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Media Coverage and the Incidence of Financial Restatements in Taiwan

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Abstract

This study investigates the impact of media coverage on the incidence of financial restatements by testing two competing hypotheses: the media monitoring hypothesis and the media pressure hypothesis. The media monitoring hypothesis suggests a negative relationship between media coverage and financial restatements, as media acts as an external monitor, improving the quality of financial reporting. The media pressure hypothesis posits a positive relationship, as media coverage can induce short-term performance pressure on managers, leading to opportunistic earnings manipulation and restatements. Analyzing a sample of Taiwan-listed companies from 2000 to 2021, our overall findings support for the media pressure hypothesis, indicating that higher media coverage increases the likelihood of financial restatements. Further results suggest that the positive impact of media coverage on restatements is mitigated by the presence of foreign institutional investors acting as substitution governance monitors. We also show that the positive impact of media coverage on restatements is more evident among firms with high coverage of directors' and officers' liability insurance, serving as a complementary mechanism to amplify the media-driven short-term performance pressure on managers. This study expands our knowledge of financial restatements and underscores the significance of acknowledging the role of media in short-term market pressure and the quality of financial reporting.

JEL classification numbers: G14, G34, L82, M41.

Keywords: Media Coverage, Financial Restatements, Corporate Governance, Short-term Pressure.

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1. Introduction

A firm's financial statement is widely regarded as the main information source utilized by diverse stakeholders within the financial market to analyze the firm's operations, activities, financial position, and business performance. Therefore, it is crucial for companies to prioritize the production of high-quality financial statements to ensure the accuracy and reliability of the information provided. However, the Generally Accepted Accounting Principles (GAAP) provide companies with a degree of flexibility in selecting accounting policies, which can create opportunities for their managers to manipulate their financial statements and engage in window-dressing practices, thereby increasing the likelihood of financial restatements being issued at a later period (Hasnan at al., 2020)⁵.

The aftermath of the highly publicized Enron scandal in 2001 has led to a significant increase in research focused on examining the factors influencing the occurrence of financial restatements, which serves as an indicator of information reporting quality. Previous literature has identified various determinants of financial restatements, including corporate governance mechanisms such as board structure (Nahar Abdullah et al., 2010; Zhizhong et al., 2011; Huang & Scholz, 2012; Hasnan et al., 2020; Habib et al., 2021), institutional ownership (Chen et al., 2018), and directors and officers liability insurance (Weng et al., 2017). Additionally, firm-specific characteristics such as firm age, operating performance, firm leverage, and corporate liquidity have also been identified as determinants (Hasnan et al., 2020). Other managerial characteristics, such as managerial overconfidence (Presley & Abbott, 2013) and the financial expertise of CFOs (Aier et al., 2005), have also been found to be associated with the occurrence of financial restatements. While the aforementioned studies have provided valuable insights into the determinants of financial restatements, one significant factor that has received relatively little attention is the role of the media. This study aims to fill this gap by examining how media coverage affects the incidence of financial restatements.

The mixed theoretical predictions regarding the relation between media coverage and the incidence of financial restatements motivate our empirical investigation. On the one hand, media assumes a significant function as a governance mechanism by virtue of its capacity to collect, compile, disseminate, and amplify information pertaining to organizations, thereby facilitating the identification and public exposure of managerial opportunism and irregularities (Peña-Martel et al., 2018; Chen et al., 2021). Evidently, prior literature has found that media facilitate public monitoring by alleviating managerial agency problems through discovering and uncovering governance infractions (Dyck et al., 2008), deterring accounting fraud

⁵ As mentioned by Presley & Abbott (2013, p.75), "Audited financial statements are restated when the following four conditions are met: (a) there is an inherent risk of a misstatement caused by an error or irregularity within a firm; (b) the material misstatement is undetected by the firm's internal controls; (c) the external auditor does not detect the misstatement and the erroneous financials are issued; (d) the error is discovered and deemed material, requiring correction, restatement, and reissuance of the financials (Eilifsen & Messier, 2000)".

(Miller, 2006; Dyck et al., 2010), curbing earnings management (Chen et al., 2021), and improving firms' financial reporting soundness (Chen et al., 2017; Cahan et al., 2021). The available evidence suggests that companies with greater media coverage are subject to increased scrutiny, which helps to detect any management attempts to manipulate reported earnings in order to meet analysts' forecasts, ultimately leading to the occurrence of financial restatements. Drawing from the agency perspective, we propose our first hypothesis, the media monitoring hypothesis, which posits a significant negative relationship between media coverage and the incidence of financial restatements.

On the other hand, it is worth considering that the influence of media on financial restatements may operate in a different manner. The pressures exerted by the capital market, driven by media coverage, could potentially lead managers to engage in accounting-fraudulent activities, ultimately increasing the likelihood of financial restatements (Chen et al., 2021). In an attempt to attract greater attention from stock market investors, media outlets tend to focus on earnings-related news, particularly negative earnings surprises or consecutive earnings declines, which can amplify the downward reactions in the stock market. Since the managers' compensation packages usually are tied to the stock price or financial performance of the firm, there is a possibility that they may adopt a short-term focus and engage in opportunistic earnings manipulations to avoid negative media coverage (Dai et al., 2021; Goldman et al., 2022). Taken together, the pressure from media reporting can create a situation where managers feel compelled to prioritize short-term performance, leading to the manipulation of earnings. Drawing from the perspective of short-term performance pressure, we propose our second hypothesis, the media pressure hypothesis, which posits a significant positive relationship between media coverage and the incidence of financial restatements.

