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Substitutive effects of accounting transparency and corporate governance on firm value

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ABSTRACT

Recently, there has been increasing emphasis on the importance of accounting transparency and corporate governance. While previous studies have individually examined their impact on firm values, this paper investigates their combined effects. Using data from the Compustat and Center for Research in Security Prices databases obtained through Wharton Research Data Services, we measure accounting transparency and company value, and we employ the E-index as a measure of corporate governance. This study conducts firm, year, and industry fixed effects regressions on a large panel dataset comprising 21,476 firm-year observations. According to our research, both accounting transparency and good corporate governance have negative effects on the value of a company. This means that spending money to improve both may end up costing more than it benefits, which could lower the value of the company. These results support the notion that investors may see that maintaining high levels of accounting transparency and corporate governance can be excessively costly, while an overemphasis on these two metrics could potentially limit the flexibility and creativity of management. These findings have implications for managers tasked with achieving a balance between robust corporate governance, enhanced accounting transparency, and corporate value considerations.

Contribution/Originality: This study offers a new perspective on accounting transparency and corporate governance, highlighting the potential adverse effects they may bring.

1. INTRODUCTION

Financial statements serve as instruments for identifying, measuring, and communicating financial information, with the goal of helping users better understand and appropriately evaluate the financial position of firms and entities. Both the Financial Accounting Standards Board (FASB) and the International Accounting Standards Board (IASB) underline that financial statements should enhance decision-making for investors, creditors, and managers; the better the understanding of the financial position, the more accurately investors can determine corporate valuations.

Accounting transparency can have a significant impact on corporate values in several ways; for example, increased accounting transparency more accurately portrays fluctuations in the economic worth of a company (Barth, Konchitchki, & Landsman, 2013). If investors have access to transparent accounting information, it reduces information asymmetry between market participants and insiders. Consequently, this helps alleviate adverse selection issues faced by market participants (Burkhardt & Strausz, 2009). Reduced information asymmetry also leads to higher

valuations, as investors can more accurately assess cash flows (Lang, Lins, & Maffett, 2012), which can also lead to lower costs of capital (Barth et al., 2013).

Corporate governance is a factor that influences values in two ways. First, investors can expect to receive a portion of profits in the form of dividends when they perceive responsible resource deployment and avoid unprofitable ventures (Ammann, Oesch, & Schmid, 2011). Second, lower capital costs may result from better corporate governance, as reduced shareholder monitoring costs lead to lower expected returns on equity (Shleifer & Vishny, 1997). However, if the costs of implementing improved corporate governance measures outweigh the expected benefits, this could lead to a lower valuation. However, the majority of literature indicates that better corporate governance is linked to higher firm valuations (Ammann et al., 2011; Bebchuk, Cohen, & Ferrell, 2009; Core, Guay, & Rusticus, 2006; Gompers, Ishii, & Metrick, 2003).

Both accounting transparency and effective corporate governance are typically associated with increased firm valuations, prompting an inquiry into how these factors jointly influence firm values. On the one hand, improved corporate governance can strengthen the positive effects of high accounting transparency and contribute positively to values, but on the other hand, if the costs associated with high levels of accounting transparency and corporate governance are greater than their perceived benefits, this could serve to suppress the value. In this scenario, accounting transparency and corporate governance serve as substitutes for one another, with increased corporate governance only serving to increase values in the face of weak accounting transparency, and vice versa. We posit that accounting transparency and corporate governance act as substitutes rather than independently contributing to corporate valuations, and this study examines their combined and concurrent effects on firm value.

Our findings contribute to the literature in two ways. First, we investigate the concurrent impact of good corporate governance and accounting transparency on firm value. While both factors individually exert a positive influence, our study is one of the first to empirically assess their combined effects. Second, our finding that accounting transparency and corporate governance act as substitutes in their influence on firm value could hold substantial practical implications for managers and board members. Our results suggest that in companies with high levels of transparency, excessive investment in enhancing corporate governance might lead to a lower valuation, rather than its enhancement. On the other hand, improving corporate governance in firms with lower accounting transparency, often due to high disclosure costs, may increase value.

