, 2020). Alghazali et al. (2023) and Sikalidis et al. (2023) found that managerial myopia is aimed at smoothing the intensity of the internal conflict in determining the favorable payout ratio; optimism of a better prospect encourages publishing high-quality financial reporting (Min et al., 2023). Implicitly, dividend policy is used as a moderating variable for positive perception; the third hypothesis has been formulated as follows,

**H3.** : Dividend has strengthened the positive impact of Manipulation Activity Quality and Tax Management on the Future Market Value.

Business sustainability has been established by trust and confidence in creating an innovative economic and market value-added as a good sign of better prospects. Salehi et al. (2017) emphasized that low business risk is crucial for achieving high future certainty when high transparency and accountability correlate constructively with the expected future return. As a positive sign of expectation of future performance, high business growth has been identified by sales growth; Wang et al., (2021) and Duong (2023) accentuated that the decline of sales has put pressure on management to run the negative earnings management, particularly during the economic recession. Naturally, the market attention concentrated on green products as a new trend during the last decade, exposing a new business opportunity to create a new market share and segmented target customers (Mealy and Teytelboym, 2022). A profound awareness of this kind of product in the future will encourage management to drive up obedience and compliance, and then sales growth as a moderating variable will be used to test the impact of sales growth on quality financial reporting as a confirmed signal of high future certainty. Presumably, wider market share, higher sales growth, and handling a breakthrough into niche market have tested to have the powerful stimulus to carry out earnings quality; Datta et al. (2013) proved the competence of forming the low concentrated intensity in

oligopolistic stimulate for illustrating real earnings, whereas Lei and Gu (2016) accentuated on a high probability of extraordinary business growth in non-competitive market structure. Formulating the precise pricing strategy and over-utilized economics scale is an incrementally added value that generates optimism about better future performance (Dmitrovi and Suljovi, 2017), involving trust and self-assurance in constructing the high consistent accounting policy (Sanusi et al., 2023). Unquestionably, a green economy has an alluring prospect; Islam et al. (2022) underlined that this flexible financing is symbolic of faith and belief in achieving low risk; the fourth hypothesis has been formulated as follows,

**H4.** : Sales growth has strengthened the positive impact of Manipulation Activity Quality and Tax Management on the Future Market Value.

Earnings quality measures the importance of belief, faith, and confidence in business sustainability; Michalkova et al. (2022) emphasized the positive relationship between the firm life cycle and earnings quality associated with financing the innovative business going concerned model. Chen and Wu (2021) and Sanusi et al. (2023) validated that well-known adaptiveness learning knowledge to detect dysfunctional behavior is a meaningful outcome of alleviating the risk of negative earnings management, underlining some causal conditions.

1. Short selling is taken when the quality of financial reporting is low.
2. The buy action is done when the quality of financial reporting is high.

Explicitly, the existence of game theory has been verified; then, this model has developed into simplex-linear programming with a maximum approach as a quantitative analysis tool for predictive simulation modeling of mapping the reciprocal association between quality financial information and investment decisions. This portfolio-optimized model as an advanced analysis is based on Trippi and Lee Jae (1996) and reinforced by Assad et al. (2023), insinuating the linkage between quality financial reporting and investment returns; obedience and compliance are high-accuracy measurements of obtaining a positive signal of high future certainty (Ha, 2023), whereas the predictive mapping with Bayesian formula model can underline the concrete discernment of illustrating real future earnings (Akbari et al., 2019).

In expanding the broader viewpoint of real earnings management, there are two independent variables as a proxy of obedience and compliance for capturing the positive perception, which has a constructive impact on high future certainty; the expected returns are estimated by future market value as a new measurement of estimated market price in calculating the highly sustainable business performance based on this modified multi-staged growth H model as the most accuracy firm value method (Damodaran, 2012), which focused on the dividend policy and business growth. Two testing models have treated the future market value as a dependent variable as sensitivity analysis testing, which elucidates the role of equity and earnings, concerned with different viewpoints of monitoring the actual performance based on equity as an indicator of balance sheet and earnings as a part of profit loss (i.e., Bushman et al., 2016; Barker et al., 2021). As an accomplishment of the signaling effect, dividend and sales growth as high-cogency indicators of business growth are used as the moderating variables for testing the positive impact of high-quality financial reporting on future performance. Statistically, some control variables are used to level up the low correlation because of using the residual error in the regression formula (i.e., Perotti and Wagenhofer, 2014; Pompili and Tutino, 2019; Idris et al., 2022). This dummy variable with ordinal data captures the positive perception of proper tax management as critical in distinguishing the high-prospected one; pragmatically, indicating the detrimental influence of aggressive tax accruals.



Meticulously, high tax compliance has to be assumed to achieve positive firm value growth (i.e., Akbari et al., 2019; Al-Asfour and Abu Saleem, 2023; Delgado et al., 2023).

### 3. Research methods

This quantitative research has secondary data, which were collected during 2010–2022 using the database of Indonesia Market Capital Directory, the Indonesia Stock Exchange, and Yahoo Finance. This manufacturing industry sector has been an object of research because of unique items in the financial reporting, like inventory and COGS, when these variables are needed to calculate the manipulation activity. The advantage of this sector is the most reliable and comprehensive data compared to the other sectors. This causal statistic testing has used purposive sampling in filtering the valid samples, which focused on implementing the dividend policy and positive growth periodically as a positive sign of high prospective. (Sekaran and Bougie, 2016). The sample of listed companies in the manufacturing sector amounted to 154; the total observation was about 457. An obstacle in this data sampling is high-level rejected observation data, which amounted to 176 missing data; it can be interpreted that 38,51% failed in running the statistics testing. All variables were measured as ratios, where the strength of the data was absolute, highly reliable, and in relative size; this kind of data had measurable indicators.

A new measurement has been modified as a proxy for predicting market price by assuming no growth to anticipate the worldwide economic recession's effect. Zero growth is to anticipate the Pandemic's effect based on Fig. 1; there is a simultaneously destructive effect of the global economic recession. This constant growth is an adjustable treatment model for the previous year, the period can be detailed, below.

Firstly, the estimation of the dividend period of 2015–2021 is to calculate a future price based on the H Model with two stages of growth, which can be formulated as below:

$$\text{Dividends } t = \frac{\text{Div}t+1}{(1+gk)^t}$$

Note:

- a) Dividend  $t$  is a calculation of present value with growth rate, which was the total amount of dividend per share in the annual financing reporting.
- b)  $g_k$  = average growth has been done during the last five years.

Secondly, the composition of market returns has these assumptions as follow,

- 1. There are no dividend and price changes during 2020–2026; this assumption concerns no growth until 2026.
- 2. The future market price was the total between Div and Price in the same period (Damodaran, 2012), where Estimated Price  $t$  = Yield Gain  $t$  + Capital Gain  $t$ .

$$\text{Estimated Price } t = \frac{\text{Div}t+1}{(1+k1)^1} + \frac{\text{Div}t+2}{(1+k2)^2} + \frac{\text{Div}t+3}{(1+k3)^3} + \frac{\text{Div}t+4}{(1+k4)^4} + \frac{\text{Div}t+5}{(1+k5)^5} + \frac{\text{Price } t+5}{(1+k5)^5}$$

which  $k_1, k_2, k_3$ , and  $k_4$  are the estimators for predicting the future based on the previous performance, including the annual average of the risk and growth.

Thirdly, the tracking signal indicates a high-accuracy predictive model with a narrowly limited tolerance area in  $-2 < TS < 2.5$ . adapted from Heizer et al. (2017) This formula can be arranged as follows.

$$\text{Tracking Signal(TS)} = \frac{\text{Round Square Forecast Error}}{\text{Mean Average Deviation}}$$

Future Market Value (FMV).

The two models of testing the independent variable are proposed to

test the impact of earnings quality on assets and earnings. as follows (i. e., Bushman et al., 2016; Ha, 2023).

- 1. FMV on equity measures how an investor has the affirmative perception of the high utilization regarding calculating the idle capacity and efficiency rate, which is the development of the yield book instrument model in investment value (Homer et al., 2013). The formula concerned with the pattern of earnings management of asset management, reflecting the high consistency and prudent accounting policy with no violation of accounting standards (Barker et al., 2021), which is arranged as follows:

$$\text{FMV on Equity} = \frac{\text{Equity period}t + 1}{\text{Estimated Market Price } t + 1}$$

- 2. FMV on earnings is a new measurement of the estimated sustainability performance in determining the highly favored marketable level, developed by Wilcox (2007) and then modified by Abraham et al. (2017) through the adjusted earnings yield in the following period. The formulas concerned with earnings persistence, correlated to a highly sustainable business model used for measuring the high consistency judgment in calculating actual future performance, can be arranged as follows:

$$\text{FMV on Earnings} = \frac{\text{Earnings Per Share} \text{ period}t + 1}{\text{Estimated Market Price } t + 1}$$

#### 3.1. Manipulation activity quality

This proxy of manipulation activity has fourth proxies, as follows: (i. e., Jeong and Sohn, 2013; Kothari et al., 2016).