To test these two competitive hypotheses, we analyzed a sample of Taiwan-listed companies during the period of 2000-2021. In August 2002, the Taiwan Stock Exchange (TWSE) introduced the Market Observation Post System (MOPS) with the objective of facilitating comprehensive, accurate, and timely online disclosure of financial outcomes, risk, and other material information by TWSE-listed companies. The MOPS system serves as a guide, ensuring that companies provide transparent and up-to-date information to investors. Furthermore, according to Reporters Without Borders, Taiwan is renowned for its robust media landscape, as evidenced by its high ranking (2nd in Asia) for press freedom in 2019. The mass media in Taiwan plays a vital role in disseminating information to the public. With its extensive reach and influence, the media serves as a crucial channel for companies to communicate their financial information and updates to a wide audience. The combination of the MOPS system's guidance on disclosure and the influential role of the media creates a context in which companies are motivated to uphold transparency, not only to comply with regulations but also to meet the expectations of investors and maintain a transparent market environment for Taiwan. Therefore, analyzing media coverage in Taiwan provides unique opportunities to allow researchers to examine the different channels through which financial

information is disseminated and explore their influence on financial restatements. To empirically evaluate the impact of media coverage on the occurrence of financial restatements, the measurement of firms' comprehensive media coverage is determined by taking the natural logarithm of the sum of one and the total count of press-initiated news articles pertaining to a particular firm during a given year. (Fang and Peress, 2009). Following prior studies (e.g., Aier et al., 2005), we define the incidence of financial restatements as an indicator variable equal to one, if there is at least one restatement in a specific year, and zero otherwise. The key findings of our Probit models reveal a positive and statistically significant relationship between media coverage in the current year and the occurrence of financial restatements in the subsequent year, even after accounting for other known factors that influence restatements. The robustness analysis further confirms the positive association between media coverage and financial restatements. Specifically, when considering excess media coverage, adjusted by firm size and industry effects, as the primary explanatory variable, alternative sub-sample periods, and estimating the Logistic Model, the positive relationship remains consistent and robust across these different specifications. Overall, our results align with the media pressure hypothesis, which suggests that higher media coverage exerts short-term performance pressure on managers. As a result, companies that receive greater media attention are more likely to engage in earnings restatements.

Next, we consider whether foreign institutional investors and D&O insurance coverage play a substitution role or complementary role relative to media coverage in affecting financial restatements. First, we find that the positive impact of media coverage on financial restatements is more pronounced when foreign institutional investors' ownership is low and less prominent when their ownership is high. This suggests that foreign institutional investors may serve as a substitution governance mechanism by acting as external monitors to restrain managerial earnings manipulation (Chen et al., 2018). Their presence reduces the media-induced shortterm pressure on managerial behavior, leading to a decrease in the likelihood of financial restatements. Second, we also find that the positive effect of media coverage on financial restatements is more prominent when managers have relatively higher levels of excess coverage of the directors' and officers' liability insurance (D&O insurance), whereas it is less pronounced when their coverage is lower. This finding implies that D&O insurance coverage plays a complementary role by strengthening the media-driven short-term performance pressure. The interactive effect between D&O insurance and media coverage encourages managers to misstate reported earnings, contributing to the increased likelihood of financial restatements (Weng et al., 2017). Overall, these findings suggest that foreign institutional investors and D&O insurance coverage act as substitution and complementary mechanisms, respectively, in relation to media-driven short-term pressure on managerial behavior regarding financial restatements. These insights shed light on the complex interplay between media, corporate governance mechanisms, and the occurrence of restatements, providing valuable insights for understanding and improving corporate governance practices.

The main contribution of our study is to complement the existing literature by examining the impact of various factors on the occurrence of financial restatements. Previous studies have identified several determinants of financial restatements, including corporate governance mechanisms (Nahar Abdullah et al., 2010; Zhizhong et al., 2011; Huang & Scholz, 2012; Hasnan et al., 2020; Habib et al., 2021), managerial overconfidence (Presley & Abbott, 2013), firm-specific characteristics such as firm age, operating performance, firm leverage, and corporate liquidity (Hasnan et al., 2020), CFOs' financial expertise (Aier et al., 2005), the presence of female directors on the board (Abbott et al., 2012), institutional investor ownership (Chen et al., 2018), and directors and officers liability insurance (Weng et al., 2017). However, little attention has been given to the influence of media as an additional monitoring mechanism or the excessive short-term pressure exerted by the media on managerial financial restatement behaviors. By focusing on this less-explored topic, our study aims to fill this literature gap.