The remainder of this study is organized as follows: Section 2 offers theoretical insights and formulates a hypothesis by drawing from existing research; Section 3 outlines the models, data, and variables employed for empirical analysis; Section 4 summarizes the findings of the analysis; and Section 5 deliberates on the implications and constraints of this study.

2. LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

Financial statements aid users in evaluating the financial position of firms by providing information identified, measured, and communicated according to standards set by the FASB and IASB to enhance decision-making for investors, creditors, and managers. One of the ways that firms enable investors and other stakeholders to gain a sound understanding of their financial health and performance is to increase the transparency of their financial statements. Bushman, Piotroski, and Smith (2004) define accounting transparency for publicly listed companies as the availability of firm-specific information to external parties, including reliable information on performance, financials, and investment opportunities. Enhanced financial transparency lowers investor uncertainty, which in turn lowers information collection costs, resulting in lower capital costs and higher valuations.

Many previous studies document a significant link between accounting transparency, stock market liquidity, and the cost of capital (Barth et al., 2013; Belkhir, Saad, & Samet, 2020; Lang et al., 2012; Opare, Houqe, & Van Zijl, 2021). For example, Barth et al. (2013) directly evaluate the effects of accounting transparency on the cost of capital and document a negative relationship between the two variables. They find that firms with higher accounting

transparency experience reduced costs of capital, attributing this to the cost of information collection when there is significant information asymmetry. Furthermore, Lang et al. (2012) examine the relationship among firm-level transparency, stock market liquidity, and valuations, discovering a positive association between liquidity and value. Furthermore, their mediation analysis reveals that transparency influences Tobin's Q via liquidity channels, highlighting the significance of transparency in bolstering firm value.

Corporate governance refers to the mechanisms established to address agency problems between shareholders (principals) and managers (agents) resulting from the separation of ownership and control (Jensen & Meckling, 1976). Information asymmetry between principals and agents is the primary driver of agency problems, and corporate governance mechanisms aim to monitor managers and align their incentives with those of the shareholders. Corporate governance mechanisms can influence valuations in two main ways. First, effective corporate governance may lead investors to assign higher price multiples to the stock. This could stem from investors having fewer concerns about the diversion of cash flows into unproductive ventures, thereby reducing their apprehensions about receiving a share of profits through dividends (Ammann et al., 2011). Second, lower monitoring costs could result in reduced capital costs, thereby enhancing firm value (Shleifer & Vishny, 1997).

Extensive evidence in the literature supports these assertions by demonstrating a positive association between increased corporate governance and higher valuations (Ammann et al., 2011; Bebchuk et al., 2009; Core et al., 2006; Gompers et al., 2003). Gompers et al. (2003) have constructed an equally weighted corporate governance index, known as the GIM index (Gompers, Ishii, and Metrick index), comprising 24 governance provisions deemed beneficial to management and adopted by the Investor Responsibility Research Center (IRRC). They found a negative association between the GIM index and firm value as measured by Tobin's Q, as well as shareholder returns during the 1990s. However, Bebchuk et al. (2009) argue that not all 24 provisions uniformly impact valuations, and among those that do, the effects may differ.

Bebchuk et al. (2009) then propose a new index called the entrenchment index (E-index), which evaluates the impacts of various corporate governance provisions. The IRRC tracks six provisions that are believed to have the most significant impact on the relationship between the GIM index and firm value, and accounting and business studies widely use the E-index (Antounian, Dah, & Harakeh, 2021; Farrell, Yu, & Zhang, 2013; Randolph & Memili, 2018; Randolph, Su, & Memili, 2023). Specifically, the E-index consists of four provisions that impose constitutional limits on shareholder voting power, which are restrictions on shareholder amendments to corporate by-laws, staggered boards, supermajority requirements for mergers, and charter amendments. The other two, aimed at deterring hostile takeover attempts, are poison pills and golden parachutes.