First Proxy: Abnormal Cash Flow Operational $_{j,t} = \delta 0 + \delta 1 (1/Asset_{j,t-1}) + \delta 2 (1/Asset_{j,t-2}) + \delta 3 (Sales_{j,t} / Asset_{j,t-1}) + \delta 4 (\Delta Sales_{j,t} / Asset_{j,t-1}) + \epsilon_{j,t}$  (1)

Second Proxy: Discretionary Expenses $_{j,t} = \psi 0 + \psi 1 (1/Asset_{j,t-1}) + \psi 2 (1/Asset_{j,t-2}) + \psi 3 (Sales_{j,t} / Asset_{j,t-1}) + \epsilon_{j,t}$  (2)

Third Proxy: Abnormal Production Expenses $_{j,t} = \mu 0 + \mu 1 (1/Asset_{j,t-1}) + \mu 2 (1/Asset_{j,t-2}) + \mu 3 (Sales_{j,t} / Asset_{j,t-1}) + \mu 4 (\Delta Sales_{j,t} / Asset_{j,t-1}) + \epsilon_{j,t}$  (3)

Fourth Proxy: Abnormal Component $_{j,t}$  adopted from Srivastava (2019) =  $\beta 1 + \beta 2 \text{ Revenue Change }_{(j,t-1)} + \beta 3 \text{ Revenue }_{(j,t-1)} + \beta 4 \text{ Revenue }_{(j,t-2)} + \epsilon_{(j,t)}$  (4)

Finally, all proxies have been converted into.

$$\text{Manipulation Activity Quality} = [ \epsilon_{j,t} (\text{Abnormal CFO }_{j,t}) + \epsilon_{j,t} (\text{Discretionary Expenses }_{j,t}) + \epsilon_{j,t} (\text{Abnormal Component }_{j,t}) - \epsilon_{j,t} (\text{Abnormal Production Expenses }_{j,t}) ] \times -1$$
 (5)

#### 3.2. Tax Management

Discretionary tax accruals are the measurement of high tax compliance in designing the proper tax management with no infringement on tax regulation, concerning Báez-Díaz and Alam (2012) and Choudhary et al. (2016); this model is proposed as follows:

First: Taxable Income $_{j,t} = \text{Commercial Earnings }_{j,t} + (\text{Positive or Negative Fiscal Correction }_{j,t})$  (6)

Second: Total Tax Accruals $_{j,t} = \alpha 1 + \lambda 11 (\text{Corporate Tax})_{j,t} + \lambda 12 (\text{Tax Liability})_{j,t} + \lambda 13 (\text{Earnings Growth})_{j,t} + \lambda 14 (\text{Taxable Income})_{j,t} + \epsilon_{j,t}$  (7)

Note:  $\lambda_0; \lambda_{11}; \lambda_{12}; \lambda_{13}; \lambda_{14} > 0$ , then Tax Management  $t = \epsilon_{j,t}$  [absolute error value on Equation (7)]  $\times -1$ .

The categorization of the low-tax exposure as a proxy of high compliance with the dummy variable is determined by the mean of discretionary tax accruals quality, which is higher than the average. Proper tax management has been acknowledged as a high-prospected

firm, leading to consistency in carrying out tax regulation; thus, low compliance is associated with an opportunity motive as a sign of violation and aggressive tax accruals.

### 3.3. These Moderating Variables

The dividend is considered a moderating variable due to the high obedience and compliance (i.e., [Nekhili et al., 2016](#); [Barros et al., 2023](#); [Min et al., 2023](#)), which is the total dividend during one period; the formula can be expressed as follows:

$$\text{Dividend Per Share } t = \frac{\text{Dividend}(t)}{\text{Earnings per Share}(t-1)}$$

Sales Growth is a proxy of illustrating this existing business survival; [Datta et al. \(2013\)](#) and [Sanusi et al. \(2023\)](#) stated that business growth has a positive impact on obedience and compliance, where the expanded business activity has essentially required the low cost of capital financing; green industrialization has created an absolute comparative advantage as incomparable strength ([Mealy and Teytelboym, 2022](#)). The formula can be arranged:

$$\text{Sales Growth } t = \frac{(\text{Sales } t - \text{Sales } t-1)}{\text{Sales } (t-1)}$$

### 3.4. These Control Variables

[Siekelova et al. \(2020\)](#) stressed the positive impact of the total asset on earnings quality, which is measured by size. Assuming the enormous total asset is a thoughtful attentiveness of earnings quality relating to public trust in the concerned business model, this positive earnings management has focused on business growth, covering up the attention on positive asset growth (i.e., [Wang et al., 2021](#); [Valaskova et al., 2021](#)); this formula can be arranged:

$$\text{Sizet} = \text{Log Natural}(\text{Book Value}(t))$$

[Ping \(2016\)](#), [Gorji et al. \(2023\)](#), and [Fonou Dombeu and Nomlala \(2023\)](#) stated that risk is associated with a chance of abnormal accruals; this continuously devastating impact intimated future uncertainty in estimating the real firm value as verification of incompetence in reaching the expected business growth; this formula can be arranged:

**Table 1**  
The descriptive testing.

No	Description	N	Minimum	Maximum	Mean	Std.Deviation
1	FMV On Equity	281	0.105	0.510	0.350	0.512
2	FMV On Earnings	281	0.121	0.950	0.375	0.480
3	Manipulation Activity Quality	281	-2.943	2.041	1.387	1.471
4	Discretionary Tax Accruals Quality	281	-1.144	1.356	0.634	0.859
5	Dividend Pay-Out Ratio	281	0.030	0.500	0.276	0.136
6	Total Asset (in thousands)	281	476,149	1,447,865	859,497	563,617
7a	High Tax Exposure	154	-1.144	0.851	0.439	1.027
7b	Low Tax Exposure	127	0.023	1.356	1.274	0.842
8	The Growth of Sales	281	-3.238	0.720	0.296	0.036
9	The Risk (beta)	281	0.000	1.010	0.458	0.201
10	Return OnAsset (ROA)	281	0.015	0.973	0.581	0.482

Note: std deviation= Standard Deviation Source: Secondary Data All data is defined in ratio, except the total asset in nominal –Indonesia Rupiah (IDR) Total observation has been divided by high and low tax compliance for 7a and b.

$$\text{Debt to Equity Ratio} = \frac{\text{Debt Short Term}(t) + \text{Debt Long Term}(t)}{\text{Equity}(t)}$$

For measuring profitability, ROA is used as an acceptable indicator of achieving high sustainability business performance, considering the income smoothing; this formula can be expressed as follows (i.e., [Lei and Gu, 2016](#); [Suresh and Pooja, 2020](#); [Giordino, 2023](#)):

$$\text{Return On Assets(ROA)}t = \frac{\text{Net Income Period } t}{\text{Total Asset Period } t}$$

## 4. Results

The outlier testing used standardized Z value, where the strictly limited area ranged from  $-1.5 > Z \text{ Score} > 1.5$  ([Gujarati, 2011](#)); all total observations amounted to 2.044, and there are 457 samples based on the specifically determined criteria. Finally, the valid observation was 281 samples (see Appendix II). This research provides descriptive testing, as shown below.

[Table 1](#) shows many variations are an indicator of abnormality and heterogeneity; theoretically, this highly dispersed distribution data strengthened [Lebert \(2019\)](#); [Martínez-Ferrero et al. \(2016\)](#) and [Nguyen et al. \(2022\)](#) found this opportunistic motive of releasing the meaningless disclosure is this concrete handicap. Both the cross-section and time-series data in the unbalanced composition are the most efficient econometric model, the testing data panel can be presented below, (i.e.,

**Table 2**  
The Characteristics of data panel.

The Phase-in Testing Model	FMV on Equity First Model	FMV on Earnings Second Model
Chow Testing	p value= 0.082 (>0,05) Accepted Common Effect Model	p value= 0.075 (>0,05) H <sub>0</sub> Rejected Fixed Effect Model
Hausman Testing	Not Done	p value= 0.009 (<0.05) H <sub>0</sub> Rejected Fixed Effect Model
Lagrange Multiplier Testing	Prob. Breusch-Pagan= 0.082 (>0.05) H <sub>0</sub> Rejected Random Effect Model	Not Done

Source: Secondary Data, compiled from file output Eviews

Hair et al., 2010; Suresh and Pooja, 2020).

Table 2 illustrates that the random and fixed effect model in both models is interrelated to the irregularity pattern of earnings management; Khuong et al. (2022) underlined that various manipulation activity quality and tax management are interconnected to the proficiency of keeping on the unpredictable existing business model, where supported by Mirza and Campus (2022) and Wang et al. (2023). Consequently, the uniqueness constant coefficient is stated as a pointless indicator, the results model can be detailed as follows:

Table 3 pointed out that F calculated > F Table as a significance indicates that the independent partially affect the dependent variables, which can be interpreted as follows:

1. The testing of manipulation activity quality on both models has a significant level and positive coefficient, and then the H1 is accepted.
2. The testing of tax management on both models has a significant level and positive coefficient, and then the H2 is accepted
3. In testing the moderation between dividend policy with manipulation activity quality on both models has a significant level and positive coefficient; then, the H3 is accepted and considered as a quasi-moderator, where this moderating variable has the predictor independently. Meanwhile, testing of tax management with moderation dividend policy on both models has an insignificant level; then, the H3 is rejected. Both refer to insignificant and negative coefficient regression.
4. In testing moderation between sales growth with manipulation activity on both models has a significant level, and then H4 is accepted; a similar result has been in the testing of tax management with moderation sales growth on both models. Realistically, this moderating variable can be stated as a quasi-moderator, which has been treated as a high-legitimacy predictor independently for two testing models.

