Beyond the Barriers: Institutional Strength as a Shield in Curbing Earnings Manipulation

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Abstract

This research examines the interplay between institutional frameworks, social capital, and financial reporting practices in emerging economies. Utilizing data from [2,509] corporations across [22] developing nations spanning [2000-2017], we explore the determinants shaping these markets' financial landscapes. Our investigation scrutinizes how regulatory oversight, transparency mandates, shareholder protections, and financial analyst coverage influence the financial integrity of emerging markets. Furthermore, we assess the potential of societal trust as a moderating factor in attenuating economic disparities' effects. Our findings underscore the critical role of robust institutional structures in fostering truthful and transparent financial disclosures. However, societal trust alone proves insufficient in this regard. These results emphasize the necessity for well-established formal institutions to safeguard the veracity and reliability of corporate financial communications. This study contributes to the existing body of knowledge by providing empirical evidence on the nexus between institutional environments, social trust, and the prevalence of earnings management. It offers valuable insights for policymakers and practitioners seeking to enhance corporate governance standards, particularly within the context of developing economies.end

Keywords: Earnings Management, Institutional Settings, Societal Trust, Emerging Markets, Corporate Governance

1. Introduction

Emerging economies are experiencing significant transformations as they transition from closed, homogeneous systems to open, varied, market-oriented economies. These economies follow different paths: some are reshaping their institutions after decades of central planning, while others are accelerating growth through bold economic reforms and global market integration. Emerging market enterprises are facing heightened rivalry in the global market due to the growing presence of multinational corporations globally. The stock market is evolving into a more efficient platform for firms to raise capital and expand their ownership arrangements. However, it is important to note that the banking sector remains the main provider of loans. The efficient allocation of capital assets in stock markets is contingent upon the availability and disclosure of financial information. The regulators aim to enhance the efficiency of capital market allocation by ensuring that the prices of capital assets appropriately represent the information that impacts the value of such assets. In addition, their objective is to reduce inequitable advantages in market entry and prevent profits gained via the use of confidential knowledge (Vu et al., 2023; Haddad and Muir, 2021). The effectiveness of capital distribution will differ across various markets, especially those without efficient information systems (Martens, 2023).

Given these dynamics, managers may manipulate earnings to enhance the informativeness of financial reports, compete for capital, or communicate firm performance to external parties. Earnings management (EM) may also be employed to meet analysts' forecasts and positive earnings thresholds (Kliestik et al., 2021). However, it is considered fraudulent when it exceeds reasonable accounting practices (Maniatis, 2022). Managers in emerging markets, less constrained by corporate governance, tend to manipulate earnings to a greater extent than their counterparts in developed markets (Almarayeh et al., 2020). Consequently, the accounting profession is deeply concerned about the extent of earnings manipulation, as it obscures actual firm performance and hinders informed decision-making. EM represents an agency cost, creating a divergence of interests between stakeholders and management (Rossi and Harjoto, 2020). This study explores how regulatory environments and public confidence can reduce manipulative financial reporting and lessen conflicts of interest, highlighting the role of strong corporate governance in addressing these challenges.

Research on EM is extensive (*e.g.* Dechow et al. (1996, 2012); Leuz et al. (2003)), with empirical studies showing that institutional settings constrain EM behavior. Despite research in this field, empirical research that concentrates on a broad range of emerging markets and institutional constraints is scarce. The early structural and cultural development, as well as the high heterogeneity and undeveloped capital markets, of emerging-market countries, is the reason for their distinctive EM dynamics (Shankar and Narang, 2019). This market's institutional settings and culture are subject to substantial variation due to its distinctive characteristics. There is a compelling reason to broaden research in this field, as these attributes are crucial to an organization's operational efficiency. Furthermore, active participation and

engagement with stakeholders, such as service providers and consumers, where the perceived benefits of co-creating business processes motivate their involvement, can foster deeper immersion, engagement, and satisfaction, ultimately contributing to organizational success (Vu et al., 2023).

In the following dimensions, this study contributes to the literature theoretically and empirically. Initially, this study examines the extent to which institutional contexts restrict EM, with each setting demonstrating a distinct degree of ability to do so. This discovery is following the results of research conducted in developed markets. Second, the capacity of societal trust to reduce EM is not demonstrated. The variable's failure to diminish EM suggests that country-level formal institutions are more proficient in regulating management behavior, and societal trust cannot replace these formal mechanisms. Moreover, the study addresses several additional gaps, such as the influence of minority investor rights on corporate governance and financial reporting quality, the impact of information asymmetry on income quality, and the role of analysts in mitigating EM practices in emerging markets. To address the imbalance in the agency relationship between managers and stakeholders, we are conduct additional research in sectors where EM activity is limited. This understanding is also vital for the formulation of effective policies and the advancement of firms.

The following is the structure of this document. The most recent literature on institutional settings and earnings management is summarized in 2. The methodology is followed by the description of the study data in Section 3. The estimation results are presented in Section 4, while the concluding remarks and study implications are provided in Section 5.

2. Research Context and Hypothesis

2.1. Accruals Earnings Management

Practitioners often consider earnings management problematic and in need of immediate intervention. However, academic perspectives differ regarding the extent and impact of EM on financial statements (Dechow and Skinner, 2000). Baskaran et al. (2020) defines earnings management as the intentional use of financial judgment and transaction structuring by management to modify financial reports. This modification aims to obscure a company's true economic performance or manipulate performance metrics tied to reported financial outcomes. Furthermore, the separation of ownership and control can exacerbate issues related to earnings management (Saona et al., 2020).