Recent empirical studies consistently demonstrate the significant individual contributions of accounting transparency and corporate governance to firm value (Aouadi & Marsat, 2018; Aydoğmuş, Gülay, & Ergun, 2022; Chang, Fu, Jin, & Liem, 2022). However, understanding the combined effects of accounting transparency and corporate governance on firm value presents more challenges. Indeed, prior research suggests that when the cost of increasing governance surpasses the advantages, it may diminish firm value (Bruno & Claessens, 2010; Chhaochharia & Grinstein, 2007; Gillan, Hartzell, & Starks, 2011). This aligns with our hypothesis that excessive monitoring and rigid management practices can lead to diminished returns and valuations. Therefore, an overly intense focus on both factors can potentially over-allocate financial resources, thereby reducing firm value. To maximize corporate value, however, there might be an optimal balance between corporate governance and accounting transparency levels.

This study suggests that accounting transparency and corporate governance act as substitutes in influencing firm value together. Elevating accounting transparency in conjunction with well-established corporate governance systems may result in excessive costs, potentially lowering future cash flows and firm valuations. Therefore, we put forward the following hypothesis:

Hypothesis: Accounting transparency and corporate governance can serve as substitutes when explaining their effects on firm value.

3. METHODOLOGY

3.1. Data Sample and Measurements

Our study uses a combination of data sources to create the sample to test our hypothesis. Accounting information is obtained from the Compustat database, while stock price data used to calculate market-adjusted returns is obtained from the CRSP database. The data on corporate governance is obtained from Lucian Bebchuk's website (Bebchuk et al., 2009). This website provides data on the E-index for all the firms tracked by IRRC from 1990 to 2006. Given the availability of E-index data until 2006, our analysis focuses on observations spanning from 1990 to 2006, obtained online. Our final sample comprises 21,476 firm-year observations from 1990 to 2006. On this extensive panel dataset, we used firm, year, and industry fixed effects regressions.

For our regression models, we require a measure of accounting transparency for a given firm, so we follow Cheng and Subramanyam (2008) and use negative one times the squared residual from the cross-sectional regression given in model (1):

$$ARET_{i,t} = b_0 + b_1 NI_{i,t} + b_2 LOSS_{i,t} + b_3 NI_{i,t}{}^{*} LOSS_{i,t} + b_4 \Delta NI_{i,t} + \varepsilon_{i,t} \quad (1)$$

Where ARET (adjusted return) represents the market-adjusted return over the fiscal year; NI denotes net income before extraordinary items, scaled by the beginning of year market value of equity; LOSS (loss firm) is an indicator variable that takes the value of one if NI (Net Income) is negative and zero otherwise; ΔNI indicates the change in net income before extraordinary items, scaled by the beginning of year market value of equity. Additionally, we adopt Tobin's Q as our measure of firm value, following Gompers et al. (2003), Bebchuk et al. (2009) and Ammann et al. (2011). Tobin's Q is calculated as the sum of the market value of common stock, the book value of preferred stock, long-term debt, and short-term debt, divided by total assets.

3.2. Regression Models

To conduct a series of ordinary least squares (OLS) regressions incorporating firm, year, and industry fixed effects to investigate the influence of accounting transparency and corporate governance on firm value. Initially, we examined the effects of accounting transparency alone in model (2) and corporate governance alone in model (3), following the methodology outlined by Asghar, Sajjad, Shahzad, and Matemilola (2020) and Dang, Pham, Nguyen, and Nguyen (2020). As a result, in models (4) and (5), we expand upon models (2) and (3) by including both accounting transparency and corporate governance as independent variables. Model (5) further incorporates an interaction term between accounting transparency and corporate governance to assess their joint effects on values. We anticipate a negative coefficient for β_3, as we hypothesize that an excessive allocation of resources toward corporate governance and accounting transparency may have an adverse impact on firm value. Our OLS regression models are constructed as follows:

$$FV1_{i,t} = \beta_0 + \beta_1 TRANS_{i,t-1} + \beta_2 SIZE_{i,t} + \beta_3 ROA_{i,t} + \beta_4 LEV_{i,t} + \beta_5 INTAN_{i,t} + \beta_6 GROWTH_{i,t} + \beta_7 AGE_{i,t} + \Sigma_{i,t} Year + \Sigma_{i,t} Industry + \varepsilon_{i,t} \quad (2)$$

