DEVELOPING A THEORETICAL MODEL OF FACTORS AFFECTING EARNINGS QUALITY

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Abstract: *Earnings quality is a widely discussed topic in accounting and finance research, playing a crucial role in reflecting the actual business performance of enterprises and indicating the reliability and usefulness of accounting information to stakeholders such as investors, creditors, financial analysts, and regulatory authorities. This paper aims to develop a theoretical model explaining the influence of intrinsic firm-specific characteristics on earnings quality, focusing on common attributes including: firm size, profitability, financial leverage, liquidity, fixed asset investment, growth, operating cycle, and firm age. By applying foundational theories such as agency theory, signaling theory, and asymmetric information theory, the paper formulates hypotheses regarding the mechanism through which each factor affects earnings quality. Thereby, it proposes a comprehensive theoretical model, serving as a foundation for future empirical testing and offering deeper insights to users of earnings quality information.*

• Keywords: *earnings quality, theoretical model, firm characteristics.*

1. Introduction

In the context of increasingly complex and globalized financial markets, financial information plays a pivotal role in connecting enterprises with stakeholders, particularly investors and creditors. Earnings as a core measure of operational performance, have always been the focal point of attention. However, not all reported earnings figures are of high quality, as earnings can be easily adjusted, making them less reliable. To determine the reliability of earnings, it is necessary to evaluate whether this indicator is substantive, stable, and sustainable. Earnings quality has become a central concept in accounting and finance research, reflecting the extent to which accounting earnings truthfully represent a firm's underlying economic performance, sustainability, and ability to forecast future cash flows (Dechow et al., 2010). Conversely, low-earnings quality, often resulting from earnings management practices or unsustainable economic factors, can lead to misjudgments in firm valuation and inefficient capital allocation.

Given the widely acknowledged importance of earnings quality, identifying the factors that influence earnings quality remains a continuously evolving area of research. Previous studies have explored several groups of factors, such as corporate governance and internal control mechanisms, financial reporting practices, and other contextual elements affecting earnings quality. However, intrinsic firm-specific characteristics that reflect the operational realities of individual firms - factors believed to exert a direct and significant impact on accounting decisions and reported earnings quality, have received limited attention in prior literature (Richardson et al., 2005). Therefore, this study focuses on elucidating the relationship between intrinsic firm characteristics and earnings quality, specifically examining the influence of the following factors: firm size, profitability, financial leverage, liquidity, fixed asset investment, growth, operating cycle, and firm age. A key contribution of this research lies not only in determining the direction of influence but also in providing in-depth theoretical explanations of these relationships, based on foundational economic and financial theories, including agency theory, signaling theory, and asymmetric information theory. Accordingly, this paper proposes a comprehensive theoretical model that serves as a foundation for future empirical testing and offers deeper insights for stakeholders utilizing earnings quality information.

2. Theoretical Framework

2.1. Earnings Quality and the Measurement of Earnings Quality

Definition of Earnings Quality

Earnings quality is a complex and multidimensional concept that has been extensively discussed in the accounting literature, yet to date, no unified definition has been established (Teets, 2002). According to

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Krishnan and Parsons (2008), earnings quality refers to the extent to which reported earnings truthfully reflect the firm's actual economic condition, thereby allowing for a reasonable assessment of the enterprise's financial performance. This perspective is further expanded by Schipper and Vincent (2003), who emphasize that earnings quality should be examined within the framework of the usefulness of financial information. Accordingly, reported earnings, as a crucial component of financial statements, must provide valuable information to investors in assessing the current state, historical performance, and future prospects of a company. Information is only truly useful if it faithfully represents the fundamental economic reality and offers a fair and objective view of the enterprise. Building on this line of research, Dechow and Schrand (2004) argue that earnings quality is evidenced by its reliability in supporting corporate financial analysis, which is reflected through three core attributes: (i) reported earnings must accurately reflect current operating performance; (ii) they must have the ability to predict future operational results; and (iii) they must allow for a reasonably accurate estimation of the firm's intrinsic value.

Although these definitions stem from different theoretical viewpoints, they converge on a common understanding: earnings quality is not merely a numerical accounting measure, but a representation of the underlying business substance, offering critical informational value to stakeholders. These definitions have collectively contributed to clarifying and refining the concept of earnings quality in academic research.