Within publicly traded corporations, the separation of ownership and management, as well as conflicts between controlling and non-controlling shareholders, can lead to agency issues (Liu et al., 2021; Martens et al., 2023). The efficiency of the capital market can be influenced by market imperfections such as moral hazard and adverse selection, which arise from an unequal distribution of knowledge between managers and shareholders (Jensen and Meckling, 1976). In general, institutional investors are believed to possess a superior comprehension of global capital markets compared to private investors. The discrepancy may lead individuals to make irrational financial choices (Chung and Zhang, 2011). Some instances of the knowledge gap and its repercussions include managers prioritizing their personal interests over those of the company or individuals doing projects that have a negative net present value in order to enhance their own authority and influence inside the organization (Jensen, 1986).

Income quality is a crucial factor in determining a firm's performance since it provides more information about the firm's results (Xu and Li, 2022). When compared to cash flow, accruals are more uncertain since they arise from decisions made about estimations and allocations throughout the implementation of cash flows (Francis et al., 2005). Stakeholders are not equipped with the necessary expertise to effectively respond to income manipulation in situations when there is a significant imbalance of information. This research indicates that reduced information asymmetry leads to higher-quality incomes and decreased levels of EM. We propose that strengthening institutional frameworks will assist in a reduction in EM.

2.2. Institutional Parameters

Leuz et al. (2003) and Martens et al. (2020) argue that a robust administrative framework can mitigate agency problems by limiting managers' opportunistic behaviors. They assert that strong institutional structures, characterized by comprehensive investor protections and rigorous regulatory compliance, reduce managers' capacity to extract private control benefits, thereby lowering the likelihood of emerging market activities. Thus, we posit that effective institutional frameworks minimize principal-agent conflicts by empowering investors to safeguard their investments from managerial expropriation and ensuring the enforcement of investor rights when needed. In contrast, in markets with weaker institutional environments, the influence of these settings is expected to be less pronounced.

The first institutional setting variable we investigate is the rights of minority (outside) investors (MIR). According to agency theory, the act of monitoring through ownership can serve as an effective component of governance (Kazemian

and Sanusi, 2015). MIR are a significant concern for investors in emerging markets because if the power of dominating shareholders is not regulated, it can result in the seizure of minority investor rights (Meyer and Nguyen, 2020; El-Helaly et al., 2018). The relationship between MIR and corporate governance suggests that higher quality financial reporting is linked to a decreased probability of receiving qualified audit reports (Kamarudin et al., 2020) and also diminishes the possibility of experiencing earnings management.

The second institutional setting variable we examine is legal enforcement (LE), which is frequently linked to the effectiveness of a nation's court system and the implementation of laws (Ippoliti et al., 2015). Agency theory posits that the process of evolutionary dynamics favours laws that govern business behaviour (Fama and Jensen, 1983; Hill and Jones, 1992). Managers who provide inaccurate information about their company's earnings are prone to facing legal consequences. Emerging markets may fail to adequately safeguard the interests of shareholders due to the inadequacy of their legal and enforcement framework concerning shareholders' rights (Gerged, 2021). In nations where LE is less robust, the likelihood of legal risks rises, and the emphasis of governance shifts towards preventing defaults (Esty and Megginson, 2003). The presence of robust regulatory measures in specific European nations does not entirely negate the effectiveness of emerging markets. Still, it does have a diminishing impact on advanced emerging markets (Leuz et al., 2003).

Corporate transparency, our third institutional setting variable, refers to the difference in knowledge between investors and managers. According to Martens and Bui (2023), higher-quality accounting disclosure (DI) and transparency help bridge the knowledge gap and are linked to a decrease in EM. Increased transparency reduces public scepticism towards a company's sustainability and enhances its appeal to potential investors. Lobo and Zhou (2001) postulated that the implementation of EM was more arduous in countries with more stringent disclosure rules. Companies in emerging markets often lack transparency and financial disclosure, as noted by Gerged (2021). Although transparency and disclosure in many emerging markets have improved over the years, voluntary disclosure and emerging markets are not determined or linked simultaneously (Patel et al., 2002). There could be conflicting factors that support the need for stricter managerial oversight of information, since management may have a desire to reveal or keep information that benefits them.

Our fourth variable is the number of analysts following (AF). Financial analysts are experts who evaluate investment opportunities by offering insights and analyzing the performance of companies. The analysts' projections regarding firms' revenues and earnings per share are frequently seen as highly significant, and their predictions may be deemed more dependable than those made by management (Hlel et al., 2020). Companies that fail to meet analysts' performance expectations frequently experience a decline in their stock prices. According to Chan et al. (2014), there is a negative correlation between the number of analysts tracking a company and the extent of EM. This indicates that as the number of AF a company increases, the level of EM tends to decrease. Financial analysts can contribute to the expansion of EM by exerting pressure on management to manipulate results to meet or exceed analysts' estimates.

Based on existing research concerning institutional frameworks, this study proposes the following set of hypotheses:

H1: *Greater minority investor rights reduce financial reporting manipulation.*
H2: *Stronger legal enforcement decreases the incidence of earnings manipulation.*
H3: *Increased disclosure requirements limit the extent of earnings manipulation.*
H4: *A higher number of analyst followings mitigates earnings manipulation.*

2.3. Impact of Culture: Societal Trust

The study of organizational cultures, principles, and value systems within organizations has been a subject of interest for practitioners and scholars for many decades (Dechow and Skinner, 2000). Data from surveys and interviews establish a connection between organizational culture and the firm's value, as culture impacts the individuals who attain leadership positions within the organization. Several firms explicitly formalize their culture through declarations or value recommendations, emphasizing that codification is not the primary driver of corporate culture (McShane and Von Glinow, 2010). Hofstede (1980) asserts that culture plays a significant role in shaping individuals' values and influencing their behaviour.