$$FV2_{i,t} = \beta_0 + \beta_1 GOV_{i,t} + \beta_2 SIZE_{i,t} + \beta_3 ROA_{i,t} + \beta_4 LEV_{i,t} + \beta_5 INTAN_{i,t} + \beta_6 GROWTH_{i,t} + \beta_7 AGE_{i,t} + \Sigma_{i,t} Year + \Sigma_{i,t} Industry + \varepsilon_{i,t} \quad (3)$$

$$FV3_{i,t} = \beta_0 + \beta_1 TRANS_{i,t-1} + \beta_2 GOV_{i,t} + \beta_3 SIZE_{i,t} + \beta_4 ROA_{i,t} + \beta_5 LEV_{i,t} + \beta_6 INTAN_{i,t} + \beta_7 GROWTH_{i,t} + \beta_8 AGE_{i,t} + \Sigma_{i,t} Year + \Sigma_{i,t} Industry + \varepsilon_{i,t} \quad (4)$$

$$FV4_{i,t} = \beta_0 + \beta_1 TRANS_{i,t-1} + \beta_2 GOV_{i,t} + \beta_3 TRANS^{*} GOV_{i,t} + \beta_4 SIZE_{i,t} + \beta_5 ROA_{i,t} + \beta_6 LEV_{i,t} + \beta_7 INTAN_{i,t} + \beta_8 GROWTH_{i,t} + \beta_9 AGE_{i,t} + \Sigma_{i,t} Year + \Sigma_{i,t} Industry + \varepsilon_{i,t} \quad (5)$$

We control for firm size, performance measured using ROA (Return on Asset), leverage ratio, level of intangible assets, growth, and age, since these variables may affect the valuation either positively or negatively (Black, Jang, & Kim, 2006; Yu, Guo, & Luu, 2018). We also control for firm-, year-, and industry-fixed effects. TRANS, representing accounting transparency, is the absolute value of the transparency variable for all firms within a two-digit SIC code (Standard Industrial Classification code) for a given year, following Cheng and Subramanyam (2008). For simplicity,

we use the absolute value of the E-index values to represent GOV in our regression models. You can find all variable descriptions in Appendix A.

4. RESULTS

Table 1 presents the summary statistics of the variables used in our analyses. Firm value (FV), measured by Tobin's Q, has a mean of 2.02 and a median of 1.61, with a standard deviation of 1.37. This suggests that, on average, firms in our sample have a market value that is approximately twice their asset replacement value. Accounting transparency (TRANS), represented by the absolute value of the Cheng and Subramanyam (2008) transparency proxy, has a mean of 0.02, a median of 0.01, and a standard deviation of 0.02. Corporate governance (GOV), measured by the E-index, shows a mean of 2.39 and a median of 2.0, with a standard deviation of 1.29, suggesting that the average firm in our sample has between 2 and 3 governance provisions beneficial to managers. The firm size (SIZE), measured as the natural logarithm of total assets, has a mean of 8.78 and a median of 8.66, with a standard deviation of 3.02.

Table 1. Descriptive statistics.

Variable	Observ.	Mean	Median	Std. dev.	Min.	Max.
FV	21,476	2.016	1.606	1.369	0.258	29.536
TRANS	21,476	0.019	0.014	0.017	0.006	0.028
GOV (E-index)	21,476	2.394	2	1.294	0	6
SIZE	21,476	8.776	8.657	3.020	6.614	10.920
ROA	21,476	0.036	0.004	0.002	-0.050	0.114
LEV	21,476	0.523	0.526	0.239	0.022	4.530
INTAN	21,476	0.134	0.076	0.153	0	0.822
Growth	21,476	0.162	0.157	0.033	0.147	0.174
Age	21,476	1.920	1.639	0.991	0.963	2.923