Measurement of Earnings Quality

Given that earnings quality is a multidimensional concept, researchers and analysts have developed various criteria to evaluate and measure earnings quality. Several seminal and comprehensive studies on earnings quality assessment criteria include the works of Schipper & Vincent (2003), Francis et al. (2004), and Dechow et al. (2010). According to Schipper & Vincent (2003), there are four primary criteria for assessing and measuring earnings quality: (i) based on the time-series characteristics of earnings, including earnings persistence, predictability, and volatility; (ii) through the relationship between earnings, accruals, and cash flows; (iii) derived from the qualitative characteristics of accounting information as outlined in the FASB conceptual framework, such as relevance, faithful representation, comparability, timeliness, understandability, etc.; (iv) derived from the analysis of professional accounting decisions. According to Francis et al. (2004), the criteria used to measure earnings quality are divided into two main groups: accounting-based and market-based measures. Group 1, based on accounting measures, includes: accrual quality, earnings persistence, earnings predictability, and earnings smoothness. Group 2, based on market-based measures, includes: value relevance, timeliness, and conservatism. Dechow et al. (2010) adopted a broader set of proxies to evaluate earnings quality and categorized them into three principal groups: The first group includes earnings attributes such as earnings persistence, abnormal accruals, earnings smoothness, timely loss recognition, and the degree to which earnings are managed to meet specific targets; The second group captures how investors respond to earnings information; The third group comprises external indicators of earnings misstatements.

However, earnings quality is interpreted, assessed, and measured differently depending on the context, as it holds different meanings for different users (Menicucci, 2019). The measurement of earnings quality depends on the intended use of earnings quality information by relevant stakeholders. In the context of this study, the authors are particularly interested in the value relevance of earnings. Using value relevance as a proxy for earnings quality is based on the viewpoint that high-quality accounting information should be able to explain a firm's market value (Francis & Schipper, 1999). Accordingly, value relevance reflects the extent to which accounting figures, especially earnings, can explain changes in stock returns. If earnings can explain a greater portion of stock return variability, those earnings are considered to be of higher quality.

In Vietnam, most empirical studies on earnings quality have primarily relied on accounting-based measures. Meanwhile, market-based approaches, such as value relevance of earnings, have not been sufficiently explored, despite the increasingly active development of the capital market. Therefore, adopting a market-based approach to measure earnings quality through value relevance is considered appropriate from both theoretical and practical perspectives.

2.2. Foundational Theories

To explain the relationship between firm characteristics and earnings quality, the authors draw upon the following foundational theories:

Agency Theory, developed by Jensen & Meckling (1976), focuses on the contractual relationship between the principal and the agent, where the principal is typically the shareholders or business owners, and the agent is the managers or executive directors of the enterprise. Two primary issues give rise to agency

problems. First, the objectives of the two parties are not aligned. The interests of the agent differ from those of the principal. While managers are concerned with compensation, power, and job security, shareholders are focused on maximizing the value of their assets. Second, information asymmetry exists. Managers usually have more information about the firm's operations than owners. This information asymmetry creates opportunities for managers to act in their own interests, which are difficult for owners to detect and control. The theory also addresses agency relationships between shareholders or managers and creditors, where conflicts of interest arise concerning the riskiness of investment projects and earnings distribution policies. Agency theory helps explain why managers have incentives to engage in earnings management, which is one of the primary causes of reduced earnings quality. Intrinsic firm characteristics can either exacerbate or mitigate the extent of conflicts between managers and shareholders, or between shareholders and creditors, thereby influencing the reported earnings quality.

Signaling Theory, developed primarily by Michael Spence (1973), originated from the context of markets characterized by information asymmetry, where parties to a transaction do not possess the same amount of information. To bridge this gap, the informed party (such as the manager) may send signals either financial or non-financial to the uninformed party, such as investors or creditors. However, not all signals are complete or reliable. The sender of the signal chooses the content and the degree of disclosure, while the receiver must decode and evaluate the credibility of the signal. As such, information asymmetry may still persist if the transmitted information is unclear or not truthful. Disclosing high-quality earnings in a transparent and unmanipulated manner can serve as a positive signal regarding the firm's future prospects. Firms with characteristics such as high profitability, strong growth, and high liquidity may have stronger incentives to send such signals, leading to higher earnings quality.

Asymmetric Information Theory, emerging in the 1970s and developed by economist George A. Akerlof, serves as a foundational theory underpinning both agency theory and signaling theory. Information asymmetry exists when one party in a transaction or economic relationship possesses significantly more or better information than the other. The extent of information asymmetry between insiders (managers) and outsiders (investors, creditors) affects the capability and motivation for earnings management, thereby influencing earnings quality. Firm-specific attributes such as size, financial leverage, growth, and liquidity may impact the level of information asymmetry, and thus affect earnings quality.