Societal Trust (ST) plays a crucial role in facilitating the informal and unbiased exchange of information in emerging economies characterized by questionable consistency in financial statements (Haroon and Rizvi, 2021). Corruption is infrequent in countries with high levels of trust (Beesley and Hawkins, 2022). Research conducted by Guan et al. (2020) suggests that in countries with low levels of trust, there is a more pronounced correlation between a company's dedication to fair disclosure and its earnings estimates. This implies that the degree of ST in a country has an impact on the reliability and trustworthiness of individual companies. Investors perceive voluntary disclosures to be more reliable when there is a high level of trust. Lack of ST can worsen moral risks caused by minimal social expenses (Ho et al., 2020).

When examining investor protection across national borders, cultural variations must be taken into account. According to Han et al. (2010), cultural variables could contribute to the variations in wage smoothing practices seen across nations. Building on the existing literature, this research examines the impact of ST on how management prepares and reports financial information.

Considering the impact of cultural influences on earnings management, we put forward the following hypothesis:

H5: *Higher levels of societal trust reduce earnings manipulation.*

3. Descriptive Data Insights

3.1. Study population

This investigation is grounded on data from 2,509 distinct corporate entities, obtained from publicly listed and delisted enterprises operating in 22 emerging markets. Spanning the years 2000 to 2017, this dataset culminates in an aggregate of 30,969 firm-year observations (each representing one firm's data for one year), offering a comprehensive temporal perspective for the study. Financial and insurance industries were excluded from the sample due to differing reporting rules. The dataset, collected through Datastream, shows a significant rise from 2009 to 2012 and a constant increase in the number of observations throughout time, reaching its peak of 2,377 in 2016. Vietnam had the highest geographical representation in terms of observations, whilst Lebanon had the lowest. Food items were the most dominant industry, while retail had the lowest level of presence.

Although the study does not explicitly segment the data into pre- and post-crisis periods, the temporal coverage includes significant global financial events, such as the 2008 financial crisis, which likely influenced corporate governance practices and earnings manipulation behaviors. This comprehensive temporal and geographical coverage allows for insights into how institutional factors and market dynamics evolved across different economic conditions, as seen in Figures 1a and 1b.
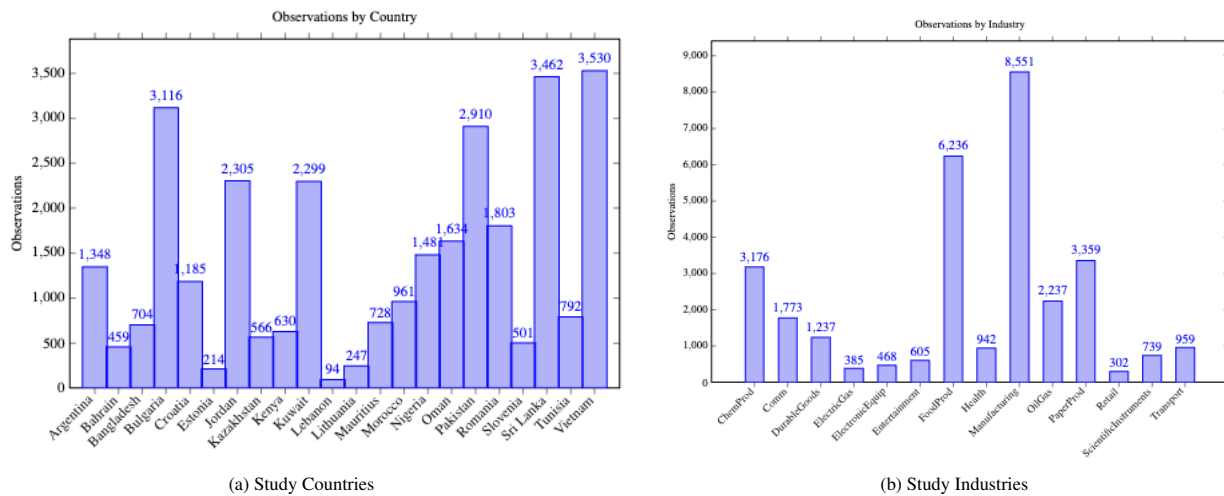

(a) Study Countries

(b) Study Industries

Figure 1: Participating Countries and Industries

3.2. Tools for Accrual Earnings Management Identification

We examine accrual-based earnings management (AEM) as the dependent variable, which serves as the target variable. AEM is a widely recognized and well-studied measure of earnings manipulation, particularly relevant in the context of emerging markets where regulatory oversight may be less stringent, allowing for more frequent manipulation through accruals. Our study employs three AEM indicators to investigate the impact of institutional contexts and public trust on profits management, thus ensuring the credibility and accuracy of our findings. The Leuz (Luez), Yoon-Miller-Jiraporn (YMJ), and Kothari (Koth) constructs are cited in Leuz et al. (2003), Yoon et al. (2006), and Kothari et al. (2005). Below, each detection proxy is detailed.

3.2.1. Leuz Construct by *Leuz et al. (2003)*

Leuz et al. (2003) presents a strategy for detecting AEM and we utilize an initial EM proxy that is based on this measure. The AEM measure, which consists of three distinct processes (AEM1, AEM2, & AEM3), is summarized in Table 7. The composite score was derived by summing the ranks of the three components and calculating the average

score per country every year. This results in the score being adjusted and eliminates the influence of country size on the overall assessment of AEM.