Table 2 presents the Pearson correlation coefficients among the variables used in our study. Firm value (FV), measured by Tobin's Q, is calculated as the ratio of market value to replacement costs. SIZE represents the logarithm of total assets, LEV denotes the leverage ratio, ROA indicates the return on assets, INTAN stands for the logarithm of intangible assets, GROWTH is determined using the market-to-book ratio, and AGE is the natural logarithm of age in days. Consistent with prior research, accounting transparency (TRANS) shows a significant positive correlation with firm value, with a correlation coefficient of 0.027 at the 5% significance level. This suggests that greater accounting transparency is associated with higher corporate values. Additionally, there is a positive correlation between corporate governance (GOV) and firm value, with a correlation coefficient of 0.12 at the 5% significance level. Finally, to support our hypothesis that accounting transparency and corporate governance function as substitutes, we find a significantly negative correlation between these two factors, with a correlation coefficient of -0.008 at the 5% significance level.

Table 2. Pearson correlations.

Variable	FV	TRANS	GOV	SIZE	ROA	LEV	INTAN	Growth
FV	1							
TRANS	0.027**	1						
GOV	0.119**	-0.008**	1					
SIZE	0.019*	0.009*	-0.019*	1				
ROA	0.063*	-0.064*	0.039*	-0.035*	1			
LEV	-0.113**	-0.000*	-0.101*	0.102*	-0.014*	1		
INTAN	-0.034*	0.003*	-0.039*	0.037**	-0.044*	0.036*	1	
Growth	0.157*	-0.005*	0.030*	0.005	0.007	0.036**	-0.021*	1
Age	0.031*	-0.017*	0.028*	0.000	-0.014*	0.019*	-0.224*	-0.015*

Note: **, * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

Table 3 presents the results of the regressions described in models (2) and (3). Column (1) presents results obtained from model (2), and column (2) presents results obtained from model (3). We find that transparency is significantly and positively associated with firm value; a one unit increase in the measure of transparency results in a 0.0104 unit increase in firm value. Consistent with prior empirical research by Dang et al. (2020); Kim and Jung (2020) and Feng et al. (2023) our findings indicate that transparent accounting information may help alleviate information asymmetry and agency problems, leading to a positive response from external investors and potentially increasing valuations.

The results for Equation 3 demonstrate that corporate governance (measured as negative one times the E-index) is also positively and significantly associated with firm value. An increase in one unit in the E-index provisions results in a 0.0106 unit increase in Tobin's Q, significant at the 1% level. This finding is consistent with past studies that reveal a positive relationship between corporate governance and firm value (Aydoğmuş et al., 2022; Harun, Hussainey, Mohd Kharuddin, & Farooque, 2020; Jiang & Kim, 2020). We suggest that well-structured corporate governance can alleviate agency problems and information asymmetry between shareholders and managers, thereby leading to higher valuations.

Table 3. The impact of transparency and governance on firm value.

Variable	(1)	(2)
	FV	FV
TRANS	0.0104***	
	(0.0003)	
GOV		0.0106***
		(0.0006)
SIZE	0.0778***	0.0436**
	(0.0050)	(0.0072)
ROA	0.02330***	0.0267***
	(0.0036)	(0.0036)
LEV	-0.1530***	-0.169***
	(0.0039)	(0.0039)
INTAN	-0.1348***	-0.1415***
	(0.0067)	(0.0068)
Growth	0.0085***	0.0083***
	(0.0004)	(0.0004)
Age	0.0014*	0.0013*
	(0.0007)	(0.0007)
Firm, year, and industry fixed effect	Yes	Yes
Cons.	1.2628**	1.1879*
	(0.489)	(0.641)
N	21,476	21,476
Adj. R^2	0.066	0.072

Note: ***, **, * denote statistical significance at the 1%, 5%, and 10% levels, respectively. The standard errors are reported in parentheses.

Table 4 presents the results of regressions that test our hypothesis. We seek to examine the simultaneous impact of accounting transparency and corporate governance on firm value. While column (1) presents the result of model (4), column (2) presents the results from model (5). In model (4), we test the purely additive effects of corporate transparency and corporate governance on firm value, and we find that both factors are significantly positive in their effects. While a one-unit increase in accounting transparency results in a 0.0101 unit increase in Tobin's Q, a one-unit increase in corporate governance results in a 0.0108 unit increase in Tobin's Q, both significant at the 1% level. The outcome reported in column (1) aligns with the findings presented in Table 3.