3. Development of Research Hypotheses

Firm Size

Firm size refers to the magnitude of an enterprise, typically measured through quantitative indicators such as total assets, revenues, number of employees, or market capitalization. Agency theory and asymmetric information theory suggest that larger firms are subject to greater scrutiny from analysts, investors, and regulators, thereby reducing managerial incentives and opportunities for earnings management. Large firms also possess more resources to invest in internal control systems and high-quality financial reporting processes, which minimize errors and enhance reliability, consequently reducing information asymmetry and increasing earnings quality. Moreover, signaling theory posits that larger firms with more stable positions and longer expected longevity are more likely to issue credible signals about their quality and stability by reporting transparent, reliable, high-quality earnings, in order to maintain reputation and ease access to external capital. Most empirical studies have found a positive relationship between firm size and earnings quality (Gu et al., 2002; Cohen, 2003; Francis et al., 2004). Based on this, the authors propose the following hypothesis:

H1: Firm size has a positive impact on earnings quality.

Profitability

Profitability reflects a firm's operating efficiency and its ability to generate earnings from its assets or shareholders' equity. Agency theory offers a dual perspective on the impact of profitability on earnings quality: highly profitable and stable firms tend to face less pressure to meet short-term targets or avoid covenant violations, thus having less motivation to engage in earnings management, which leads to higher earnings quality. On the other hand, firms with extremely high earnings may smooth their reported results through earnings management, thereby reducing earnings quality. Signaling theory holds that high profitability is a favorable signal that helps sustain investor confidence and leads to higher valuations. Therefore, profitable firms may be more motivated to report high earnings quality. While empirical evidence is mixed, many studies indicate that greater profitability is generally associated with higher earnings quality (DeFond and Park, 2001; Francis et al., 2004). Thus, the authors propose:

H2: Profitability has a positive impact on earnings quality.

Financial Leverage

Financial leverage represents the extent to which a firm uses debt to finance its operations, commonly measured by the ratio of total liabilities to total assets or total equity. According to agency theory and asymmetric information theory, high leverage increases conflicts of interest between managers/shareholders and creditors. To avoid violating debt covenants, managers may be inclined to manipulate earnings, thereby decreasing earnings quality. However, creditors especially large institutional lenders such as banks have strong incentives to closely monitor the firm's activities, which may partially constrain managerial opportunism. Most empirical studies support a negative relationship between financial leverage and earnings quality (Cohen, 2003; Gu et al., 2002; Francis et al., 2004). Hence, the authors propose:

H3: Financial leverage has a negative impact on earnings quality.

Liquidity

Liquidity reflects a firm's ability to meet its financial obligations as they come due. According to agency theory, higher liquidity reduces financial distress and lessens managerial incentives to manipulate earnings for the sake of maintaining a favorable financial image. From the perspective of asymmetric information theory, low liquidity raises concerns among stakeholders regarding the likelihood of information asymmetry, potentially resulting from concealment or manipulation of information. Though empirical studies on this relationship are relatively scarce, the available evidence suggests that good liquidity enhances earnings quality (Francis et al., 2004; Hassan & Farouk, 2014). Accordingly, the authors propose:

H4: Liquidity has a positive impact on earnings quality.

Fixed Asset Investment

Fixed asset investment refers to the extent to which a firm allocates resources to long-term tangible assets. Agency theory and signaling theory suggest that in pursuit of short-term earnings targets, managers may cut essential fixed asset investments that offer long-term benefits, thus causing current earnings to misrepresent sustainable economic performance and reduce earnings quality. Moreover, heavy investment in fixed assets often involves significant accounting estimates (e.g., depreciation), creating opportunities for earnings management through accruals. Asymmetric information theory contends that large investment projects are complex and difficult for external stakeholders to evaluate, leading to increased information asymmetry between managers and investors regarding feasibility and expected returns. Many studies report a negative relationship between fixed asset investment and earnings quality (Cohen, 2003; Gopalan & Jayaraman, 2012). Hence, the proposed hypothesis is:

H5: Fixed asset investment has a negative impact on earnings quality.

Growth

The growth reflects a firm's rate of business expansion and its ability to generate incremental value. According to agency theory and asymmetric information theory, high-growth firms typically exhibit better earnings quality due to their stronger and more sustainable cash flow generation. However, such firms also face heightened pressure from the market and stakeholders to maintain growth rates. When actual growth slows, managers may be strongly incentivized to manipulate earnings to meet investor expectations, leading to less sustainable earnings. Signaling theory suggests that the pressure to sustain a growth image may prompt firms to conceal negative information. However, genuinely high-growth firms also have strong motives to issue positive signals through high-quality earnings reporting. Empirical findings on this relationship are mixed (Cohen, 2003; Gopalan & Jayaraman, 2012). Therefore, the authors propose:

H6: Growth has a positive impact on earnings quality.

Operating Cycle

The operating cycle is the total duration from the time a firm spends cash to purchase inventory until it collects cash from customers. According to agency theory and asymmetric information theory, longer operating cycles are associated with greater reliance on accounting estimates such as inventory write-downs and bad debt allowances both of which provide room for earnings manipulation via accruals, thereby reducing earnings quality. Signaling theory suggests that a longer operating cycle may signal higher operational risk, which could negatively influence stakeholder perceptions of a firm's earnings quality. Several empirical studies support this view (Gu et al., 2002; Francis et al., 2004). As such, the hypothesis is:

H7: The operating cycle has a negative impact on earnings quality.