AEM1 is calculated as the ratio of the standard deviation of operating income to the standard deviation of operating cash flow, capturing the potential of management to smooth cash flow fluctuations with accruals (Leuz et al., 2003). A higher AEM1 score reflects less earnings management. AEM2 assesses the correlation between accruals and changes in operating cash flow, where a higher AEM2 value signifies greater income smoothing. AEM3 measures the extent of accruals relative to operational cash flow, with a higher AEM3 indicating stronger income control.

3.2.2. Yoon-Miller-Jiraporn Construct by Yoon et al. (2006)
To detect earnings management effectively, our secondary model leverages the framework established by Yoon et al. (2006), which is particularly adept in emerging market contexts. In this study, accruals are ranked annually and by country, following the methodologies proposed by Sloan (1996) and Lee and Lee (2015).

3.2.3. Kothari Construct by Kothari et al. (2005)
The third AEM detection strategy utilizes the performance-matched methodology outlined in Kothari et al. (2005). When computing discretionary accruals, this technique is very precise and efficient since it considers both the historical and present economic performance of a company. This study categorizes accruals based on country and year, in line with previous research results.

3.3. Empirical Model Framework

To investigate the assumptions, we construct a research model, as shown in Equations 1 - 4. This model consists of four factors related to the institutional framework, together with our cultural variable. This model is based on the standard framework for discretionary accruals, which draws upon the research of McNichols (2002). The relationship between AEM and each research variable is examined using both individual regression models and a multiple regression model that includes all study factors, as seen in Equation 6. Both models are used to provide a thorough study of the relationship. The conceptual framework depicted in Figure 2 illustrates the relationships between the constructs and their influencing variables.

$$\text{Leuz , YMJ , Koth Construct} = \alpha_0 + \alpha_1(\textit{Analyst Following}) + \varepsilon \qquad \textit{(Eq. 1)}$$

$$\text{Leuz , YMJ , Koth Construct} = \alpha_0 + \alpha_1(\textit{Disclosure Index}) + \varepsilon \qquad \textit{(Eq. 2)}$$

$$\text{Leuz , YMJ , Koth Construct} = \alpha_0 + \alpha_1(\textit{Legal Enforcement}) + \varepsilon \qquad \textit{(Eq. 3)}$$

$$\text{Leuz , YMJ , Koth Construct} = \alpha_0 + \alpha_1(\textit{Minority Investor Rights}) + \varepsilon \qquad \textit{(Eq. 4)}$$

$$\text{Leuz , YMJ , Koth Construct} = \alpha_0 + \alpha_1(\textit{Societal Trust}) + \varepsilon \qquad \textit{(Eq. 5)}$$

$$\begin{pmatrix} \text{Leuz} \\ \text{YMJ} \\ \text{Koth} \end{pmatrix} = \alpha_0 + (\alpha_1) \begin{pmatrix} \textit{Analyst Following} \\ \textit{Disclosure Index} \\ \textit{Legal Enforcement} \\ \textit{Minority Investor Rights} \\ \textit{Societal Trust} \end{pmatrix} + \varepsilon \qquad \textit{(Eq. 6)}$$

4. Research Results

4.1. Data Characteristics

The summary statistics of critical factors are presented in Table 1. The accrual earnings management proxies (Leuz, YMJ, and Koth) have mean and median values around 0.510, with standard deviations of approximately 0.167 for Leuz and 0.289 for YMJ and Koth. Their values range from nearly 0 to 1.0. The *AF* variable shows significant variation, with scores increasing ($\bar{x} = 5.179$, $SD = 8.418$), and a range from 0.293 to 47.766. *DI* scores average higher ($\bar{x} = 6.459$, $SD = 2.004$), with a median of 6.0, and a range from 3.0 to 10.0. *LE* measures show consistent values ($\bar{x} = 4.697$, $SD = 0.956$), ranging from 2.88 to 7.87. *MIR* scores also exhibit variation ($\bar{x} = 5.706$, $SD = 1.050$), with a median of 5.8, and a range from 3.7 to 7.5. The *ST* variable presents a moderate spread ($\bar{x} = 3.401$, $SD = 2.036$), with a median of 3.9, and values ranging from 0.0 to 8.1.

Our analysis reveals notable patterns among the key variables. Specifically, we observe negative correlations between the AEM detection proxies and factors such as the *DI*, *LE*, *AF*, and *MIR*. In contrast, *ST* displays a positive correlation
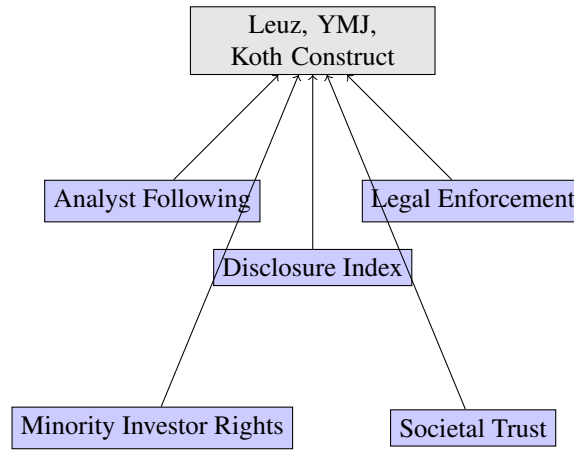
Figure 2: Conceptual Framework of Variable Influences

Table 1: Statistical Summary of Key Earnings Management Measures

Variable	Abbrev.	Mean	SDv	Median	Min	Max
Leuz		0.510	0.167	0.509	0.023	1.000
YMJ		0.510	0.289	0.509	0.003	1.000
Koth		0.510	0.289	0.509	0.003	1.000
Analyst	(AF)	5.179	8.418	1.972	0.293	47.766
Disclosure	(DI)	6.459	2.004	6.000	3.000	10.000
Enforcement	(LE)	4.697	0.956	4.771	2.883	7.872
Investors Rights	(MIR)	5.706	1.050	5.800	3.700	7.500
Trust	(ST)	3.401	2.036	3.900	0.000	8.100

Note: Data for disclosure, legal enforcement, and social trust are from the World Bank's WGI and Doing Business reports.

with the AEM proxies. These relationships are further explored through a detailed regression analysis in subsection (4.2), as presented in Table 2.