Both control variables, Size, and ROA, play a significantly constructive impact on future market value as a measurement of positive perception, where the high business growth instruments have initiated the positive future expectation as a “trustworthy signal”. The progressive future expected returns have denoted the high business existence, where the favorable investment returns as the most auspicious decision

are guaranteed as the attractiveness of a high-prospect and sustainable business model, interconnected to a high-accuracy measurement of safely secured investment decisions. The adverse influence of Risk as a control variable has a significant impact on future returns because of a high probability of smooth fluctuations of market price and no probability of tax investigation; the implication is to obtain the low cost of capital as an absolute advantage of low Risk in illustrating the better prospect and going concerned. The high probability of future certainty and predictability has illustrated the rational decision model of anticipating dysfunctional behavior, which is concerned with maximizing each party’s utility.

The dummy variable depicted that a positive coefficient in low tax exposure reveals the high earnings quality as the well-concerned business model; the role of high tax compliance and firm value has a high validity factor in predicting a highly sustainable business concern. Based on descriptive testing in Table 1, proper tax management was distinctly a less dominant proportion, which has been the most favorable choice. The negative one in high tax exposure signifies this low earnings quality, potentially illustrating the presumable fallacy of keeping sustainable business growth as a pessimistic prospect.

This endogeneity testing used the Cragg-Donald F-statistic, which is more than ten as a minimum threshold value in a meeting of 10 as a principal requirement of the exogeneity test. The Hansen J-statistic (over-identified test) illustrated that this insignificant testing illustrates statistically that the exogenous variables have high validity and relevance (Hill et al., 2021). Explicitly, the endogeneity has been tested for presence in this model, and 2SLS estimation has been used to minimize biased error (Eckert and Hohberger, 2022). Therefore, this robust checking can be presented as follows.

Table 4 points out the predictive model, which can be presented, as follows.

First Model:

$$FMV \text{ On Equity} = -0.002 + 0.126 MAQ + 0.144 (MAQ \times Div) + 0.187 (MAQ \times Growth) + 0.103 DTAQ + 0.278 DIV + 0.346 (DTAQ \times Growth) + 0.031 Size + 0.042 Growth - 0.271 Risk + 0.147 ROA - 0.012 High + 0.137 Low \tag{8}$$

Second Model:

Table 3  
Coefficient Values.

Independent Variables Description	FMV on Equity			FMV on Earnings		
	Coefficient	H	Sig (*)	Coefficient	H	Sig (*)
Variables Constant	-0.005		0.467	-0.121		0.189
Dependent Variable						
1. Manipulation Activity Quality (MAQ)	0.102	Accepted	0.021	0.117	Accepted	0.033
2. MAQ X DIV	0.157	Accepted	0.018	0.149	Accepted	0.019
3. MAQ X Growth	0.172	Accepted	0.013	0.187	Accepted	0.027
4. Discretionary Tax Accruals Quality (DTAQ)	0.060	Accepted	0.039	0.142	Accepted	0.027
5. Dividend Pay Out (DIV)	0.107		0.006	0.336		0.001
6. DTAQ X DIV	-0.137	Rejected	0.087	-0.331	Rejected	0.059
7 DTAQ X Growth	0.182	Accepted	0.047	0.274	Accepted	0.042
Control Variable						
8. Log Total Asset (Size)	0.006	Significant	0.014	0.027	Significant	0.011
9. Sales Growth (Growth)	0.027	Significant	0.007	0.021	Significant	0.003
10. Risk	-0.129	Significant	0.001	-0.243	Significant	0.016
11. Return On Asset (ROA)	0.147	Significant	0.003	0.281	Significant	0.002
Dummy Variable						
12a. High Tax Exposure	-0.007	Significant	0.032	-0.013	Significant	0.042
12b. Low Tax Exposure	0.108	Significant	0.026	0.143	Significant	0.021
a. Anova F test	4.123 (> F, 0.271)			4.399 (> F, 0.271)		
b. Sig	0.000 (< 0.05)			0.000 (< 0.05)		
c. Adjusted R Square	0.109			0.118		
d. R Square	0.236			0.28		
e. Durbin Watson	2.014 (1.845 < X < 2.154)			1.926 (1.845 < X < 2.154)		

Source: Secondary Data Sig (\*)=Sig One Tail T.DIST(5%,281,TRUE)= 0.519 F.INV(5%,6281) = 0.271

**Table 4**  
The endogeneity testing.

The Testing of 2SLS with T-white	FMV on Equity		FMV on Earnings	
	Coefficient	t testing	Coefficient	t testing
Description				
Variables Constant	-0.002	-1493 *	-0.007	-0.924 *
Dependent Variable				
1. Manipulation Activity Quality (MAQ)	0.126	4.838 ***	0.138	5.214 ***
2. Moderation: MAQ X DIV	0.144	6.073 **	0.168	6.451 **
3. Moderation: MAQ X Growth	0.187	6.842 **	0.191	7.056 **
3. Tax Management (DTAQ)	0.104	4.492 ***	0.182	6.836 ***
4. Dividend Pay Out (DIV)	0.278	5.894 **	0.312	7.573 **
5. Moderation: DTAQ X Growth	0.206	7.742 **	0.275	8.108 **
Control Variable				
6. Log Total Asset (Size)	0.031	6.873 ***	0.041	5.673 ***
7. Sales Growth (Growth)	0.042	8.143 ***	0.057	7.753 ***
8. Risk	-0.271	-9.531 ***	-0.291	-10.348 ***
9. Return On Asset (ROA)	0.197	7.541 ***	0.207	6.463 ***
Dummy Variable				
10a. High Tax Exposure	-0.012	-5.281 **	-0.015	-4.193 **
10b. Low Tax Exposure	0.137	7.892 **	0.151	5.752 **
Statistics Indicators:				
J-Statistic	0.005		0.004	
Prob (J-Statistic)	0.741		0.839	
Cragg-Donald F-Stat	17.532 when $\rho < 0,01$		15.421 when $\rho < 0,01$	
Regressor Endogeneity Prob.	0.024 when $\rho < 0,05$		0.022 when $\rho < 0,05$	

Note: Output file from Eview 10 \*\*\*  $\rho < 0,01$  \*  $\rho < 0,10$  \*\*  $\rho < 0,05$   
 FMV On Earnings =  $-0.007 + 0.138 \text{ MAQ} + 0.168 (\text{MAQ} \times \text{Div}) + 0.191 (\text{MAQ} \times \text{Growth}) + 0.248 \text{ DTAQ} + 0.512 \text{ DIV} + 0.475 (\text{DTAQ} \times \text{Growth}) + 0.041 \text{ Size} + 0.057 \text{ Growth} - 0.491 \text{ Risk} + 0.281 \text{ ROA} - 0.015 \text{ High} + 0.151 \text{ Low}$  (9)

**5. Discussion**

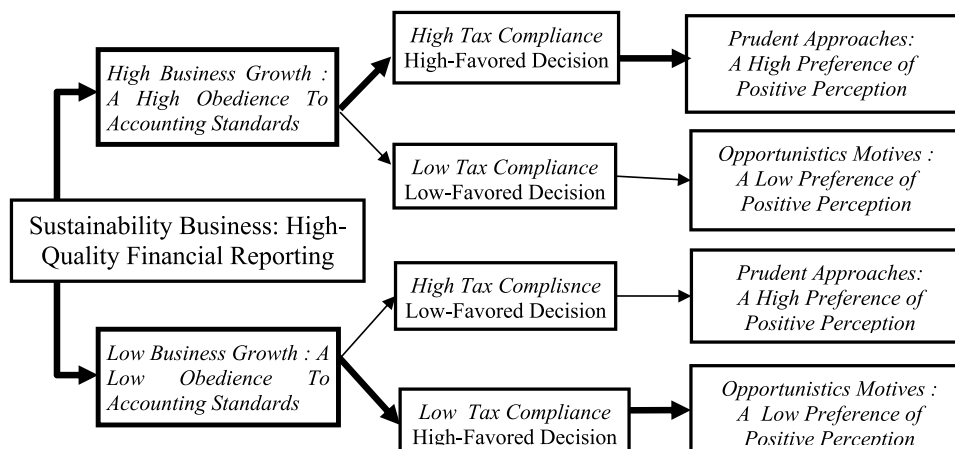
As a theoretical implication, the sales growth is emboldened as a “positive signal” in predicting the future certainty and dividend as a contributory guideline of earnings quality directed to optimism in achieving the expected future returns, which has identical characteristics with tax management in smoothing intensity internal conflict. Indeed, this empirical circumstance indicates the existence of game theory as a rationality pattern of maximizing utility based on Askari

et al. (2019), which underlined that this foreseeable reaction is used to intercept the harmful effect of negative investment value. High obedience and compliance are positive signs of high business growth performance; Gross et al. (2023) networked the treatment of recording the decoupled earnings segment with positive earnings management, illustrating high obedience to accounting standards as the pattern of deducting a high social cost of the real earnings management. Wang et al., (2021) and Duong (2023) expressed that accruals-based earnings management has been used to signal the current performance on the right track during the economic downturn, and Wang et al. (2023) pointed out that the substantial effect of high earnings quality on the expected future returns. Akbari et al. (2019) signify that the Bayesian multilevel model is used to estimate the effect of structural change; as a practically applied innovation, the high-dynamics response has been modified into advanced behavior analysis modeling, mapped in Fig. 3 concerning The Decision Tree Model as a primary reference.