Two recent studies closely related to our work. Chen et al., (2021) examined a sample of US firms from 2000 to 2016 and discovered an inverse correlation between the level of media coverage and the occurrence of both accrual-based and real earnings management activities. Their findings suggest that the media assumes the role of an external monitoring mechanism, effectively discouraging managers from engaging in opportunistic earnings management practices. Similarly, Alkebsee & Habib (2021) analyzed a sample of Chinese listed companies over the period 2011-2015 and demonstrated a negative and significant relationship between media coverage and financial restatements. This indicates that firms with higher media coverage benefit from stronger external corporate governance mechanisms and engage less in financial restatements. Both of these studies share a common theme, which is highlighting the monitoring role of the media in a firm's financial reporting quality and generating a negative relation between media coverage and the occurrence of financial restatements. However, our study specifically generates an alternative economic implication that media coverage has a positive effect on the occurrence of financial restatements and thus highlights the influence of media's excessive short-term pressure on managerial financial restatements in Taiwan. It is noteworthy to mention that in 2019, Taiwan secured the second position in Asia in terms of press freedom, as assessed by the organization Reporters Without Borders. This unique environment of high level of media press freedom in Taiwan may be key driver that imposes short-term market pressure on managers to engage in opportunistic earnings manipulation activities, thereby leading to a high likelihood of financial restatements in the future.

The structure of this paper is outlined as follows. Section 2 provides a review of the relevant literature and presents the development of our hypotheses. In Section 3, we provide a detailed description of our data, define the variables used in our analysis, and outline the empirical methodology employed. The main findings of our study are presented in Section 4. Section 5 offers a supplementary analysis that examines the mediating effects of institutional investor ownership and directors' and officers'

liability insurance. Finally, Section 6 concludes the paper.

2. Hypothesis Development

In our theoretical framework, we propose two mutually exclusive hypotheses: the media monitoring hypothesis and the media pressure hypothesis. These hypotheses provide contrasting explanations for the potential effects of media coverage on the occurrence of financial restatements.

2.1 Media Monitoring Hypothesis

The media monitoring hypothesis predicts that media coverage can have a negative effect on the incidence of financial restatements. This hypothesis is grounded in recent research that has documented the advantageous outcomes resulting from the media's role as a monitoring mechanism, which effectively enhances corporate governance and consequently improves the quality of information disclosure at the firm level. Consequently, it is expected that firms with higher media coverage will have a lower incidence of financial restatements.

The existing body of literature has extensively explored the role of media as an external monitor in enhancing corporate governance practices within firms. Numerous studies have highlighted the significance of media in this regard (Dyck & Zingales, 2002; Dyck et al., 2010; Gillan, 2006; Miller, 2006; Core et al., 2008; Kuhnen & Niessen, 2012; Dyck et al., 2008; Joe et al., 2009; Bednar, 2012; Choi, Lee, & Park, 2013; Liu & McConnell, 2013; Dai, Parwada, & Zhang, 2015; Wang & Ye, 2015; Dang et al., 2019; An et al., 2020; Cheng et al., 2020; Gao et al., 2020; Chen et al., 2021; Berlinger et al., 2022). For instance, media outlets have been found to exert governance pressure on firm managers, encouraging socially acceptable behavior (Dyck & Zingales, 2002), improving governance structures (Dyck et al., 2008), deterring accounting fraud (Miller, 2006; Dyck et al., 2010), influencing capital allocation decisions (Liu & McConnell, 2013), impacting corporate leverage adjustments (Dang et al., 2019), reducing firms' cost of debt (Gao et al., 2020), decreasing the likelihood of firms withholding bad news (An et earnings management al., 2020), and mitigating managers' opportunistic behaviors (Chen et al., 2021).

These studies collectively support the notion that media coverage can serve as an effective external monitoring mechanism, fostering better corporate governance practices and being expected to reduce the occurrence of financial restatements. By shedding light on the positive influence of media monitoring, these findings highlight the importance of media as a tool for promoting transparency and integrity in financial reporting. We develop the media monitoring hypothesis as follows:

The media monitoring hypothesis (H1): The media coverage is negatively related to the incidence of financial restatements, ceteris paribus.

2.2 Media Pressure Hypothesis

The media pressure hypothesis suggests that an increase in media coverage creates a situation where managers experience heightened performance pressure in the short term. Due to managers' compensation and career concerns, this pressure can create incentives for managers to manipulate reported earnings or engage in aggressive accounting practices to meet short-term expectations and maintain a positive public image. Accordingly, under the media pressure hypothesis, higher media coverage would be associated with a higher likelihood of financial restatements. Several studies have explored the influence of media on corporate behavior and financial reporting integrity, providing support for this hypothesis.

As suggested by Chen et al., (2021), the pressures exerted by the capital market, driven by media coverage, can lead managers to engage in accounting fraudulent activities (i.e., earnings management). This aligns with the notion that media outlets, in their pursuit of attracting attention from stock market investors, tend to focus on earnings-related news, especially negative earnings surprises or consecutive declines. The amplified negative reactions in the stock market can further contribute to the pressure faced by managers. Given that managers' compensation and career prospects are often tied to stock prices, the fear of negative media coverage can push them to become a short-termism. In an attempt to avoid negative publicity, managers may resort to inflating earnings through earnings management practices. This could involve manipulating accounting figures or engaging in other activities aimed at presenting a more favorable financial picture in the short term (Dai et al., 2021; Goldman et al., 2022).