Table 2: Correlation Heatmap with Symbolic Representation

Variable	Abbrev.	Leuz	YMJ	Koth	AF	DI	LE	MIR	ST
Leuz									
YMJ		↑↑							
Koth		↑↑	↑↑						
Analyst	(AF)	↓	↓	↓					
Disclosure	(DI)	↓↓	↓↓	↓↓					
Enforcement	(LE)	↓	↓	↓					
Investor Rights	(MIR)	↓	↓	↓		↑	↓		
Trust	(ST)	↑	↑	↑	↑	↑	↓↓	↑↑	

Note: Leuz = Leuz et al. (2003) Construct, YMJ = Yoon et al. (2006) Construct, Koth = Kothari et al. (2005) Construct. Color intensity represents correlation strength. Symbols: (perfect correlation), ↑↑ (strong positive), ↑ (moderate positive), (weak/no correlation), ↓ (moderate negative), ↓↓ (strong negative). Significance levels: 0.05*, 0.01**, 0.001***

4.2. Regression Model Findings

Our hypothesis suggests that variables such as robust investor protection mechanisms and high societal trust levels constrain AEM practices, predicting negative coefficients in these contexts. The regression results for the Leuz, YMJ, and Koth Constructs are shown in Table 3 and Table 4. Table 3 analyzes the effects of individual institutional variables on AEM, while Table 4 examines their combined impact using Pooled OLS regression. The findings from the single-variable regressions are consistent with the multiple regression results, hence only the latter are presented for clarity.

In our analysis, *DI*, *LE*, and *MIR* coefficients consistently show negative correlations, confirming the hypothesis that

higher levels of these variables lead to reduced AEM activity. However, the *AF* variable did not yield statistically significant results, possibly due to the reduction in independent variables, causing an error term. This indicates a potential decrease in the number of analysts covering emerging markets. Nonetheless, we continue to include *AF* in further tests for comprehensiveness. The positive and statistically significant coefficient for *ST*, as shown in Table 2, suggests that societal trust does not limit AEM. The statistical significance of these regression coefficients across various AEM detection proxies underscores their suitability for further analysis, aligning with our initial hypotheses and expectations.

Table 3: AEM, Institutional Settings, and Trust - Variables Individually Tested

Variable	Abbrev.	_cons	Coeffic	t-stat	R^2	Model
Analyst	(AF)	57.488***	-0.308**	(-2.15)	0.003	Leuz
Disclosure	(DI)	3.604	-7.714***	(-12.98)	0.084	Leuz
Enforcement	(LE)	98.152***	-9.378**	(-7.27)	0.028	Leuz
Investor Rights	(MIR)	79.347***	-4.355***	(-3.81)	0.008	Leuz
Trust	(ST)	44.397***	0.295***	(4.58)	0.011	Leuz
Analyst	(AF)	57.201***	-0.379***	(-3.20)	0.005	YMJ
Disclosure	(DI)	5.875	-7.360***	(-15.21)	0.105	YMJ
Enforcement	(LE)	96.380***	-9.113***	(-8.68)	0.037	YMJ
Investor Rights	(MIR)	89.101***	-6.176***	(-6.61)	0.022	YMJ
Trust	(ST)	47.198***	0.198***	(3.78)	0.007	YMJ
Analyst	(AF)	57.306***	-0.361***	(-2.89)	0.004	Koth
Disclosure	(DI)	4.319	-7.618***	(-14.95)	0.101	Koth
Enforcement	(LE)	96.164***	-9.038***	(-8.17)	0.033	Koth
Investor Rights	(MIR)	89.695***	-6.256***	(-6.37)	0.020	Koth
Trust	(ST)	47.012***	0.207***	(3.76)	0.007	Koth
N		17,136				

Note: Regression supported by Hausman test (χ^2 = 0.25, p-value = 0.9694) and the Breusch-Pagan Lagrangian multiplier test (χ^2 = 0.00, p-value = 1.0), indicating efficiency. T-statistics are shown in parentheses. Significance levels are denoted as follows: 0.05*; 0.01**; 0.001***

Table 4: Impact of Institutional Settings and Trust on AEM: Pooled OLS Regression

Variable	Abbrev.	Leuz		YMJ		Koth	
		Coeffic	t-stat	Coeffic	t-stat	Coeffic	t-stat
_cons		108.471***	(11.78)	118.332***	(16.33)	118.204***	(15.39)
Analyst	(AF)	-0.075	(-0.55)	-0.062	(-0.57)	-0.083	(-0.72)
Disclosure	(DI)	9.756**	(-16.05)	-9.738***	(-20.42)	-10.041***	(-19.85)
Enforcement	(LE)	-11.119***	(-8.62)	-11.016***	(-10.98)	-11.018***	(-10.36)
Investor Rights	(MIR)	-13.455***	(-11.36)	-14.841***	(-16.00)	-15.231***	(-15.49)
Trust	(ST)	0.320***	(4.88)	0.248***	(4.95)	0.262***	(4.92)
N		17,136		17,136		17,136	
R2		0.1825		0.2526		0.2398	