Fig. 3 points out the mapping of dynamic interaction between accounting treatment design and investment decisions have depicted the pattern of rationally perceived decisions as a simulation of maximum utility based on game theory. Datta et al. (2013) and Lei and Gu (2016) found that an existing high-sustainability business model pushed positive earnings management; high business growth sales indicate ominously this diagnostic sign of high expected future returns. Strategically, the high business growth illustrates low risk (i.e., Agustia et al., 2020; Sanusi et al., 2023; El Dirir et al., 2020); temporarily, financial distress featured a low earnings quality, covering a high probability of bankruptcy, which is the incompetence of creating a newly incremental market value added and forming the low-concentrated market intensity. Chen and Wu (2021) elucidated that short-selling is an adversely responsive outcome because low-prospected firms and risky infringement are sensible issues. The adaptiveness circumstance accommodated rational decision-making, correlated to negative earnings management and crash market stock prices as a structural barrier to obtaining high-accuracy information illustrating real earnings. Realistically, this predictive simulation of the reciprocally designed mapping model as a pattern of maximizing utility is established on the Bayesian formula

**Table 5**  
The Payoff Matrix.

Manipulation activity accounting treatment	Proper tax management high future certainty	Aggressive tax accrual slow future certainty
High Obedience	Buy Position-Favorable (Dominant Probability)	Sell Position (Low Probability)
Low Obedience	Buy Position (Minor Probability)	Sell Position-Unfavorable(High Probability)



**Fig. 3.** Mapping of The Positive Perception of High-Quality Financial Reporting. Note: Compiled from Researchers.



method in calculating the probability of other party decisions (i.e., Kaplan, 1996; Franklin and Morris, 2002; Hutton and Stocken, 2021), which can be proposed in the payoff matrix table below.

Table 5 points out that the role of proper tax management has been proven to turn the negative into the positive when obedience to accounting standards is stated at a low level; the rejected hypothesis illustrated that the essential priority is to minimize internal conflict, which is elucidated by the existing signaling indicators, both dividend and tax management. The different functional patterns of drive-up trust in obtaining a lower cost of capital have been used in financing the process of creating the new economic and market value added, where the dividend has been confirmed to have more potential power in predicting the future performance, compared to the effectiveness of tax compliance. Based on this pay-off matrix in Table 5 above, this illustration of rational choice is detailed as follows

a) The formula for calculating the probability of a “buy position”, is below:  $P(DTAQ, Hi|MAQ, H) =$

$$\frac{P(MAQ, H|DTAQ, Hi) \times P(MAQ, H)}{P(MAQ, H|DTAQ, Hi) \times P(MAQ, H) + P(MAQ, H |DTAQ, Lo) \times P(DTAQ, Lo)}$$

b) The formula for calculating the probability of a “sell position”, is below:

$$P(DTAQ, Hi|MAQ, L) = \frac{P(MAQ, L|DTAQ, Hi) \times P(MAQ, L)}{P(MAQ, L|DTAQ, Hi) \times P(MQ, L) + P(MAQ, L |DTAQ, Lo) \times P(DTAQ, Lo)}$$

Description:

1. P(MAQ, H) is the probability of a firm conducting High Manipulation Activity Quality.
2. P(MAQ, L) is the probability of a firm conducting Low Manipulation Activity Quality
3. P(DTAQ, Hi) is the probability of Proper Tax Management.
4. P(DTAQ, Lo) is the probability of Aggressive Tax Accruals.
5. P(MAQ, H|DTAQ, Hi) is the probability of High Manipulation Activity Quality and Proper Tax Management.
6. P(MAQ, H |DTAQ, Lo) is the probability of High Manipulation Activity Quality and Aggressive Tax Accruals.
7. P(MAQ, L|DTAQ, Hi) is the probability of Low Manipulation Activity Quality and Proper Tax Management.
8. P(MAQ, L|DTAQ, Lo) is the probability of Low Manipulation Activity Quality and Aggressive Tax Accruals.
9. P(DTAQ, Hi|MAQ, H) is the probability of High Manipulation Activity Quality when Tax Management is highly compliance.
10. P(DTAQ, Hi|MAQ, L) is the probability of Low Manipulation Activity Quality when Tax Management is low compliance.

After mapping the trade-off decision-making process, the proposed simulative prediction modeling proves a rational decision model concerned with max-min approaches as the practical implication. The simplex-linear model used an identity matrix, for example,  $4 \times 4$ , because of the maximum capability in monitoring meticulously all firm performance and valuation; feasibly, this portfolio selection model should be designed for less than four firms as the knowledge-based investment

portfolio optimization model. This selected portfolio is connected to this limited capability for assessing an investment decision from a rational perspective (Trippi and Lee Jae, 1996). Based on a linearity approach, this maximum model can be proposed empirically for the investor’s self-interest for anticipating the low certainty; Assad et al. (2023) have accentuated the impact of earnings quality on the high-efficiency investment portfolio as proof of higher standards and transparency in managing the firm liquidity and performance, the mathematical formula is below.

$$\text{Maximum Model: } Z = D_1 X_1 + D_2 X_2 + D_3 X_3 + D_4 X_4 \tag{10}$$

where:  $X_{1,2,3,4}$  is an investing portfolio composition in the first, second, third, and fourth firms.

These constraint functions can be arranged below.

$$\text{Manipulation Activity Quality} = \delta_1 X_1 + \delta_2 X_2 + \delta_3 X_3 + \delta_4 X_4 (<) = \text{Mean as an indicator of obedience} \tag{11}$$

$$\text{Discretionary Tax Accruals Quality} = \mu_1 X_1 + \mu_2 X_2 + \mu_3 X_3 + \mu_4 X_4 (<) =$$

---


$$\text{Mean as an indicator of compliance} \tag{12}$$

$$\text{Dividend} = \alpha_1 X_1 + \alpha_2 X_2 + \alpha_3 X_3 + \alpha_4 X_4 (<) = \text{Mean as indicator of going-concern business models} \tag{13}$$

$$\text{Sales Growth} = \zeta_1 X_1 + \zeta_2 X_2 + \zeta_3 X_3 + \zeta_4 X_4 (<) = \text{Mean of better prospects and high sustainability} \tag{14}$$

This research has corroborated the rational decision model as a predictive analysis tool for distinguishing the better prospect, where modifying the portfolio-optimized selection model is new literature in positive earnings management. In the gist, this newly designed predictive approach has been needed to obtain the maximum expected future returns when obedience and compliance are the attractiveness of investing in the capital market without any violation. As an innovation modeling, this modified portfolio can calculate the precise future returns as a protective obligation in distinguishing the better prospect, which focuses on maximum returns without no probability of negative returns; this design of the artificial intelligence model was adopted from Trippi and Lee Jae (1996). Realistically, this research provides a comprehensive illustration for the investor in detecting the high-prospected firm with the formulation of an innovative portfolio selected model as an effort to anticipate the peach-lemon effect, where Akerlof (1970) pointed out that the incapability of detecting the better one is a fundamentally triggered key for stimulating the turbulence and volatile fluctuation of market price. Commonly known as symptoms of bounded rationality, which had a practical effect on subprime mortgage cases in the financial crisis period 2008–2010 because of the robust handicap of identifying the high prospective investment with high-accuracy performance information. Based on this explanation, this concept of earning quality can be used to take the rational decision model; this research is allied to strategic sustainability.

## 6. Conclusion

These results can be concluded; firstly, earnings quality had tested positively on investor perception when it covered up obedience and compliance. Manipulation activity and tax management are critical

measurable factors in predicting high future certainty; the prudent accounting treatment reflects high consistency in publishing high earnings quality. Secondly, the dividend is used as the most effective signaling effect, which affects earnings quality differently; the positive contribution to earnings quality is a guideline for efficient contracting. Conversely, tax management and dividends have been connected to an exclusively mutual relationship aimed at smoothing the internal conflict intensity; nearly, the management is concerned with the dividend in obtaining a low cost of capital as an absolute comparative advantage. The high sales growth is an indicator of going concern, which is tested to drive up higher obedience and compliance; the high-prospected firm is assured of a highly sustainable business model, including high compliance with a minimum chance of agency costs and tax exposure. Finally, the high rationality perspective illustrated the conceivably interactive feedback between management and investors in predicting each party's decision precisely as a comprehensive illustration of positive earnings management as optimism and confidence in the future.