Drawing upon these perspectives, the media pressure hypothesis emphasizes that media coverage exerts pressure on managers to prioritize short-term performance, ultimately increasing the likelihood of financial restatements. Therefore, we develop the media pressure hypothesis as follows:

The media pressure hypothesis (H2): The media coverage is positively related to the incidence of financial restatements, ceteris paribus.

3. Sample and Methodology

3.1 Sample Collection

The scope of this study encompasses stocks listed on the Taiwan Stock Exchange (TWSE) and the Taipei Exchange (TPEx) within the timeframe of 2000 to 2021. Data regarding media coverage of publicly listed firms is collected from five prominent daily mass media sources in Taiwan, namely Commercial Times, Economic Daily News, DigiTimes, Wealth Magazine, and MoneyDJ. To ensure data accuracy, the sample used in this study excludes stocks in the financial industries with two-digit industrial codes 28, 58, and 60. In addition, we identify firms that have announced financial restatements by searching the Taiwan Economic Journal (TEJ) restatements database. Ultimately, the final dataset comprises 30,079 firm-year observations, providing data on media coverage and

firm-level financial restatements. All relevant variables considered in the study are obtained from the Taiwan Economic Journal (TEJ) database.

3.2 Variable Definition

3.2.1 The Incidence of Financial Restatements

To measure the occurrence of financial restatements, we adopt a methodology consistent with previous studies such as Chen et al., (2011) and Weng et al., (2017). We employ a binary variable named "Restat" as an indicator, which takes a value of one if there is at least one reported restatement in a specific year, and zero if no restatements are recorded. This binary variable enables the study to categorize the presence or absence of financial restatements, facilitating further analysis and examination of the relationship between media coverage and the incidence of financial restatements. By utilizing this approach, we can explore the potential impact of media coverage on the likelihood of financial restatements.

3.2.2 Media Coverage

Following the approach outlined by Fang and Peress (2009), we adopt the number of mass media articles related to a particular stock during a specific year as a proxy for overall media coverage of a stock (referred to as *Media*). To collect this data, we performed a systematic search in the TEJ database, focusing on articles published by major Taiwan mass media outlets that mentioned the firms included in our sample. The TEJ database includes five prominent daily mass media sources in Taiwan: the Commercial Times, Economic Daily News, DigiTimes, Wealth Magazine, and MoneyDJ. To quantify the overall media coverage of firms, we utilize the natural logarithm of the sum of one and the total count of press-initiated news articles published about a firm within a specific year, and aim to capture the extent of media attention each stock receives in our analysis.

3.2.3 Other Control Variables

Consistent with previous research, our analysis incorporates a comprehensive set of firm-specific and corporate governance characteristics that may influence the relationship between media coverage and the incidence of financial restatements. These variables encompass the book value of total assets (TA), Tobin's Q ratio (TobinQ), sales growth (SG), total debt to total assets ratio (DEBT), return on assets (ROA), dividend yield (DIV), board size (BSIZE), board independence (BIND), percentage of shares held by the board of directors (BOR), percentage of shares held by the top 10 largest shareholders (BLOCK), excess control rights (XCR) based on the calculations by Cubbin and Leech (1983), and the percentage of directors holding top management positions relative to the board size (BDUAL). All firm-level control variables are measured at the end of the respective year or over the course of the year. By including these factors in our analysis, we aim to account for potential confounding variables and enhance the robustness of our findings concerning the relationship between media coverage and financial restatements.

3.3 Summary Statistics

Table 1 presents the summary statistics for the main variables utilized in this study. The sample consists of approximately 30,079 firm-year observations of TWSE/TPEx stocks spanning from 2000 to 2021. The mean (median) values for the dependent variable Restat indicate a low percentage of restating firms, with values of 3.913% (0.000%), which aligns with the findings of Weng et al. (2017). Regarding the independent variable Media, the mean (median) values are 36.742 (25.000), suggesting that the firms listed in Taiwan receive considerable media attention in the sample year.

Table 1: Descriptive Statistics

	N	Mean	Median	STD
Restat (%)	30,079	3.913	0.000	19.391
Media	30,079	36.742	25.000	45.410
XMedia	30,079	0.000	0.029	0.541
TA (NT\$ in b)	30,079	18.381	3.213	90.440
TobinQ	29,951	1.240	0.930	1.352
SG (%)	29,897	102.576	4.970	6330.690
DEBT (%)	29,985	41.839	42.020	17.995
ROA (%)	30,025	7.021	6.920	9.486
DIV (%)	28,297	3.649	3.470	3.305
BSIZE	29,874	9.130	9.000	2.450
BIND	29,874	0.180	0.200	0.163
BOR (%)	29,874	25.925	22.110	16.289
BLOCK (%)	29,874	20.645	18.550	12.978
XCR (%)	29,836	16.786	15.330	15.832
BDUAL (%)	29,874	24.811	20.000	17.267
QFIIO (%)	26,970	9.527	3.372	14.812
XDOI (%)	20,256	0.000	-0.656	10.751

To examine the correlation among the regression variables, a correlation analysis is conducted, and the focus is placed on the correlation coefficients presented in Table 2. The results reveal a positive and significant association between the dummy variable for financial restatement (*Restat*) and both Media coverage (*Media*) and excess media coverage (*XMedia*). This implies that firms experiencing excessive media attention are more likely to restate their financial reports. The findings also indicate that firms with higher total assets (*TA*), total debt (*DEBT*), board size (*BSIZE*), percentage of directors holding top management positions relative to the board size (*BDUAL*), and lower Tobin's Q ratio (*TobinQ*), return on assets (*ROA*), board independence (*BIND*), percentage of shares held by the top 10 largest shareholders (*BLOCK*), and excess control rights (*XCR*) have a propensity to modify their financial statements.