Note: Regression supported by Hausman test (χ^2 = 0.25, p-value = 0.9694) and the Breusch-Pagan Lagrangian multiplier test (chi-square = 0.00, p-value = 1.0), indicating efficiency. T-statistics are shown in parentheses. Significance levels are denoted as follows: 0.05*; 0.01**; 0.001***

4.3. Results of Supplementary Analyses

Reevaluating Equation 6 using quantile regression and two-stage least squares (2SLS) confirms the initial results. Quantile regression, which evaluates the influence of independent variables at different locations in the distribution, provides a more comprehensive examination of the relationship between components when there is heterogeneity. Ma and Pohlman (2008) suggests that quantile regression estimates are more efficient and robust than conditional mean estimates, especially when the distribution deviates from Gaussian and exhibits heavy tails. The application of 2SLS is

based on the earnings investigation conducted by Leuz et al. (2003), who acknowledge the frequent interaction of institutional components. To address potential endogeneity, lagged governance variables and macroeconomic indicators were employed as instrumental variables. The Dubin-Wu-Hausman endogeneity test rejects the null hypothesis at a significance level of 0.10, indicating that the instrument variables are not exogenous. The supplementary calculations are presented in 5.

The empirical evidence derived from the 2SLS regression demonstrates a high degree of consonance with the outcomes generated by the Pooled Ordinary Least Squares OLS methodology. A consistent inverse relationship is observed between the variables *AF*, *DI*, *LE*, and *MIR* across all three Accrual Earnings Management (AEM) detection paradigms. However, the Quantile regression framework reveals that the significance of *Analyst Following* is confined to the YMJ and Koth Constructs. Preliminary analyses suggest a substantive influence of analysts on accounting earnings, serving as a deterrent to AEM practices. Extant literature posits that corporations are prone to engage in expansionary monetary activities during periods of economic optimism. Nevertheless, entities under intense analyst scrutiny tend to exhibit more conservative behavior, curtailing such tendencies. Our findings corroborate the scholarly works of Miranda et al. (2018) and Yu (2008), which similarly documented the constraining effect of elevated *AF* on EM activities. Conversely, our results diverge from the heterogeneous market study conducted by Enomoto et al. (2015), which did not observe a similarly significant link.

The observed correlation between *ST* and the three AEM detection proxies contradicts the anticipated findings of previous research conducted by Chen et al. (2019). It is essential to mention that increased media attention played a crucial role in reducing unethical behaviour by companies in their research. Additionally, according to Cunha et al. (2017), social trust's impact is contingent upon the strength of institutions and diminishes as institutional strength increases.

The nature of emerging economies has transformed significantly due to advancements in trade and institutional development. Franco-Santos et al. (2012) propose that if institutional factors affect earnings and performance, reported performance may be somewhat manipulated, necessitating the need to account for performance metrics when analyzing the impact of managerial decisions. Therefore, this study's second analysis reevaluates Equation 6 by incorporating additional control variables at the business and country levels (details not shown for brevity). Nationally, macroeconomic factors collectively impact the magnitude of AEM and institutional factors. According to Saona and Muro (2018), the analysis of AEM cannot be conducted adequately without considering its internal and external factors.

Managers exhibit less opportunistic behaviour in relation to more complex financial systems. This is partially due to the heightened need for more comprehensive accounting data. Based on the study conducted by Saona and Muro (2018), managers in underdeveloped and less competitive locations have a reduced need for people with EM. There is a positive association between the development of financial markets and both economic growth and GDP per capita. Moreover, the implementation of trade liberalization significantly impacts economic development (Amna Intisar et al., 2020). The variables we analyze in order to account for these factors are GDP per capita, GDP growth, and Trade Openness. The study considers dichotomous variables for each of the markets that have implemented the International Financial Reporting Standards (IFRS). Multiple studies, such as Wijayana and Gray (2019) and Martens et al. (2020), have shown evidence linking this adoption to enhanced earnings quality and a reduction in anomalous accruals.

In emerging markets, there is a correlation between firm-level characteristics and owner-agency difficulties. The study conducted by Chung and Zhang (2011) proposes that institutional shareholders can thoroughly evaluate a company's performance and identify instances of financial misreporting. This is similar to the proficiency of Big-4 auditors in identifying gaps in internal controls, as suggested by Kanagaretnam et al. (2016). Consequently, we incorporate a binary variable to indicate if the company hires a Big-4 auditor. Firm leverage and book-to-market ratios control capital structure and company growth potential. When companies have low debt levels, managers tend to manipulate financial statements for their benefit actively. Conversely, significant levels of debt restrict such manipulative behaviour. This study accounts for firm size and incorporates time and industry dummy variables to address potential temporal and industry-related influences.

The second robustness test examines the correlation between the variable *AF* and the AEM proxies developed by Yoon et al. (2006). The significance of *AF* is now evident in all three regression approaches, indicating that previous results may have been affected by omitted variable bias caused by negative confounders or extreme outliers. A variance inflation factor (VIF) test showed all AEM proxies had VIF values below 2.2. The unfavorable correlation between AEM and the *DI* and *LE* remains constant. However, there is no observed association between AEM and *MIR* in the quantile estimation. The level of *ST* remains consistently favourable and significant.