The pattern of earnings management has various methods for calculating the residual error as a predictive signal of obedience and compliance because running fair value measurement is acknowledged internationally as a principal-ruled accounting standard. Commonly, the same perception of accounting treatment can be formed worldwide. The testing on the manufacturing-industry sector shows the practical implication for all regulators who must continuously monitor the business sustainability regarding the trust in this capital market. Implicitly, this calculation model can be implemented in other countries when earnings management has been tested as an open chance of discretionary behavior in reporting the actual performance; both consequences of efficient contracting and opportunity motives as a leading role of signaling effect have a critical influence on illustrating the real earnings management, covering up obedience to accounting standards and compliance with tax regulation. When the prospect theory pushes the positive contribution on the expected future returns, it is a challenge for this research to prove this theory; hence, this predictive simulation has been proposed with simplex-linear programming in calculating the maximum returns and minimum cost,

This research recommends that the regulator be responsible for creating one platform of financial reporting services aimed to pave the other party in detecting opportunistic behavior, where this centralized database allows the financial institution to assess the annual reporting without a face-to-face approach in keeping on high neutrality. The dividend policy should be fixed as a mandatory obligation because of proof of publishing high-quality accounting information with a narrowly limited acceptance area between tax and book accruals, indicating a high-low earnings quality. The going private procedure is a protective public policy for keeping the investor's interest and alertness from suffering a total loss; this capital market has only been determined for a high-prospected firm, prioritizing high tax compliance as the undeniable attractiveness of maximizing investment returns.

### Future research

These findings are crucial for regulators in keeping the public trust in this capital market; however, many manuscripts about earnings quality have been conducted in different countries, where this result has been new literature in designing an attractive public policy for publishing high-quality financial reporting. There are some limitations in anticipating the Pandemy effect with zero and constant growth while assuming minus economic growth in the following period; alternatively, the three-staged H model with 3 phases and Future Cash Flow to Equity (FCFE) could be the other adoption for calculating the future market price with minimum biased error. The determination of high-low tax exposure should be developed in a more representative method by combining high-low accruals quality, which illustrates positive-negative

earnings management as a practical "meaningful" and "simple to understand" indicator of good news.

### Compliance with Ethical Standards

Ethical review and approval were waived for this causal research because the secondary data is used to analyze public academic topics. This manuscript has been conducted consistently with ethical principles, which has carried out professional ethics at a high level and is concerned with human participants' total involvement.

### The Author's Contribution

Muljanto is responsible for conceptualization, methodology, and formal analysis, including data curation. Jasman is responsible for data analysis and data curation. Muljanto and Jasman have finished all the writing processes, including original draft preparation review, and editing. We declare that all authors have equal contributions to this research. All authors read and approved the final manuscript.

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### Declaration of Competing Interest

There are no conflicts of interest to declare relevant to this article's content, where the authors are in an independent position. The authors are not involved in any listed firms' structure, particularly personal relationships that could have influenced the quality of this research. The authors reported no potential competing interests.

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### Disclosure of Human Participants

This research does not involve animals performed by authors; human participants are needed to collect much data and literature.

### Informed Consent

This research used all the published data in the Indonesia Capital Market; there is no identifiable private information in collecting data. Informed consent was obtained from all individual participants involved in this research.

### Data Availability

Raw data were generated at the IKPIA Perbanas. The corresponding first author makes all the data supporting this study available on request. The available data requests can be proposed via email, including all the

data supporting this study. The communication can be done via this email: muljanto.siladjaja@perbanas.id or muljantosiladjaja@gmail.com.

**Public Interest Statement**

Providing a critical opinion on high-quality accounting information encourages research on how the management designs prudent accounting policy and proper tax management; it has been reflected by earnings quality. It mainly aims to keep a high trust market in the capital market. In making a piece of protection information, the management should be forced to have high obedience and compliance narrated to the fiscal regulator. In the gist, all companies in the capital market must have a high performance in the future unless it harmfully affects the community’s investment. The company must perform better than the other private companies because low compliance with legal regulation is an early warning for investors to detect the inability to fulfill the expected returns. Mulling over the quality measurement as a reminder sign so the trust in the capital market can be kept up, there is no opportunity

to grab the abnormal returns. It refers to public policy; this research encourages concern for high-quality accounting information, where the dividend policy is a guidance indicator of the better prospect. Inevitably, the dividend policy has been a debatable issue. This research proves that the dividend policy and sales growth have been a "good sign," which positively contributed to the future returns. Then, dividend and tax management do not have a moderate relationship of the better prospect because the primary management priority is deducting the intensity of the internal conflict; conversely, the different impact of obtaining a low cost of capital. When the internal conflict is at a low level, the management will level up the compliance with the tax regulation interrelated to the performance in the future, where this paper has found this positive contribution. By modifying the development model of game theory into a new approach to analyzing financial reporting, including the decision tree model, Bayes Theorems, and artificial intelligence technology in proposing the modern investment portfolio optimization model, this paper has proven investors’ alertness of the violation, including close attention to misleading accounting information.

**Appendix I**

**Table 6**

The Listing of Worldwide Stock Market Index During 2010–2022.

Worldwide Stock Market Index National Stock Exchange	2010	2020 (*)	2022	Before (*)	After (*)	TotalPeriod
United States Stock Market	1258.0	3242.4	4231.8	1.58	0.31	2.36
India Stock Market	20,202.0	46,262.6	63,232.3	1.29	0.37	2.13
Japan Stock Market	10,795.5	25,227.3	28,068.2	1.34	0.11	1.60
Indonesia Stock Market	2840.9	5818.2	7136.4	1.05	0.23	1.51
Vietnam Stock Market	472.9	1047.3	1042.9	1.21	0.00	1.21
Germany Stock Market	7373.7	12,575.8	13,989.9	0.71	0.11	0.90
Thailand Stock Market	622.2	905.1	982.8	0.45	0.09	0.58
England Stock Market	5909.1	6545.6	7545.4	0.11	0.15	0.28
South Korean Stock Market	2011.3	2439.8	2469.7	0.21	0.01	0.23
China Stock Market	2863.3	3270.2	3217.4	0.14	0.02	0.12
Singapore Capital Market	3106.1	3075.8	3257.8	0.01	0.06	0.05
Malaysia Capital Market	1539.8	1609.2	1503.2	0.05	0.07	0.02

Source: websiteTradingEconomics.com(\*)=Pandemic Covid Period

Note: Based on the capital market index, which consists of total listed companies.

**Table 7**

Comparison of growth of manufacturing companies.

Description	2020	2021	2022	Average
Growth All Manufacturing Listed Companies	3.63%	7.43%	5.74%	5.60%
Growth Of Total Listed Companies	6.52%	9.18%	5.61%	7.10%

Note: Compiled from The Indonesia Capital Market (IDX, 2022)

**Appendix II**

**Table 8**

Illustration of sampling during 2010–2022.

Industry Sector	Total Companies	DPR Policy	Failed Obsr.	Total Obsr.	Valid Obsr.
Automobile and Spare Parts Manufacturing	14	14		154	45
Cement and Construction Processing	8	8		88	26
Ceramic, Porcelain, and Glass Processing	7	5		55	16
Chemical Manufacturing	19	19	5	209	61
Cosmetic and Beautiful Appliances	7	7		77	23
Electrical Equipment Manufacturing	4	4		44	13
Food and Beverages Manufacturing	39	11		121	36
General Equipment Manufacturing	4	10	12	110	32
Home Appliances	7	7		77	23
Metal and Material Processing Products	17	12	8	132	20
Paper and Product Processing	9	7		77	23
Pharmaceutical Manufacturing	11	11		121	24
Plastic and Toy Products	14	8	1	88	26

(continued on next page)

Table 8 (continued)

Industry Sector	Total Companies	DPR Policy	Failed Obsr.	Total Obsr.	Valid Obsr.
Poultry Manufacturing	5	5		55	16
Shoes and Other Appliances	2	2		22	7
Special Equipment Manufacturing	21	4	2	44	13
Textile and Clothing, Apparel Industry	22	18	9	198	46
Wood Products Processing	4	2		22	7
Total	214	154	37	1694	457