In summary, these preliminary results support the media pressure hypothesis, which posits that firms facing excessive media coverage are more inclined to engage in aggressive accounting practices. Consequently, further analysis will carefully explore how these variables impact the relationship between Media and financial restatements.

Table 2: Correlation Analysis

	Restat	Media	XMedia	TA	TobinQ	SG	DEBT	ROA	DIV	BSIZE	BIND	BOR	BLOCK	XCR	BDUAL	QFIIO
Media	0.117***															
XMedia	0.031***	0.450***														
TA	0.015***	0.404***	0.095***													
TobinQ	-0.016***	0.034***	0.195***	-0.016***												
SG	-0.003	-0.005	-0.001	-0.003	0.001											
DEBT	0.057***	0.077***	-0.091***	0.100***	-0.201***	0.009										
ROA	-0.016***	0.135***	0.086***	0.039***	0.105***	0.001	-0.140***									
DIV	-0.007	0.095***	0.077***	0.030***	-0.068***	-0.007	-0.075***	0.465***								
BSIZE	0.025***	0.155***	-0.010*	0.128***	-0.016***	-0.006	-0.004	0.011*	0.048***							
BIND	-0.066***	-0.109***	0.099***	0.037***	0.123***	-0.004	-0.046***	0.032***	-0.001	-0.115***						
BOR	0.006	-0.061***	-0.092***	-0.061***	0.050***	-0.003	-0.015***	0.112***	0.059***	0.040***	-0.078***					
BLOCK	-0.041***	-0.111***	0.001	0.003	0.063***	0.025***	0.048***	-0.018***	-0.033***	-0.147***	0.180***	-0.247***				
XCR	-0.010*	-0.006	-0.087***	0.046***	-0.030***	-0.004	0.078***	0.083***	0.079***	-0.043***	0.005	0.369***	0.301***			
BDUAL	0.036***	0.082***	0.029***	-0.001	-0.029***	-0.001	-0.005	0.087***	0.083***	-0.174***	-0.248***	-0.041***	-0.059***	0.044***		
QFIIO	0.005	0.208***	0.104***	0.244***	0.136***	-0.006	0.012**	0.176***	0.063***	0.022***	0.188***	0.016***	0.146***	-0.015**	-0.019***	
XDOI	-0.004	0.027***	0.053***	0.063***	0.019***	-0.010*	-0.008	-0.013**	-0.002	-0.003	0.008	0.009	0.005	-0.005	-0.002	0.044***

** and *** denote significance levels of 5% and 1%, respectively. N are firm-year observations.

4. Empirical Results

4.1 Univariate Analysis

To assess the impact of media coverage on the occurrence of financial restatements, we begin with the univariate analysis. Table 3 presents the results of the univariate test, examining the likelihood of financial restatements represented by the variable *Restat*, stratified by *Media* quintiles. We compare the five subsamples based on their average *Media* values and employ difference-in-means tests to compare the Restat variable between high-*Media* and low-*Media* subsamples.

Table 3: Media Coverage and the Incidence of Financial Restatements: Univariate
Analysis

Media Quintile	High	Q4	Q3	Q2	Low	High-Low		
N	5,716	5,666	5,717	5,766	5,710	_		
Media	88.11	38.96	27.78	20.23	11.78	76.33		
Restat (%)	5.81	4.50	3.01	2.88	2.73	3.08		
[<i>t</i>]	[18.77]***	[16.34]***	[13.32]***	[13.07]***	[12.66]***	[8.15]***		
** and *** denote	** and *** denote significance levels of 5% and 1%, respectively. <i>N</i> are firm-year observations.							

As indicated in Table 3, the mean value of *Restat* consistently decreases as we move from high to low *Media* quintiles. Firms in the high-*Media* quintile portfolio exhibit an average *Restat* of 5.81%, which is higher than the 2.73% average observed for firms in the low-*Media* quintile portfolio. The difference-in-means test reveals a statistically significant positive difference of 3.08% (t-statistic = 8.15) between the high-*Media* and low-*Media* quintile portfolios, at a significance level of 1%. These findings suggest that media coverage amplifies the likelihood of financial restatements, providing support for the media pressure hypothesis.