However, the inclusion of the interaction term between accounting transparency and corporate governance in model (5), which tests the simultaneous effects on firm value, reveals the substitutive effect of both factors. The interaction term between accounting transparency and corporate governance has a strong negative impact on firm

value. A one-unit increase in the interaction term leads to a 0.0859-unit drop in Tobin's Q, showing that values go down when both accounting transparency and corporate governance go up at the same time. This supports our hypothesis that investors see that maintaining high levels of accounting transparency and corporate governance is likely to incur unnecessarily excessive costs, potentially resulting in lower values. While accounting transparency and corporate governance individually enhance firm value, excessive allocation of resources by managers to both areas may have the opposite effect. The findings from Table 4 may present a contradiction to prior literature (Aydoğmuş et al., 2022; Dang et al., 2020; Feng et al., 2023; Harun et al., 2020; Jiang & Kim, 2020; Kim & Jung, 2020), suggesting that transparent accounting information and well-structured corporate governance could potentially have a negative impact on firm value.

Table 4. The simultaneous impact of transparency and governance on firm value.

Variable	(1)	(2)
	FV	FV
TRANS	0.0101***	0.0124*
	(0.0003)	(0.0097)
GOV	0.0108***	0.0775***
	(0.0007)	(0.0069)
TRANS * GOV		-0.0859***
		(0.0035)
SIZE	0.0430***	0.0430***
	(0.0072)	(0.0072)
ROA	0.0259***	0.0259***
	(0.0036)	(0.0036)
LEV	-0.1680***	-0.1680***
	(0.0040)	(0.0398)
INTAN	-0.1416***	-1.416***
	(0.0068)	(0.0678)
Growth	0.0084***	0.0083***
	(0.0005)	(0.0004)
Age	0.0013*	0.0013***
	(0.0008)	(0.0007)
Firm, year, and industry fixed effect	Yes	Yes
Cons.	1.191***	1.391***
	(0.0641)	(0.0500)
N	21,476	21,476
Adj. R^2	0.073	0.055

Note: ***, * denote statistical significance at the 1%, 5%, and 10% levels, respectively. The standard errors are reported in parentheses.

Table 5. VIF test for multicollinearity.

Variable	VIF	1/VIF
TRANS	8.62	0.116
GOV*TRANS	8.60	0.116
Intercept	8.57	0.117
LEV	5.95	0.168
GOV	4.54	0.220
AGE	2.06	0.486
INTAN	1.86	0.537
Size	1.08	0.923
Growth	1.04	0.961
ROA	1.04	0.965
Mean VIF	4.34	0.230

Regression analyses use the Variance Inflation Factor (VIF) as a measure to identify multicollinearity issues. Multicollinearity is the result of having correlated independent variables in a regression model, making statistical inferences less reliable. As VIF increases, the reliability of regression results decreases. In general, a VIF value greater than 10 indicates that multicollinearity issues are present in the regression model. Table 5 presents VIF results that alleviate any concerns associated with multicollinearity. Since most variables have relatively small VIF values, multicollinearity does not appear to be an issue in our analyses.

5. CONCLUSION

5.1. Summary and Implications

While previous research has demonstrated the individually positive impact of corporate transparency and corporate governance on firm value, there is a lack of research examining their combined effects. While both variables could have incrementally positive effects, we argue that transparency and corporate governance serve as substitutes. For companies that provide transparent accounting information, excessive spending to increase corporate governance may reduce their value.