Source: Secondary Data, compiled from Authors

## References

- Abraham, R., Harris, J., Auerbach, J., 2017. Earnings yield as a predictor of return on assets, return on equity, economic value added, and the equity multiplier. *Mod. Econ.* 8 (01), 10–24. (<http://www.scirp.org/journal/me>). ISSN Online: 2152-7261.
- Agustia, D., Muhammad, N.P.A., Permatasari, Y., 2020. Earnings management, business strategy, and bankruptcy risk: evidence from Indonesia. *Heliyon* 6 (2). <https://doi.org/10.1016/j.heliyon.2020.e03317>.
- Akbari, F., Salehi, M., Vlashani, M.A.B., 2019. The relationship between tax avoidance and firm value with income smoothing: a comparison between classical and Bayesian econometric in multilevel models. *Int. J. Organ. Anal.* 27 (1), 125–148. <https://doi.org/10.1108/IJOA-09-2017-1235>.
- Akerlof, G.A., 1970. The market for “lemons”: quality uncertainty and the market mechanism. *Q. J. Econ.* 84 (3), 488–500. <https://doi.org/10.2307/1879431>.
- Al-Asfour, F., Abu Saleem, K., 2023. Tax ethics and tax compliance: evidence from emerging markets. *Corp. Gov. Organ. Behav. Rev.* 7 (4), 127–136. <https://doi.org/10.22495/cgovbr7i4p11>.
- Alghazali, A., Fairchild, R., Guney, Y., 2023. Corporate dividend policy, managerial overconfidence, myopia, and investor irrationality: a complex concoction. *Eur. J. Financ.* <https://doi.org/10.1080/1351847X.2023.2254345>.
- Askari, G., Gordji, M.E., Park, C., 2019. The behavioral model and game theory. *Palgrave Commun.* 5 (1), 1–8. <https://doi.org/10.1057/s41599-019-0265-2>.
- Assad, N., Jaafar, A., Zervopoulos, P.D., 2023. The interplay of financial reporting quality and investment efficiency: evidence from the USA. *J. Financ. Report. Account.*
- Báez-Díaz, A., Alam, P., 2012. Tax conformity of earnings and the pricing of accruals. *Rev. Quant. Financ. Account.* 40 <https://doi.org/10.1007/s11156-012-0275-2>.
- Baker, H.K., Powell, G.E., 2015. Dividend policy in Indonesia: survey evidence from executives. *J. Asia Bus. Stud.* 6 (1), 79–92. <https://doi.org/10.1108/15587891211191399>.
- Barker, R., Lennard, A., Penman, S., Teixeira, A., 2021. Accounting for intangible assets: suggested solutions. *Account. Bus. Res.* <https://doi.org/10.1080/00014788.2021.1938963>.
- Barros, V., Verga Matos, P., Miranda Sarmento, J., Rino Vieira, P., 2023. High-tech firms: dividend policy in a context of sustainability and technological change. *Technol. Forecast. Soc. Change* 190 (June 2022), 122434. <https://doi.org/10.1016/j.techfore.2023.122434>.
- Beardsley, E.L., Kara, M.C., Weaver, C.D., 2023. Managers’ Stock Price Incentives and Earnings Management Using Tax Expense. *J. Am. Tax. Assoc.* 1–23. <https://doi.org/10.2308/jata-2021-006>.
- Bukalska, E., Wawryszuk-misztal, A., 2023. Institutional investors’ response to earnings management before initial public offering in Poland. *Prague Econ. Pap.* 32 (1), 45–60. <https://doi.org/10.18267/j.pap.819>.
- Bushman, R.M., Lerman, A., Zhang, X.F., 2016. The changing landscape of accrual accounting. *J. Account. Res.* 54 (1), 41–78. <https://doi.org/10.1111/1475-679X.12100>.
- Chansarn, S., Chansarn, T., 2016. Earnings management and dividend policy of small and medium enterprises in Thailand. *Int. J. Bus. Soc.* 17 (2), 307–328. <https://doi.org/10.33736/ijbs.527.2016>.
- Chen, H. (Amy), Wu, Q., 2021. Short selling threat and real activity manipulation: evidence from a natural experiment. *Adv. Account.* 52, 100514 <https://doi.org/10.1016/j.adiac.2021.100514>.
- Choudhary, P., Koester, A., Shevlin, T., 2016. Measuring income tax accrual quality. *Rev. Account. Stud.* 21 (1), 89–139. <https://doi.org/10.1007/s11142-015-9336-9>.
- Damodaran, A., 2012. *Investment Valuation: Second Edition*. ITM University Bus Stand, Shyam Plaza LIC Road Near New, Pandri, Raipur, Chhattisgarh 492001, India, 1–1372. <https://doi.org/10.1016/B978-0-7020-2797-0.00001-1>.
- Dang, H.N., Pham, C.D., 2022. The effects of earning quality on sustainable reports: an empirical study from Vietnam. *Econ. Res.* 35 (1), 6705–6722. <https://doi.org/10.1080/1331677X.2022.2053360>.
- Danning, Y., 2023. Media coverage, real earnings management, and long-run market performance: evidence from Chinese IPOs. *Asia-Pac. Financ. Mark.* <https://doi.org/10.1007/s10690-022-09396-2>.
- Datta, S., Iskandar-Datta, M., Singh, V., 2013. Product market power, industry structure, and corporate earnings management. *J. Bank. Financ.* 37 (8), 3273–3285. <https://doi.org/10.1016/j.jbankfin.2013.03.012>.
- Delgado, F.J., Rodríguez, E.F., Fernández, R.G., Landajo, M., Arias, A.M., 2023. Tax avoidance and earnings management: a neural network approach for the largest European economies. *Financ. Innov.* 9 (19), 1–25. <https://doi.org/10.1186/s40854-022-00424-8>.
- Dempster, G.M., Oliver, N.T., 2019. Financial market pricing of earnings quality: evidence from a multi-factor return model. *Open J. Bus. Manag.* 7, 312–329. <https://doi.org/10.4236/ojbm.2019.71021>.
- Deng, L., Li, S., Liao, M., 2017. Dividends and earnings quality: evidence from China. *J. 48 (c)*, 255–268. <https://doi.org/10.1016/j.iref.2016.12.011>.
- Dmitrovi, L., Suljovi, E., 2017. Strategic management accounting in the Republic of Serbia. *Econ. Res.* 30 (1), 1–11. <https://doi.org/10.1080/1331677X.2017.1392884>.
- Duong, H.K., 2023. Real earnings management during economic downturns. *J. Int. Account. Res.* 1–32. <https://doi.org/10.2308/jiar-2021-093>.
- Durana, P., Blazek, R., Machova, V., Krasnan, M., 2022. The use of Beneish M-scores to reveal creative accounting: evidence from Slovakia. *Equilib. Q. J. Econ. Econ. Policy* 17. <https://doi.org/10.24136/eq.2022.017>.
- Eckert, C., Hohberger, J., 2022. Addressing endogeneity without instrumental variables: an evaluation of the Gaussian Copula approach for management research. *J. Manag.* 1–36 (1–36), 14–28. <https://doi.org/10.1177/01492063221085913>.
- Efendi, J., Li-Chin, Jennifer, H., Smith, L., Zhang, Y., 2023. Ethical challenges regarding earnings management, short sellers, and real activities manipulation. In: *Research on Professional Responsibility and Ethics in Accounting*, Vol. 25. Emerald Publishing Limited, Bingley, pp. 103–126.
- El Diri, M., Lambrinoudakis, C., Alhadab, M., 2020. Corporate governance and earnings management in concentrated markets. *J. Bus. Res.* 108, 291–308. <https://doi.org/10.1016/j.jbusres.2019.11.013>.
- Eldomyati, Tarek Ibrahim, Chong Ju Choi, dan P.C., 2005. Testing debt signaling hypothesis for making investment decisions in traditional market: evidence from Egypt. *J. Financ.*
- Elsayed, R.A.A., 2023. The impact of ontology-based knowledge management on improving tax accounting procedures and reducing tax risks. *Future Bus. J.* 9 (1) <https://doi.org/10.1186/s43093-023-00253-w>.
- Fonou Dombeu, N.C., Namlala, B.C., 2023. Earnings quality research: trend, recent evidence and future direction. *Int. Rev. Manag. Mark.* 13 (5), 1–8. <https://doi.org/10.32479/irmm.14577>.
- Franklin, A., & Morris, S. (2002). *Game Theory Models In Finance* (pp. 17–48). pp. 17–48. Retrieved from <https://finance.wharton.upenn.edu/~allen/download/crisis/Allen-Morris.pdf>.
- Garel, A., Martin-Flores, J.M., Petit-Romec, A., Scott, A., 2021. Institutional investor distraction and earnings management. *J. Corp. Financ.* 66 <https://doi.org/10.1016/j.jcorpfin.2020.101801>.
- Giordino, D., 2023. Earnings management or earnings manipulation?: A narrative review of organizational profitability. *Theory Pract. Illegitimate Financ.* 21 <https://doi.org/10.4018/979-8-3693-1190-5.ch005>.
- González-Sánchez, M., San, A.I.S., Jiménez, E.M.I., 2023. Comparison of the effects of earnings management on the financial cost between companies in developed and emerging European countries. *J. Corp. Acc. Financ.* 1–16. <https://doi.org/10.1002/jcaf.22622>.
- Gorji, M.R., Ghodrati, H., Arabzadeh, M., & Panahian, H., 2023. Investigating the effect of earnings quality on the company’s trade credit with an emphasis on the moderating role of accounting information comparability. *Keywords: International Journal of Finance and Managerial Accounting*, 8(29), 133–146. Retrieved from ([https://ijfma.srbiau.ac.ir/article\\_21130\\_300fa36b144200dfad7d88daa2c6c99.pdf](https://ijfma.srbiau.ac.ir/article_21130_300fa36b144200dfad7d88daa2c6c99.pdf)).
- Gross, C., Wagenhofer, A., Windisch, D., 2023. Internal performance measures and earnings management: evidence from segment earnings. *Account. Rev.* 1–25. <https://doi.org/10.2308/tar-2019-0155>.
- Gujarati, D.N., 2011. *Basic Econometrics*. McGraw-Hill Co., New York. <https://doi.org/10.1126/science.1186874>.
- Ha, J., 2023. Conservatism and stock price informativeness. *J. Corp. Account. Financ.* 34 (2), 273–295.
- Habib, A., Ranasinghe, D., Wu, J.Y., Biswas, P.K., Ahmad, F., 2022. Real earnings management: a review of the international literature. *Account. Financ.* 1–66. <https://doi.org/10.1111/acfi.12968>.
- Haga, J., Höglund, H., Sundvik, D., 2018. Stock market listing status and real earnings management. *J. Account. Public Policy* 37 (5), 420–435. <https://doi.org/10.1016/j.jaccpubpol.2018.09.002>.
- Hair, J.J., Black, W.C., Babin, B.J., Anderson, R., 2010. *Multivariate Analysis: Global Perspective*, Seventh ed. Pearson Prentice Hall, Upper Saddle River New Jersey.
- He, W., Ng, L., Zaiats, N., Zhang, B., 2017. Dividend policy and earnings management across countries. *J. Corp. Financ.* 42, 267–286. <https://doi.org/10.1016/j.jcorpfin.2016.11.014>.
- Heizer, Jay, Render, Barry dan Munson, C., 2017. *Operations Management: Sustainability and Supply Chain Management*. 11 th. Prentice Hall, New Jersey.
- Herusetya, A., Sambuaga, E.A., Sihombing, S.O., 2023. Business strategy typologies and the preference of earnings management practices: evidence from Indonesian listed