4.2 Probit Regressions Analysis

To examine the impact of media coverage on financial restatement, we employ Probit regression models to estimate the following equations:

$$Restat_{i,t} = \alpha_0 + \alpha_1 LnMedia_{i,t-n} + \sum_p \alpha_p \times control_{i,t-n}^p + \rho_j + \delta_t + u_{i,t}$$
 (1)

where the dependent variable, $Restat_{i,t}$, is defined as an indicator variable that takes a value of one, if there is at least one restatement in the year t, and zero otherwise. $LnMedia_{i,t-1}$ is the natural logarithm of Media in the year t-1. $control_{i,t-1}^p$ are a set of firm characteristic and corporate governance control variables for firm i in year t-1, including total assets (LnTA), TobinQ, sales growth (SG), total debt (DEBT), return on asset (ROA), dividend yield (DIV), board size (BSIZE), board independence (BIND), board of directors (BOR), the top 10 largest shareholders (BLOCK), excess control rights (XCR), and directors

occupying the top management team positions to the board size (*BDUAL*). The regressions include all control variables with a one-year lag. To account for cross-sectional and time-series dependence, we also incorporate industry-fixed and year-fixed effects. Table 4 displays the regression results of our analysis, where we investigate the relationship between media coverage and the occurrence of financial restatement. We employ three model specifications to examine this association.

Table 4: Media Coverage and the Incidence of Financial Restatements: Probit Regressions

	(1)			(2)			(3)			
	Estimate	Wald χ^2	<i>p</i> -value	Estimate	Wald χ^2	<i>p</i> -value	Estimate	Wald χ^2	<i>p</i> -value	
Intercept	-2.894	1860.5	(<0.01)***	-4.173	395.96	(<0.01)***	-4.203	297.76	(<0.01)***	
LnMedia	0.320	306.0	(<0.01)***	0.129	14.49	(<0.01)***	0.139	16.62	(<0.01)***	
LnTA				0.073	22.38	(<0.01)***	0.083	24.75	(<0.01)***	
TobinQ				0.027	3.51	(0.06)*	0.024	2.79	(0.09)*	
SG				0.000	0.01	(0.92)	0.000	0.01	(0.91)	
DEBT				0.007	42.54	(<0.01)***	0.007	39.23	(<0.01)***	
ROA				-0.009	19.43	(<0.01)***	-0.010	21.09	(<0.01)***	
DIV				-0.009	2.37	(0.12)	-0.009	2.35	(0.13)	
BSIZE							-0.015	5.03	(0.02)**	
BIND							-0.279	4.39	(0.04)**	
BOR							0.002	1.43	(0.23)	
BLOCK							0.002	1.29	(0.26)	
XCR							-0.001	1.33	0.25)	
BDUAL							0.001	2.25	(0.13)	
Industry-Fixed Effect	No			Yes			Yes			
Year-Fixed Effect	No			Yes			Yes			
N	28,575			26,594			26,578			
-2 Log-likelihood	8880.4			7078.9			7044.7			
Percent Concordant	63.3			80.5			80.7			
Pseudo R ²	4.05%			18.63%			18.92%			
** and *** denote sig	nificance	levels of 5	% and 1%, i	respectivel	y. N are fi	rm-year obs	ervations.			

In Model 1 of Table 4, we examined the relationship between *Media* and *Restat* without considering any control variables. The coefficient estimate for total mass media articles (*LnMedia*) is 0.320, which is significantly positive at the 1% level. This indicates that media reports have a substantial positive effect on the likelihood of financial restatements. Moving to Model 2, we introduced a set of firm characteristic control variables, as well as industry-fixed and year-fixed effects. Despite including these additional controls, the coefficient estimate for news reports (*LnMedia*) remains significantly positive at the same level (0.129) with a significance level of 1%. This suggests that media coverage can exert significant short-term pressures on firms, leading managers to potentially falsify reported earnings or adopt aggressive accounting practices to meet short-term expectations and uphold a positive reputation. As a result, this indirectly increases the incidence

of financial restatements. In Model 3, we further expanded our control variables to include various firm characteristics and corporate governance factors. The results show a similar pattern, with the estimated coefficient for news reports (*LnMedia*) at 0.139 and significant at the 1% level. Once again, this indicates that greater media coverage is associated with a higher likelihood of financial restatements, providing support for our media pressure hypothesis.

Overall, the results from all models in Table 4 consistently suggest that increased media coverage is linked to a higher incidence of financial restatements, supporting our hypothesis that media pressure influences the occurrence of restated financial reports.

4.3 Robustness Check

To further support our findings from the previous section, we do a handful of robustness checks in this section.

4.3.1 Excess Media Coverage

We are aware that the significant effects of firm size and industry are more likely to drive our initial media measurement. To net out this concern, we follow Chen, Pantzalis, and Park (2013) and construct an alternative measure of Media coverage in year t-1, namely excess media coverage (LnXMedia), which is the difference between expected and actual counts of media articles, that is, the residual value ($\varepsilon_{i,t}$) in the following regression equation (estimated every year):

$$Ln(1 + Media_{i,t}) = \beta_0 + \beta_1 LnTA_{i,t} + \rho_j + \varepsilon_{i,t}$$
 (2)

where $LnTA_{i,t}$ is the log of total asset for firm i in year t and ρ_j is a vector of industry dummy variables for industry j (the TWSE two-digit industrial codes). We then re-estimate Model (3) of Table 4 with excess media coverage (LnXMedia) as the key independent variable.