This study tests our hypothesis using fixed effects regressions on a sample of 21,476 firm-year observations between 1990 and 2006. We use Cheng and Subramanyam (2008) disclosure quality proxy to model accounting transparency, and Bebchuk et al. (2009) E-index serves as our proxy for corporate governance. Finally, we use Tobin's Q to measure firm value. The results support our hypothesis and show that accounting transparency and corporate governance serve as substitutes in their effects on firm value rather than being incrementally positive factors, so values decrease when both factors increase simultaneously. This supports our argument that investors may perceive maintaining high levels of accounting transparency and corporate governance as unnecessary and excessive costs for the firms, which could lead to a decrease in firm value. Additionally, an excessive emphasis on corporate governance and accounting transparency can potentially curtail management's flexibility and creativity.

These findings offer practical guidance to managers who must strike a balance between strengthening corporate governance and enhancing accounting transparency, all while taking into account the potential impact on corporate valuations. Regulatory bodies and policymakers should also contemplate fostering environments that motivate companies to allocate their resources effectively towards corporate governance and accounting transparency. Adequately addressing either aspect enhances valuations. Practitioners, regulatory enforcement bodies, and policymakers should look for effective ways to enhance values by implementing our study's recommendations. Consequently, this study will bolster investor confidence and contribute to sustainable corporate growth.

5.2. Limitations and Future Research

This study offers valuable insights, yet it is crucial to acknowledge certain limitations, which may pave the way for future research to deepen our understanding of the complex impacts of corporate governance and accounting transparency on corporate valuations.

First, the data used in this study is exclusively from the United States, which may limit the generalizability of the findings to other countries due to differences in financial reporting environments. The U.S. features large stock, bond, and commodity markets, dispersed ownership structures, strong investor rights, and rigorous legal enforcement (Leuz, Nanda, & Wysocki, 2003). These unique characteristics of the US business environment may influence the applicability of our results. To address this limitation, future studies could expand the scope to include international data.

Second, this study does not consider the role of external investors, who heavily depend on accounting information and therefore demand high levels of transparency to guide their investment decisions, especially in the absence of alternative information sources (Bagnoli & Watts, 2010). Brennan and Cao (1997) also highlight that foreign investors might be less informed than domestic investors, leading to slower responses to performance changes. The

influence of external investors could act as a moderating variable in our empirical results. Future research could investigate this moderating effect to provide additional valuable insights.

Finally, we assess corporate governance using the E-index, developed by Bebchuk et al. (2009) which encompasses six provisions, namely amending corporate by-laws, staggered boards, supermajority requirements for mergers, charter amendments, poison pills, and golden parachutes. Unlike previous measures, the E-index offers a more comprehensive evaluation. However, the E-index data provided on Lucian Bebchuk's website (Bebchuk et al., 2009) covers observations reported by the IRRC between 1990 and 2006. To enhance the reliability of our empirical findings, future research could extend the period to include more recent observations.

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Appendix A. Variable definitions.

Variable		Definition
Dependent variable	**FV**	We utilize Tobin's Q, computed as the sum of the market value of common stock, book value of preferred stock, long-term debt, and short-term debt, divided by total assets (Lang & Stulz, 1994).
Independent variables	TRANS	Financial transparency, measured as the absolute value of the squared residual from the cross-sectional regression $ARET_{i,t} = b_0 + b_1NI_{i,t} + b_2LOSS_{i,t} + b_3NI_{i,t}*LOSS_{i,t} + b_4\Delta NI_{i,t} + e_{i,t,}$ for all firms within a three-digit SIC code for a given year. ARET = market adjusted return over the fiscal year, NI = net income before extraordinary items scaled by beginning of year maket value of equity, LOSS = one if NI is negative, zero otherwise, and ΔNI = change in net income before extraordinary items scaled by beginning of year market value of equity
	GOV	Corporate governance, which for ease of interpretation, is measured as minus one times the value of the E-index obtained from Bebchuk et al. (2009).
Control variables	SIZE	Firm size is the natural logarithm of total assets (In millions of U.S. dollars) at the end of fiscal year t.
	LEV	Leverage is the total debt deflated by the average total assets.
	ROA	Return on assets measured as net income before extraordinary items over total assets at the end of the year.
	INTAN	Natural logarithm of intangible assets.
	Growth	Ratio of market value of equity to book value of equity at the end of the year.
	Age	Natural logarithm of firm age.