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Market Reaction to Financial Statement Restatement: A Study on the Information and Insurance Role of Auditors

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Abstract

Although researches have extensively studied the relationship between audit quality and financial reporting, little has been said about the consequences to auditors of financial reporting failure in terms of impairment of the audit information role. Based in Taiwan's unique setting, we documents the information role of audit by examining the market reaction to the annual reports of the other clients of auditors associated with restatements. We find that market reaction to clients audited by auditors associated with restatements is significantly more negative than that of clients audited by auditors not associated with restatements, especially for Big-Four auditors. While the results of non-restatement-related group complies with the literature that suggested significantly more positive market reactions for Big-Four clients, abnormal returns are more negative for Big-Four clients of restatement-related auditors. We conclude that an additional penalty for reports audited by Big-Four auditors associated with restatements impairs the perception of their information role.

JEL classification numbers: G11, M42
Keywords: Audit Quality, Market Reaction, Restatements

1 Introduction

The number of restatements on financial reporting, perceived as evidence of audit failure, has increased significantly in recent years[3] (e.g., Palmrose, Richardson, and Scholz 2004; Defond and Francis 2005; Srinivasan 2005; Liu, Raghunandan, and Rama 2009; Chin and Chi 2009). Consequently, accounting restatements are expected to be negatively

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[3]According to Reilly (2007), accounting restatements had rising to a record of 1876 in 2006.

associated with high-quality auditing since external auditors play a critical role in the quality of financial reporting (e.g., Kinney, Palmrose, and Scholz 2004; Romanus, Maher, and Fleming 2008; Chin and Chi 2009).

Auditors play two fundamental roles. Based on resource allocation efficiency, auditors provide verification of financial statements prepared by managers who have information asymmetry with other stakeholders, so audit quality can contribute to the credibility of the financial disclosure. This role is known as the information role. The other role of auditors is the insurance role, in which auditors provide implicit insurance coverage to investors in the event of audit failure.

Prior studies have addressed these two roles separately by examining evidence associated with the Laventhol and Horwath (LH) bankruptcy (e.g., Menon and Williams 1994; Baber, Kumar, and Verghese 1995), samples of private firms (e.g., Fortin and Pittman 2007), and data related to initial public offering (IPO) companies (e.g., Memon and Williams 1994; Willienborg 1999; Weber and Willenborg 2003). However, the empirical evidence has been mixed because the information role and insurance role of auditors are difficult to separate using U.S. data. In the U.S., Big N auditors provide higher-quality financial information (information role) and are better able to pay compensation for audit failure (insurance role), so they are more favored by market.

However, to date, no auditor in Taiwan has been required to compensate investors for impairments suffered as a result of audit reports. In other words, the insurance role simply does not exist in Taiwan. This unique condition provides the opportunity to examine the information role of audit alone. The regulations in Taiwan require audit reports for public companies to be signed by both audit firms and auditors, so the disclosure of audit partners' names enables us to trace all clients of restatement-related auditors[4] and to document the information role of audit by examining the market reaction to the annual reports of clients audited by restatement-related auditors in Taiwan.

We examine the market reaction to restatement-related auditors' annual reports and non-restatement-related auditors' annual reports announced from 1998 to 2008 in Taiwan for companies other than those for which restatements were issued. We find that the market reaction to companies audited by restatement-related auditors is more negative than it is for companies audited by non-restatements-related auditors, which finding supports our first hypothesis. In addition, the results reveal that returns are significantly more negative for reports of clients audited by Big Four restatement-related auditors than they are for clients of Big Four non-restatement- related auditors over a 2-day announcement window. Furthermore, abnormal returns are significantly negatively associated with reports involving Big Four restatement-related auditors, while the negative association between abnormal returns and non-Big Four restatement-related reports is not significant. Furthermore, by separate sample companies to restate-related of not, we find that, clients of Big-Four auditors gained significantly positive abnormal returns in non-restatement-related group. However, the Big-Four audited indicator appears to be negatively related to abnormal returns. In other words, there appears an additional penalty for reports audited by Big Four restatement-related auditors in terms of the perceived impairment of the information role of Big Four auditors, and hypothesis two is strongly supported.

This study contributes to the literature by documenting the information role of audit, which has not been examined independent of the insurance role by prior studies. Based in

[4]We define the auditor who has a client (clients) that restate its (their) financial statement(s) as a restatement-related auditor.

the unique setting of Taiwan, this study highlights the information role of audit and provides evidence to demonstrate that the market will give an additional penalty for the perceived impairment of the information role of Big Four auditors caused by restatements. In addition, while most prior studies have examined the role of audit based on U.S. data, this study provides evidence from outside the U.S. and suggests that the role of audit may be different from country to country.