Model (1) of Table 5 shows the results of this test for the entire sample. As evidenced, excess media coverage is significantly and positively associated with the incidence of financial statements even after capturing for control variables, industry- and year-fixed effects. Specifically, the estimated coefficient of the LnXMedia variable is 0.161 (p-value < 0.01). These results suggest that an alternative measure for Media coverage does not drive our results.

4.3.2 Sub-periods

We continue to verify our findings by replicating the Probit regression in Model (3) of Table 4, separately for two sub-periods: 2000–2010 and 2011–2021. As shown in models (2) and (3) of Table 5, both coefficients on *LnMedia* are significantly and positively related to *Restat* for subperiods of 2000–2010 and 2011–2021. As a result, the choice of sample period has no effect on our main findings.

4.3.3 Logistic Model

It is likely that the relation between media coverage and the incidence of financial statement is driven when using an alternative regression model. To mitigate this problem, we conduct additional robustness analysis by re-estimating Model (3) of Table 4 based upon the Logistic regression specification. The results in Model (4) of Table 5 confirm a positive relation between media coverage and the incidence of financial statement with 0.285 of *LnMedia* estimated coefficient (p-value <0.01). Thus, the Media impact is not due to when using the Logistic regression model.

Table 5: Robustness Check

	Excess Media	2000-2010	2011-2021	Logistic
	Coverage	(2)	(3)	Model
	(1)			(4)
LnXMedia	0.161			
Wald χ^2	26.70			
<i>p</i> -value of Wald χ^2	(<0.01)***			
LnMedia		0.107	0.089	0.285
Wald χ^2		5.17	3.96	16.21
<i>p</i> -value of Wald χ^2		(0.02)**	(0.04)**	(<0.01)***
Control Variables	Yes	Yes	Yes	Yes
Industry-Fixed Effect	Yes	Yes	Yes	Yes
Year-Fixed Effect	Yes	Yes	Yes	Yes
N	26,578	9,919	16,659	26,578
-2 Log-likelihood	7661.1	4191.7	2741.4	
Percent Concordant	80.1	79.6	75.5	
Pseudo R ²	17.93%	19.42%	10.54%	
Likelihood Ratio Statistic (<i>p</i> -value)				1417.2(<0.01)
Max-rescaled R^2				19.06%
** and *** denote significance levels of 5	5% and 1%, respec	tively. N are fi	rm-year observ	ations.

5. Further Evidence

5.1 Mediating Effect of Qualified Foreign Institutional Ownership

Several prior empirical evidences have argued that qualified foreign institutional ownership was negatively associated with the likelihood of financial report restatement, and thus documented that this type of institutional investor is prone to be as an external monitoring role in mitigating financial restatement activities (Chen et al., 2018, Li et al., 2021). According to our main results, media dissemination is more likely to aggravate the possibility of financial misreporting. It is reasonable to expect that foreign institutional holding-driven monitoring functions a more considerable role in restraining the positive *Media-Restat* relation for firms with more qualified foreign institutional ownerships.

Table 6: Media Coverage and the Incidence of Financial Restatements: Considering Mediating Effect of Qualified Foreign Institutional Investor Ownership

QFIIO Tertiles	High	Medium	Low	High-Low
LnMedia	0.140	0.146	0.213	-0.073
Wald χ^2	6.09	3.96	7.29	
<i>p</i> -value of Wald χ^2	(0.02)**	(0.04)**	(<0.01)***	
<i>p</i> -value of <i>F</i> -test				(<0.01)***
Control Variables	Yes	Yes	Yes	
Industry-Fixed Effect	Yes	Yes	Yes	
Year-Fixed Effect	Yes	Yes	Yes	
\overline{N}	8,283	8,390	8,367	
-2 Log-likelihood	2462.8	1994.8	1842.1	
Percent Concordant	84.4	84.5	80.3	
Pseudo R^2	25.53%	23.21%	16.85%	
** and *** denote significance levels	of 5% and 1%, r	espectively. N are f	irm-year observa	ations.

To validate the above argument, we replicate the Probit regressions with *Restat* as the dependent variable and LnMedia as the main independent variable, as estimated in Model (3) of Table 4, separately for subsample stocks with high, medium, and low qualified foreign institutional ownership (QFIIO) subsamples, in which QFIIO is the percentage of shares held by qualified foreign institutional investors in Taiwan at the end of the year. Our finding presented in Table 6 imply that the Media coefficients are positive across three subsets, and the magnitude is rising as the level of foreign ownership declines. Moreover, the F-test shows the coefficients on [LnMedia] _(i,t-1) for Low-QFIIO subsamples is much larger than that for high-QFIIO (difference in coefficient = -0.073, p-value < 0.01).

Overall, based on the results presented in Table 6, our analysis indicates that the

positive impact of media on the occurrence of financial restatement is particularly notable for firms characterized by lower levels of foreign institutional ownership. In other words, the positive relation between media coverage and the restatement of financial reports becomes weaker when firms are held by greater non-domestic institutional investors. This is consistent with our argument that the presence of foreign institutional ownership may serve as a substitution governance monitoring channel by engaging as external monitors to curb managerial earnings manipulation behaviors due to the media-induced short-term pressure, resulting in a reduction of making financial reporting restatement.