A significant inverse relationship between AEM activity and national control variables like GDP growth and GDP per capita is evident. This suggests that managers from businesses originating from emerging economies and wealthy

Table 5: OLS, Quantile Regression, & 2SLS Regression with Control Variables

Panel A
Pooled OLS Model

Variable	Abbrev.	Leuz		YMJ		Koth	
		Coeffic	t-stat	Coeffic	t-stat	Coeffic	t-stat
_cons		47.700*	(2.49)	72.748***	(9.79)	75.733***	(10.23)
Analyst	(AF)	-0.106	(-1.80)	-0.227***	(-4.35)	-0.254***	(-4.88)
Disclosure	(DI)	-6.767***	(-32.58)	-6.925***	(-34.81)	-7.273***	(-36.68)
Enforcement	(LE)	-4.827***	(-4.70)	-5.649***	(-5.94)	-5.544***	(-5.85)
Investor Rights	(MIR)	-1.052*	(-2.09)	-1.787***	(-3.64)	-1.518**	(-3.10)
Trust	(ST)	0.179***	(5.92)	0.145***	(5.06)	0.131***	(4.60)
Country Controls		yes		yes		yes	
Firm Control		yes		yes		yes	
Industry Dummy		yes		yes		yes	
Year Dummy		yes		yes		yes	
Observations		7,193		7,944		7,944	
Adjusted R-squared		0.338		0.306		0.300	

Panel B
Quantile Regression Model

Variable	Abbrev.	Leuz		YMJ		Koth	
		Coeffic	t-stat	Coeffic	t-stat	Coeffic	t-stat
_cons		113.379***	(10.91)	93.995***	(9.10)	87.331***	(8.88)
Analyst	(AF)	0.008	(0.09)	-0.291***	(-3.49)	-0.313***	(-3.95)
Disclosure	(DI)	-6.109***	(-18.70)	-6.855***	(-21.61)	-7.109***	(-23.53)
Enforcement	(LE)	-4.354**	(-2.69)	-6.292***	(-4.15)	-6.205***	(-4.30)
Investor Rights	(MIR)	-0.795	(-1.00)	-0.178	(-0.23)	-0.108	(-0.15)
Trust	(ST)	0.182***	(3.83)	0.161***	(3.53)	0.182***	(4.19)
Country Controls		yes		yes		yes	
Firm Control		yes		yes		yes	
Industry Dummy		yes		yes		yes	
Year Dummy		yes		yes		yes	
Observations		7,193		7,944		7,944	
Pseudo R2		0.174		0.155		0.158	

Panel C
2SLS Regression Model

Variable	Abbrev.	Leuz		YMJ		Koth	
		Coeffic	t-stat	Coeffic	t-stat	Coeffic	t-stat
_cons		92.724***	(11.63)	65.091***	(8.04)	60.618***	(7.43)
Analyst	(AF)	-0.633***	(-7.91)	-0.475***	(-6.65)	-0.473***	(-6.56)
Disclosure	(DI)	-2.284***	(-6.64)	-2.466***	(-7.54)	-2.664***	(-8.08)
Enforcement	(LE)	-49.509***	(-15.56)	-53.212***	(-17.64)	-54.743***	(-18.01)
Investor Rights	(MIR)	-16.110***	(-16.00)	-18.108***	(-17.68)	-18.387***	(-17.82)
Trust	(ST)	0.973***	(16.45)	0.999***	(17.37)	1.014***	(17.51)
Country Controls		yes		yes		yes	
Firm Control		yes		yes		yes	
Industry Dummy		yes		yes		yes	
Year Dummy		yes		yes		yes	
Observations		7,193		7,944		7,944	
Adjusted R-squared		0.110		0.030		0.001	

Note: Significance levels are denoted as follows: 0.05*; 0.01**; 0.001***.

frontier nations are likely to engage in less AEM activity. Furthermore, the inclusion of business-level control variables reveals a negative relationship in line with Siekelova et al. (2020) findings between firm size and AEM activity. In comparison to larger companies, Siekelova et al. (2020) also found that smaller businesses participate in more AEM activity. A study by Harris and Williams (2020) discovered that audits carried out by Big-4 auditors who possess more resources and experience typically yield higher-quality audits. Similar to Anagnostopoulou and Tsekrekos (2017) findings the leverage coefficient showed a mainly positive pattern with variable significance. These results provide a foundation for comprehending the results of our hypothesis testing.

Table 6 summarizes the findings of the hypotheses testing, highlighting the direction of associations between institutional factors and EM. *MIR*, *LE*, and *DI* requirements consistently show negative associations across all models, while *ST* is positively associated. *AF* show a mixed result, with a positive association in quantile regression but a negative association in pooled OLS and 2SLS models. These findings underscore the importance of robust institutional frameworks in curbing EM, particularly through enhanced investor protection and regulatory enforcement. The varying results for analysts suggest that while analyst coverage generally deters earnings management in certain contexts (as evidenced by the positive association found in quantile regression), there are situations where the presence of analysts does not effectively prevent such practices (as indicated by the negative associations in both Pooled OLS and 2SLS models).

Table 6: Summary of Hypotheses Testing Results

Variable	Abbrev.	Hypothesis	Pooled OLS	Quantile Regression	2SLS
Investor Rights	(MIR)	(H1)	–	–	–
Enforcement	(LE)	(H2)	–	–	–
Disclosure	(DI)	(H3)	–	–	–
Analysts	(AF)	(H4)	–	++	–
Societal Trust	(ST)	(H5)	++	++	++

Note: The ++ (–) indicates positive (negative) association with earnings management.

5. Summary of Results and Significance

This study investigated the impact of institutional and cultural factors on curbing earnings management in developing market economies. The findings demonstrate that in developing nations, earnings management activity is constrained by factors such as minority investor rights, legal enforcement, disclosure requirements, and the level of analyst coverage. In particular, the study offers new insights by highlighting the critical role of minority investor rights and analyst followings in mitigating earnings manipulation—an area previously underexplored in emerging markets. These factors contribute to the existing body of knowledge on earnings management in these economies. Contrary to projections and previous research, societal trust did not show a significant relationship with reduced earnings management, underscoring the dominance of formal institutional mechanisms over informal ones. Smaller firms exhibit more robust earnings management activity compared to larger ones, and companies in nations with rising GDP see reduced levels of earnings management.