The remainder of this paper proceeds as follows. The next section presents prior literature and the hypotheses, followed by a description of the sample-selection procedures and research design. Section three discusses the empirical results, and the last section concludes with a summary of findings.

2 Literature Review and Hypotheses Development

An accounting restatement is perceived to be a failure of the external auditor who fails to detect financial misstatements prior to issuing them, so a restatement is usually regarded as an important proxy for audit quality (Byrnes et al. 2002; Eilifsen and Messier 2000; Palmrose et al. 2004; Defond and Francis 2005; Srinivasan 2005; Stanley and DeZoort 2007; Romanus et al. 2008; Liu et al. 2009; Chin and Chi 2009). DeFond and Francis (2005) stated that restatements provide more direct evidence for audit failure than do other proxies for audit quality. Accordingly, in this study we use financial restatements as a proxy for audit failures that impair auditors' information role.

According to Dye (1993), a high-quality audit is demanded for two reasons: to enhance resource allocation through the auditor's "information role" and to provide investors with compensation from an auditor in the event of audit failures, which is known as the "insurance role." In the information role, larger audit firms are thought to provide higher audit quality that enhances the credibility of financial disclosure and contributes to reducing their clients' cost of capital (e.g., Datar, Felthem, and Hughes 1991; Hogan 1997; Willenborg 1999; Pittman and Fortin 2004; Fan and Wang 2005). Pittman and Fortin (2004) demonstrated audit's information role by examining the influence of auditor choice on debt pricing in firms' early public years when they are less well known. They found that choosing a Big Six auditor that is perceived to provide higher-quality audits helps young firms to reduce their borrowing costs; this value declines with age the firms' reputations grow and information asymmetry declines. Similarly, Weber and Willenborg (2003) used a sample of IPO firms to examine the value of a high-quality audit and argued that, at the time of IPO, there is comparatively little information about companies' value, so the information provided by auditors is particularly important. Their findings suggested that the opinions of larger auditors are more informative and so the pre-IPO opinions of larger auditors are highly predictive of post-IPO negative stock delistings[5].While most extant literature on the insurance role of audit has focused on the bankruptcy of audit firms[6] (e.g., Menon and Williams 1994; Baber, Kumar, and Verghese

[5]On the other hand, Willenborg (1999) used a similar setting of microcap IPO to demonstrate the value for audit, and decument the existence of auditors' insurance role. Willenborg (1999) assumed that, in development stage, the IPOs' information component of audit quality is not important, consequently, the negative relation between auditor size and underpricing is mainly because of the insurance effect of audit.

[6]Most studies of this branch focused on the evidence of the bankruptcy of Laventhol and Horwath

1995), Fortin and Pittman (2007) illustrated the insurance role of audit by examining the association between auditor choice and debt pricing of private companies. They argued that, compared to public companies, private companies are less eager to enhance the credibility of their financial statements to extract resources from the capital market, so they can separate audit's insurance role from its information role. While the insurance role of audit can be captured by the bankruptcy event by examining the market reaction to the disappearance of the audit firm's insurance function or by examining private company settings that are intrinsically have less demand for the information role of audit, no studies are known to have similarly examined the information role by separating it from the insurance role. Since the audit report has been required for public companies beginning in 1983, no auditor in Taiwan has been required to provide compensation. Consequently, the auditor's insurance role that is in the U.S. and other countries does not exist in Taiwan[7]. In other words, auditors play only the information role in Taiwan.

Accounting restatements are scrutinized by investors and regulators because it is viewed as evidence of audit failure and always causes negative market reactions (e.g., Palmrose et al. 2004; Srinivasan 2005; Desai, Krishnamurthy, and Venkataraman 2006; Stanley and DeZoort 2007; Lev, Ryan, and Wu 2008)[8]. Liu et al. (2009) indicated that accounting restatements lead to a more negative view of the auditor who "permitted" the incorrect financial statements that had to be restated. In other words, accounting restatements impair the information role of auditors. The financial restatement will disappoint the investors and cost the auditor credibility—a negative reaction to the event that has been documented by prior studies. We argue further that, once the information role of an auditor has been impaired, the investors will not only punish the auditors at the restatement date but will also doubt the audit quality of their other clients and, consequently, negatively react to the following audits of their other clients.

This study uses a sample[9] of clients audited by auditors that have clients that have restated their financial statements in the current year (hereafter "restatement-related auditors") and clients audited by auditors that have no clients that have restated their financial statement in the current year (hereafter "non-restatement-related auditors") in order to examine the market reaction to the impairment of auditors' information role. We hypothesize that clients audited by restatement-related auditors will experience more negative market reaction to their financial statement announcement than will clients audited by non-restatement-related auditors.