- firms. *Cogent Bus. Manag.* 10 (1) <https://doi.org/10.1080/23311975.2022.2161204>.
- Hill, A.D., Johnson, S.G., Greco, L.M., Walter, S.L., 2021. Endogeneity: a review and agenda for the methodology-practice divide affecting micro and macro research. *J. Manag.* 47 (1), 105–143. <https://doi.org/10.1177/0149206320960533>.
- Homer, S., Leibowitz, M.L., Bova, A., Kogelman, S., 2013. *Inside the Yield Book: The Classic That Created the Science of Bond Analysis*. John Wiley & Sons, Inc.,
- Hutton, A.P., Stocken, P.C., 2021. Prior forecasting accuracy and investor reaction to management earnings forecasts. *J. Financ. Report.* 6 (1), 87–107. <https://doi.org/10.2308/jfr-2020-005>.
- Idris, M., Siam, Y.A., Qabajeh, M., Eitah, R.A., 2022. Managerial ownership and accruals earnings management theoretical framework. *Cent. Eur. Manag. J.* 30, 2076–2081. <https://doi.org/10.57030/23364890.cemj.30.4.214>.
- IDX, I.S.E., 2021. Digital Capabilities To Advance Further. Laporan Tahunan 2020–2021 Annual Report, 434.
- Islam, M.R., Haque, M.Z., Moutushi, R.H., 2022. Earnings quality and financial flexibility: a moderating role of corporate governance. *Cogent Bus. Manag.* 9 (1) <https://doi.org/10.1080/23311975.2022.2097620>.
- Jacob, M., Schütt, H.H., 2019. Firm valuation and the uncertainty of future tax avoidance. *Eur. Account. Rev.* 29 (3), 409–435. <https://doi.org/10.1080/09638180.2019.1642775>.
- Jeong, K.H., Choi, S.U., 2019. Does Real Activities Management Influence Earnings Quality and Stock Returns in Emerging Markets? Evidence from Korea. *Emerg. Mark. Finance Trade* 55 (12), 2834–2850. <https://doi.org/10.1080/1540496X.2018.1535970>.
- Jeong, B.K., Sohn, B.C., 2013. Real earnings management and cost of capital. *J. Account. Public Policy* 32 (6), 518–543. [https://doi.org/10.1016/S2212-5671\(13\)00222-0](https://doi.org/10.1016/S2212-5671(13)00222-0).
- Jian, J., He, K., Liu, Y., Sun, Y., 2023. Corporate social responsibility: opportunistic behavior under earnings management? *Asia-Pac. J. Account. Econ.* <https://doi.org/10.1080/16081625.2023.2170891>.
- Kahneman, D., Thaler, R.H., 2006. Anomalies: utility maximization and experienced utility. *J. Econ. Perspect.* 20 (1), 221–234. <https://doi.org/10.1257/089533006776526076>.
- Kaldowski, M., Jewartowski, T., 2020. Do firms using real earnings management care about taxes? Evidence from a high book-tax conformity country. *Financ. Res. Lett.* 35, 101351 <https://doi.org/10.1016/j.frl.2019.101351>.
- Kaplan, M., 1996. Decision Theory as Philosophy. Retrieved from <https://doi.org/10.1017/CBO9780511804847>.
- Kato, H.K., Loewenstein, U., Tsay, W., 2002. Dividend policy, cash flow, and investment in Japan. *Pac. Basin Financ. J.* 10 (4), 443–473. [https://doi.org/10.1016/S0927-538X\(02\)00068-9](https://doi.org/10.1016/S0927-538X(02)00068-9).
- Khuong, N.V., Anh, L.H.T., Van, N.T.H., 2022. Firm life cycle and earnings management: the moderating role of state ownership. *Cogent Econ. Financ.* 10 (1) <https://doi.org/10.1080/23322039.2022.2085260>.
- Kliestik, T., Blazek, R., Belas, J., 2022. CEO monitoring and accounting record manipulation: evidence from Slovak agriculture companies. *Econ. Sociol.* 15 (4), 204–218. <https://doi.org/10.14254/2071-789X.2022.15-4/10>.
- Kothari, S.P., Mizik, N., Roychowdhury, S., 2016. Managing for the moment: the role of earnings management via real activities versus accruals in SEO valuation. *Account. Rev.* 91 (2), 100855 <https://doi.org/10.2308/accr-51153>.
- Lebert, S., 2019. Rounding up performance measures in German firms: earnings cosmetics or earnings management on a larger scale? Rounding up performance measures in German firms: Earnings cosmetics or earnings management on a larger scale? *SSRN Electron. J.* <https://doi.org/10.2139/ssrn.2882741>.
- Lee, H.A., 2016. The usefulness of the tax avoidance proxy: evidence from Korea. *J. Appl. Bus. Res.* 32 (2), 607–620. <https://doi.org/10.19030/jabr.v32i2.9610>.
- Lei, P.W., Gu, G.T., 2016. Business strategy, market competition, and earnings management. *Chin. Manag. Stud.* 9 (3), 401–424. <https://doi.org/10.1108/CMS-12-2014-0225>.
- Li, Y., Li, X., Xiang, E., Geri Djajadikerta, H., 2020. Financial distress, internal control, and earnings management: evidence from China. *J. Contemp. Account. Econ.* 16 (3) <https://doi.org/10.1016/j.jcae.2020.100210>.
- Liu, H., Lee, H.A., 2019. The effect of corporate social responsibility on earnings management and tax avoidance in Chinese listed companies. *Int. J. Account. Inf. Manag.* 27 (4), 632–652. <https://doi.org/10.1108/IJAIM-08-2018-0095>.
- Ma, H.Y., Yoo, J.Y., 2022. A study on the impact of sustainable management on earnings persistence and market pricing: evidence from Korea. *J. Bus. Econ. Manag.* 23 (4), 818–836. <https://doi.org/10.3846/jbem.2022.16436>.
- Martínez-Ferrero, J., Banerjee, S., García-Sánchez, I.M., 2016. Corporate social responsibility as a strategic shield against costs of earnings management practices. *J. Bus. Ethics* 133 (2), 305–324. <https://doi.org/10.1007/s10551-014-2399-x>.
- Mealy, P., Teitelboym, A., 2022. Economic complexity and the green economy. *Res. Policy* 51 (8), 103948. <https://doi.org/10.1016/j.respol.2020.103948>.
- Mehrani, S., Moradi, M., Eskandar, H., 2017. Institutional ownership type and earnings quality: evidence from Iran. *Emerg. Mark. Finance Trade* 53 (1), 54–73. <https://doi.org/10.1080/1540496X.2016.1145114>.
- Michalkova, L., Cepel, M., Valaskova, K., Vincúrová, Z., 2022. Earnings quality and corporate life cycle before the crisis. A study of transport companies across Europe. *Amfiteatru Econ. Cent. East. Eur. Online Libr.* 61 (61/2022), 782–796. <https://doi.org/10.24818/EA/2022/61/782>.
- Millier, D., Martinez, A., 2016. Book-tax difference, earnings management and bond ratings in the Brazilian market. *Rev. Universo Contábil* 91–109. <https://doi.org/10.4270/ruc.2016323>.
- Min, B., Yafeng, Q., Feng, B., 2023. Dividend policy and firm liquidity under the tax imputation system in Australia. *Int. J. Manag. Financ.* <https://doi.org/10.1108/IJMF-01-2023-0018>.
- Mirza, A., Campus, M., 2022. Value relevance of financial information in Malaysian listed firms: real earnings management's perspective. *J. Account. Financ. Emerg. Econ.* 8 (1), 227–238.
- Moradi, Mahdi, Salehi, M., Zamanirad, M., 2015. Analysis of incentive effects of managers' bonuses on real activities manipulation relevant to future operating performance. *Manag. Decis.* 53 (2), 432–450. <https://doi.org/10.1108/MD-04-2014-0172>.
- Nekhili, M., Fakhfakh, I., Amar, B., Chtioui, T., Lakkhal, F., 2016. Free cash flow and earnings. *J. Appl. Bus. Res.* 32 (1), 255–268.
- Nguyen, L.-T., 2022. The relationship between corporate sustainability performance and earnings management: evidence from emerging East Asian economies. *J. Financ. Report. Account.* <https://doi.org/10.1108/JFRA-09-2021-0302>.
- Nguyen, T.T.H., Ibrahim, Salma, Giannopoulos, G., 2022. Detecting earnings management: a comparison of accrual and real earnings manipulation models. *J. Appl. Account. Res.* (<https://eprints.kingston.ac.uk/view/divisions/kukbs/>).
- Ntokozi, A., Tzovas, C.A., Chalevas, C.G., 2022. Earnings management during financial crisis: the case of Greece keywords. *Account. Manag. Inf. Syst.* 21 (2), 200–219. <https://doi.org/10.24818/jamis.2022.02003>.
- Osegbue, I.F., Nweze, A., Ifurueze, M., Nwoye, C.M., 2018. Effects of tax sheltering on earnings management in Nigeria. *Res. Pap. Econ. Financ.* 3 (2), 45–69. <https://doi.org/10.18559/ref.2018.2.5>.
- Park, S., Kim, S., Lee, S., 2021. Earnings management of insolvent firms and the prediction of corporate defaults via discretionary accruals. *Int. J. Financ. Stud.* 9 (2) <https://doi.org/10.3390/ijfs9020017>.
- Pathak, R., Ranajee, 2020. Earnings quality and corporate payout policy linkages: an Indian context. *North Am. J. Econ. Financ.* 51 (100855), 1–10. <https://doi.org/10.1016/j.najef.2018.10.003>.
- Perotti, P., Wagenhofer, A., 2014. Earnings quality measures and excess returns. *J. Bus. Financ. Account.* 41 (5–6), 545–571. <https://doi.org/10.1111/jbfa.12071>.
- Ping, K., 2016. Do investors price accruals quality for firms charged with poor reporting? Literature review and hypothesis development, 7(1), 2–23. Retrieved from (<https://www.proquest.com/openview/e63ab843ed471677941d4dc225b8917a/1?cbl=2031969&pq-origsite=gscholar>).
- Pompili, M., Tutino, M., 2019. Fair value accounting and earning management: the impact of unobservable inputs on earning quality. evidence from the US. *Control Ownersh. Control* 16 (2), 8–18. <https://doi.org/10.22495/cocv16i2art1>.
- Qiu, Z., Zhang, X., 2022. Consequences of earnings management triggered by delisting regulation: evidence in China. *J. Account. Public Policy*, 107046. <https://doi.org/10.1016/j.jaccpubpol.2022.107046>.
- Ramalingogowda, S., Utke, S., Yu, Y., 2021. Common institutional ownership and earnings management\*. *Contemp. Account. Res.* 38 (1), 208–241. <https://doi.org/10.1111/1911-3846.12628>.
- Rezaee, Z., Tuo, L., 2019. Are the quantity and quality of sustainability disclosures associated with the innate and discretionary earnings quality? *J. Bus. Ethics* 155 (3). <https://doi.org/10.1007/s10551-017-3546-y>.
- Ryu, H., Chae, S.J., 2014. The effect of book-tax conformity on the use of accruals: Evidence from Korea. *J. Appl. Bus. Res.* 30 (3), 753–762.
- Saleh, I., Afifa, M.A., Alsufy, F., 2020. Does Earnings Quality Affect Companies' Performance? New Evidence from the Jordanian Market. *JAFEB* 7 (11), 033–043. <https://doi.org/10.13106/jafeb.2020.vol7.no11.033>.
- Sakaki, H., Jory, S., Jackson, D., 2021. Institutional investors' ownership stability and their investee firms' equity mispricing. *North Am. J. Econ. Financ.* 57 <https://doi.org/10.1016/j.najef.2021.101440>.
- Salehi, M., Salimi, S., 2017. The effect of suspicious executives on tax shelters in Iran. *J. Manag. Dev.* 36 (No. 4), 598–610. <https://doi.org/10.1108/JMD-04-2016-0060> (Retrieved from).
- Salehi, M., Moradi, M., Paydarmanesh, N., 2017. The effect of corporate governance and audit quality on disclosure quality: evidence from Tehran stock exchange. *Period. Polytech. Soc. Manag. Sci.* 25 (1), 32–48. <https://doi.org/10.3311/PPso.8354>.
- Sanusi, F., Januarsi, Y., Purbasari, I., Akhmadi, 2023. The discipline vs complement role of product market competition and market power: Evidence from real earnings management in an emerging market. *Cogent Bus. Manag.* 10 (1) <https://doi.org/10.1080/23311975.2023.2170072>.
- Sekaran, U., Bougie, R., 2016. *Research Methods for Business: A Skill Building Approach*, seventh ed. Wiley. (<https://www.wiley.com/en-us/Research+Methods+For+Business%3A+A+Skill+Building+Approach%2C+7th+Edition-p-9781119266846>).
- Sidhu, A.V., Jain, P., Singh, S.P., Kanoujiya, J., Rawal, A., Rastogi, S., Bhimavarapu, V. M., 2023. Impact of financial distress on the dividend policy of banks in India. *J. Risk Financ. Manag.* 16 (2) <https://doi.org/10.3390/jrfm16020107>.
- Sielkova, A., Androniceanu, A., Durana, P., Michalikova, K.F., 2020. Earnings management (Em), initiatives and company size: an empirical study. *Acta Polytech. Hung.* 17 (9), 41–56. <https://doi.org/10.12700/aph.17.9.2020.9.3>.
- Sikalidis, A., Bozos, K., Voulgaris, G., 2023. Asymmetric effects of fair value adjustments on dividend policy. *Int. Rev. Financ. Anal.*, 102933 <https://doi.org/10.1016/j.irfa.2023.102933>.
- Srivastava, A., 2019. Improving the measures of real earnings management Content courtesy of Springer Nature, terms of use apply. Rights reserved. Content courtesy of Springer Nature, terms of use apply. Rights reserved. 1277–1316.
- Suresh, N., Pooja, M., 2020. A study on determinants of dividend policy and its impact on financial performances: a panel data analysis for Indian listed firms. *J. Seybold Rep.* 15 (8), 2791–2799. (<https://app.box.com/s/ab7vvhns5cdykq2cskmb9yrjjukex81au>).
- Taleb, G.A.I., 2012. Measurement of impact agency costs level of firms on dividend and leverage policy: an empirical study. *Inst. Interdiscip. Bus. Res.* 3 (10), 234–244. (<https://journal-archives15.webs.com/234-243.pdf>).