The implications of the results: According to the RBV concept, external factors such as the attitudes and actions of others have little influence on EM. This demonstrates that formal institutions have a greater influence on control monitoring in nations characterized by weaker governance and lesser impacts on EM. Furthermore, the methodological rigor of this study, using quantile regression and 2SLS, provides robust empirical support for the findings. A new social trust metric that considers economic growth, market growth, education, and transportation might provide contrasting results. The economy's growth promotes the progress of financial systems, but it hinders the development of emerging markets. Robust economies diminish the incentive to conceal earnings. In addition, the size of a corporation has an impact on EM activity. Internal control systems tend to be more comprehensive in larger firms. Smaller firms are more inclined to regulate earnings due to their emphasis on maintaining their reputation.

We limited our investigation to particular emerging market countries, recognizing that potential cross-market influences and global economic factors, such as exchange rate volatility and the time value of money, may have played a role during the study period. Further market research is required to investigate the disparities in emerging market practices compared to developed markets. While we utilized many approved techniques to identify accruals in EM firms, exploring other EM methodologies could provide further insights into their behaviour.

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Table 7: Key Descriptions of Country and Firm Attributes

Variable	Description
Earnings Management Variables	
Leuz Construct	Follows Leuz et al. (2003)'s methodology
AEM1	Ratio of the standard deviations of Operating income (OperInc) to cash flow from operations (CFO): $AEM1 = \sigma(OperInc)/\sigma(CFO)$
AEM2	Spearman correlation between ACC and CFO. Lagged total assets scale both values: $AEM2 = \rho(\Delta ACC, \Delta CFO)$
AEM3	Accruals to CFO ratio: $AEM3 = |ACC|/|CFO|$
YMJ Construct	Follows Yoon et al. (2006)'s methodology
AEM	Ratio of the absolute accruals to absolute CFO: $AEM_{it} \equiv \varepsilon_{it} = \frac{TA_{it}}{REV_{it-1}} - \left[NA_{it} \equiv \hat{\alpha}_1 1\left(\frac{\Delta REV_{it} - \Delta REC_{it}}{REV_{it}}\right) + \hat{\alpha}_2\left(\frac{\Delta EXP_{it} - \Delta PAY_{it}}{}\right) + \hat{\alpha}_3\left(\frac{DEP_{it} + PEN_{it}}{}\right) \right]$
Koth Construct	Follows Kothari et al. (2005)'s performance-matched approach
AEM	Ratio of the absolute accruals to absolute CFO: $AEM_{it} \equiv \varepsilon_{it} = \frac{TA_{it}}{REV_{it-1}} - \left[NDA_{it} = \hat{\alpha}_0 + \hat{\alpha}_1\left(\frac{1}{A_{it-1}}\right) + \hat{\alpha}_2(\Delta REV_{it}) + \hat{\alpha}_3(PPE_{it}) + \hat{\alpha}_4(ROA_{it}) \right]$
Country-Level and Country Control Variables	
Big-4	Proportion of companies utilizing Big4 auditing services
Disclosure Requirements	Source: WDI's Worldwide Extent of Business Disclosure Index
Per Capita GDP	Log of GDP per capita (2005 constant USD). Source: WDI
GDP Annual Growth	Annual real GDP growth rate. Source: WDI
IFRS adoption	Binary variable: 1 if IFRS adopted, 0 if not. Source: IFRS.org
Legal Enforcement	Derived from WDI's Governance Indicators and Transparency International
Minority Investors Rights	Based on World Economic Forum's Global Corruption Index, focusing on Investor Protection Strength
Societal Trust	Source: World Values Survey. Trust scores are re-scaled from 0-10 in line with institutional variables
Trade openness	Trade openness (100*(Exports + imports)/GDP). Source: WDI
Firm-level Variables	
Total Assets	Total Assets (TA)
Accruals Adjustments	Change in current assets minus current liabilities and depreciation (ACC)
Net Accounts Receivables	Total receivables minus the provision for doubtful accounts (AR)
Cash Holdings	Cash and cash equivalents
Operational Cash flow	Operating Cash Flow (CFO)
Total Current assets	Cash, Short-Term Investments, Receivables, Inventory, Prepaid Expenses, and Other Current Assets Summed (CA)
Current Liabilities	Operating liabilities expected to be settled within a year (CL)
Depreciation	Depreciation and amortization (Dep)
Expense	Operating costs other than the costs of readying products or services for sale (EXP)
Pension	Incomes and expenses associated with the company's pension plan (PEN)
Fixed Assets	Tangible assets designated for operational use (PPE)
Sales Revenue	Income from sales of goods, products, and services (REV)
Return on Assets	Efficiency of asset use in earnings (ROA)
Short-term debt	Short-term borrowings and notes payables
Trade Receivables	Receivables from affiliate sales or services (REC)
Trade payables	Payables for affiliate merchandise/services (PAY)
Tax payable	Period changes in taxes payable (TP)
Firm Control Variables	
Analyst Following	Log of one plus analyst count. Source: Thomson Reuters Datastream
Book to market ratio	Ratio of the book value of equity by the market value of equity
Leverage	Ratio of total assets by total liabilities
Size	Natural logarithm of the market value of equity
Year Dummies	Dummy variables for each study year
Industry Dummies	Dummy variables for each industry analyzed