5.2 Mediating Effect of Excess Directors' and officers' liability insurance Coverage

Motivated by the evidence that the strengthening protection of the managerial legal liability by D&O insurance encourages managers to restate financial reports (Weng et al., 2017). In addition, given that the short-term pressure of mass media has the impact of driving managers to misstate reported earnings, we propose the financial restatement-exacerbating effect of media coverage to be more evident for firms covered by high level of D&O insurance.

Table 7: Media Coverage and the Incidence of Financial Restatements: Considering Mediating Effect of Excess D&O Insurance Coverage

XDOI Tertiles	High	Medium	Low	High-Low
LnMedia	0.328	0.176	0.107	0.221
Wald χ ²	4.32	1.80	1.14	
<i>p</i> -value of Wald χ^2	(0.04)**	(0.18)	(0.28)	
<i>p</i> -value of <i>F</i> -test				(<0.01)***
Control Variables	Yes	Yes	Yes	
Industry-Fixed Effect	Yes	Yes	Yes	
Year-Fixed Effect	Yes	Yes	Yes	
\overline{N}	6,468	6,426	6,190	
-2 Log-likelihood	564.1	612.1	856.7	
Percent Concordant	85.4	79.0	75.3	
Pseudo R^2	19.18%	14.10%	10.40%	
** and *** denote significance le	evels of 5% and	l 1%, respectivel	y. N are firm-y	ear observations.

To conduct this test, we employ a variable of excess D&O insurance coverage (*XDOI*), which is measured as the difference between expected and actual D&O insurance coverage in a given year, as a proxy for a firm protected by D&O insurance. Table 7 reports the results of Probit regressions analyses by estimating

Model (3) of Table 4 for each *XDOI* tertiles, in which the sample stocks are allocated into three subsamples of high, medium, and low *XDOI* (denoted as High, Medium, and Low). The regression results show that only the coefficient estimate on the group of high-*XDOI* is significantly positive (0.328 with 5% significance level). The remaining group of medium- and low- *XDOI* appears insignificant over the sample period. Additionally, when we use the F-test to compare the coefficients on $LnMedia_{i,t-1}$ between High- and Low-*XDOI* subsamples, the finding show a significantly positive coefficient (0.221 with 1% significance level).

Taken together, the results in Table 7 suggest that the positive effect of *Media* on the incidence of financial restatement is more pronounced for firms with higher D&O insurance level, suggesting that the engagement of D&O insurance cause the decreasing managerial legal liability and thus contribute as a complementary role in aggravating the media-driven short-term performance pressure. As a result, consistent with our conjecture, the moderating effect of D&O insurance leads to encourage managers to abnormally misstate financial statements.

6. Conclusions

This study focuses on the impact of media coverage on the occurrence of financial restatements in Taiwan-listed firms by examining two competing hypotheses: the media monitoring hypothesis and the media pressure hypothesis. The media monitoring hypothesis suggests that media coverage acts as an external monitoring mechanism, deterring fraudulent practices and improving financial reporting quality, thereby reducing the likelihood of financial restatements. In contrast, the media pressure hypothesis argues that increased media coverage exerts short-term performance pressure on managers, leading to opportunistic earnings management and an increased the likelihood of financial restatements.

Our empirical analysis of Taiwan-listed firms during the period 2000-2021 supports the media pressure hypothesis. The findings indicate a positive and significant relationship between media coverage in the current year and the occurrence of financial restatements in the subsequent year, even after controlling for other determinants of restatements. Additionally, the study explores the role of media in relation to other corporate governance mechanisms. It finds that the positive effect of media coverage on financial restatements is more pronounced when foreign institutional investors' ownership is low, indicating a substitution governance role played by foreign institutional investors in curbing managerial earnings manipulation. Moreover, the positive effect of media coverage on financial restatements is stronger when managers have higher levels of directors' and officers' liability insurance coverage, suggesting a complementary role for D&O insurance in strengthening the short-term performance pressure created by media coverage. The study contributes to the existing literature by examining the impact of media coverage on financial restatements, an area that has received relatively little attention. It highlights the complex interplay between media, corporate governance

mechanisms, and the occurrence of restatements. Furthermore, the unique context

of Taiwan's media landscape, characterized by press freedom and the Market Observation Post System, provides valuable insights into the channels through which financial information is disseminated and their influence on restatements. It is important to note that this study presents an alternative economic implication compared to previous studies (Chen, Cheng, Li, & Zhao, 2021; Alkebsee & Habib, 2021), suggesting that media coverage has a positive effect on the occurrence of financial restatements. The excessive short-term pressure imposed by the media in Taiwan's press freedom environment may contribute to managers engaging in opportunistic earnings manipulation activities, thereby increasing the likelihood of restatements.

Overall, the findings of this study contribute to a better understanding of the role of media in corporate governance and the occurrence of financial restatements. Our work can have implications for policymakers, regulators, companies, and practitioners by providing insights to consider the potential effects of media coverage on financial reporting integrity and the need for effective monitoring mechanisms to ensure transparency and reliability in financial statements.

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