- Trippi, R.R., & Lee Jae, K., 1996. Artificial intelligence in finance investing: state of the art technologies for securities selection and portfolio management. Wayne Mc Guirt Times Mirror Higher Education Group.
- Uzezi, M., 2022. Tax planning strategies and earnings management of listed manufacturing firms in Nigeria. *Afr. J. Bus. Econ. Dev.* 2 (11), 58–71. ([www.ijaar.org/ajbed](http://www.ijaar.org/ajbed)).
- Valaskova, K., Adamko, P., Michalikova, K.F., Macek, J., 2021. Quo Vadis, earnings management? Analysis of manipulation determinants in Central European environment. *Oeconomia Copernic.* 12 (3), 631–669. <https://doi.org/10.24136/OC.2021.021>.
- Wang, Y., He, Z., Shan, Y.G., Liu, X., 2021. Other comprehensive income reporting and earnings management: evidence from China. *Accounting Forimm* 45 (4), 333–337. <https://doi.org/10.1080/01559982.2021.1966711>.
- Wang, Q., Zhai, A., Pang, Q., Wang, H., B, X.C., 2023. Information disclosure quality, earnings management, and stock price cash risk: evidence from China. *Inf. Discl. Qual., Earn. Manag.* 1 (AEBMR 664), 622–633. <https://doi.org/10.2991/978-94-6463-054-1>.
- Wang, R., Li, L., 2020. Dynamic relationship between the stock market and macro economy in China (1995–2018): new evidence from the continuous wavelet analysis. *Econ. Res. -Ekon. Istraz.* 33 (1), 521–539. <https://doi.org/10.1080/1331677X.2020.1716264>.
- Wilcox, S.E., 2007. The adjusted earnings yield. *Financ. Anal. J.* 63 (5), 54–68. <https://doi.org/10.2469/faj.v63.n5.4840>.
- Wilson, M., Wang, K.T., Yue, W., Lau, A., 2022. Institutional investors and earnings management associated with controlling shareholders' promises: evidence from the split share structure reform in China. *J. Contemp. Account. Econ.* (61) ([https://authors.elsevier.com/a/1fROB\\_fh-s9lfP](https://authors.elsevier.com/a/1fROB_fh-s9lfP)).
- Yorke, S.M., Amidu, M., Agyemin-Boateng, C., 2016. The effects of earnings management and corporate tax avoidance on firm value. *Int. J. Manag. Pract.* 9 (2), 112–131. <https://doi.org/10.1504/IJMP.2016.076741>.
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