Firm Age

Firm age is the number of years a company has been operating in the market, usually measured

from the year of establishment or the year of official listing on a stock exchange. Signaling theory and asymmetric information theory suggest that older firms, with longer operational histories, tend to have reduced information asymmetry between managers and stakeholders due to the availability of more extensive historical data and accumulated experience. Additionally, long-standing firms are often more conscious of protecting their reputation through transparency and reliability in financial reporting, thereby improving earnings quality. Empirical studies generally find a positive correlation between firm age and earnings quality (Gu et al., 2002; McNichols, 2002). Therefore, the proposed hypothesis is:

H8: Firm age has a positive impact on earnings quality.

4. Proposed Model

Research Model

$$EQ_{i,t} = \beta_0 + \beta_1 SIZE_{i,t} + \beta_2 ROA_{i,t} + \beta_3 LEV_{i,t} + \beta_4 LIQ_{i,t} + \beta_5 CAPEX_{i,t}$$
$$+ \beta_6 GROWTH_{i,t} + \beta_7 OCYCLE_{i,t} + \beta_8 AGE_{i,t} + \varepsilon_{i,t}$$

Variable Description and Measurement

Dependent Variable: Earnings Quality (EQ)

As previously mentioned, in this study, earnings quality is measured using market-based data, specifically through the value relevance of earnings. The commonly adopted measurement, as proposed by Francis & Schipper (1999), is a linear regression model specified as follows:

$$\text{RET}_{i,t} = \alpha_{0,j} + \alpha_{1,i} \cdot EARN_{i,t} + \alpha_{2,i} \cdot \Delta EARN_{i,t} + \varepsilon_{i,t}$$

Where:

$\text{RET}_{i,t}$: Stock return of firm i in year t

$EARN_{i,t}$: Earnings of firm i in year t

$\Delta EARN_{i,t}$: Change in earnings from year t-1 to year t

$\alpha_{0,i}$, $\alpha_{1,i}$, $\alpha_{2,i}$: Regression coefficients

$\varepsilon_{i,t}$: Error term

The adjusted R^2 of the above model is used as an indicator of the value relevance of earnings. A higher R^2 indicates that earnings explain a greater proportion of stock return fluctuations, thereby reflecting higher earnings quality. Conversely, a lower R^2 implies that earnings information is less relevant to market price movements, resulting in lower earnings quality.

Independent Variables

Symbol	Variable Name	Measurement Method	Expected Sign	Empirical Research
SIZE	Firm Size	Logarithm of total assets	+	Gu và cộng sự (2002); Cohen (2003; Francis và cộng sự (2004)
ROA	Profitability	Ratio of net earnings after tax to total assets	+	Francis và cộng sự (2004); DeFond and Park (2001)

Symbol	Variable Name	Measurement Method	Expected Sign	Empirical Research
LEV	Financial Leverage	Ratio of total liabilities to total assets	-	Cohen (2003); Gu và cộng sự (2002), Francis và cộng sự (2004)
LIV	Liquidity	Ratio of current assets to current liabilities	+	Francis và cộng sự (2004); Hassan & Farouk (2014)
CAPEX	Fixed Asset Investment	Ratio of fixed assets to total assets	-	Cohen (2003), Gopalan & Jayaraman (2012)
GROWTH	Growth	Ratio of current year's net revenue minus previous year's net revenue, divided by previous year's net revenue.	+	Cohen (2003), Gopalan & Jayaraman (2012)
OCYCLE	Operating Cycle	Sum of inventory turnover period and receivables collection period	-	Gu và cộng sự (2002); Francis và cộng sự (2004)
AGE	Firm Age	Difference between year of observation and year of establishment	+	Gu và cộng sự (2002); McNichols (2002)

Source: compiled by the authors

5. Conclusion

This paper has developed a theoretical model to explain the impact of firm-specific characteristics, including firm size, profitability, financial leverage, liquidity, fixed asset investment, growth, operating cycle, and firm age on earnings quality. Rather than merely describing simple correlations, the focus of this study lies in applying foundational theories namely agency theory, signaling theory, and asymmetric information theory to explain and predict the influence of these variables on earnings quality. On that basis, the proposed theoretical model and corresponding hypotheses may serve as a reference framework for empirical studies seeking to test these relationships using specific datasets and contexts.

However, a limitation of this study is that it only considers variables within the category of firm-specific characteristics, without incorporating other groups of influencing factors. Future research may explore additional factors or integrate multiple groups of variables, and proceed to empirically test the proposed hypotheses within the context of the Vietnamese capital market.

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