(LH). However, the results are mixed. While Menon and Williams (1994) suggest a existence of insurance role, Baber, Kumar, and Verghese (1994) indicated that the results of their study can not discriminate the insurance effect from information effects.

[7]According to Taiwan Certified Public Accountant Act Article 41, "A CPA may not commit any misconduct, or violate or neglect any required professional duties, in the course of his or her practice." And Article 42stated that "A CPA shall be liable to compensate any appointing party, client, audited entity, or interested party for any damage incurred as a result of any of the circumstances contemplated in the preceding article." CPA is supposed to compensate those who were damaged due to CPA's audit failure, however, no auditor in Taiwan has been sentenced to compensate till now. Therefore, auditor's insurance role in other country seems not existed in Taiwan.

[8]For instance, Palmrose et al. (2004) documented an average 9% negative abnormal return for financial restatement over a 2-day window around the announce day based on U.S. data.

[9]Because market reactions of financial statements are mainly influenced by their performance, we match sample companies of our study by ROA to control this effect.

Hypothesis 1

The market reacts more negatively to the financial statement announcements of clients of restatement-related auditors than to clients of non-restatement-related auditors.

Prior studies have suggested that larger audit firms provide higher audit quality than smaller ones, enhancing the credibility of financial disclosure for clients of larger audit firms (e.g., Datar, Felthem, and Hughes 1991; Hogan 1997; Willenborg 1999; Pittman and Fortin 2004; Fan and Wang 2005). Weber and Willenborg (2003) indicated that pre-IPO opinions of larger auditors are more predictive of post-IPO negative stock delistings. Pittman and Fortin (2004) also documented that choosing a Big Six auditor helps young firms reduce their borrowing costs by reducing the information asymmetry between companies and their creditors. Moreover, Fan and Wang (2005) suggested that companies whose stakeholders perceive a bigger agency problem are more likely to engage a Big Six auditor.

This study argues that Big Four auditors are perceived to provide higher-quality audits and more creditable financial information, so the negative consequences of a restatement will do greater injury to the information role for Big Four auditors. Hence, this study hypothesizes that the difference between reactions to clients of restatement-related and non-restatement-related Big Four auditors should be greater than that between restatement-related and non-restatement-related non-Big Four auditors.

Hypothesis 2

The difference between market reactions to clients of restatement-related and non-restatement-related Big Four auditors are greater than that between restatement-related and non-restatement-related non-Big Four auditors.

3 Research Design and Sample Selection

Because Taiwan requires that audit reports for public companies be certified by two audit partners from the same audit firm and that the audit partners' names be disclosed in the audit reports, we have the opportunity to trace the effects of financial restatements to specific auditors[10] during the period 1998-2008 using the Taiwan Economics Journal (TEJ) database. To define the other clients of restatement-related auditors, we first define all auditors with clients that have restated their financial statement in current year as "restatement-related auditors." Next, we trace all clients of a specific auditor. Finally, we omit clients that have themselves announced a financial statement restatement[11] to get a list of other clients of restatement-related auditors.

[10]According to the Taiwan Certified Public Accountant Act, article 20, "A CPA may act individually in establishing a single-person accounting firm, or two or more CPAs may act together either as cosignatories co-located entities in organizing a cosignatory co-location accounting firm or as partners in organizing a joint accounting firm, to engage in CPA practice." The article also defined the term "cosignatory co-location accounting firm" to mean a form of business that is run together by co-located cosignatory who accept business separately and assume liabilities separately."

[11]We exclude the clients that announce a restatement of financial statement of current year to reduce the influence of the restatement of these companies. We argue that to examine the companies besides these "restate companies" enable us to examine the effect of auditors alone instead of the joint effect of investors' negative impression on restate companies and their auditors. We will also provide evidence for include the restate clients as well.

Table 1 presents the description of restatement-related auditors during the period 1998-2008. As was the case in the U.S., the number of restatements in Taiwan increased from 1998 to 2005. Panel A of Table 1 shows that the number of restatement-related auditors also increased during this period. While there were only 36 restatement-related auditors in 1998, the number had increased to 89 by 2005. However, the restatement-related auditors suddenly decrease in year 2006, probably because of the information transparency requirement that began in Taiwan in 2005[12]. More transparent company information ensured that financial statement were more easily supervised limited aggressive accounting, and reduced the number of restatements. Panel B of Table 1 shows the number of other clients of restatement-related auditors. Not surprisingly, there are more clients of restatement-related Big-Four auditors than of non-Big-Four restatement-related auditors simply because most public companies in Taiwan engage Big-Four auditors to certify their financial statements. Prior studies have suggested that market reaction to financial reporting announcements are influenced significantly by company performance, so we match our sample companies by their ROA to control this performance effect on abnormal returns.

Table 1: The description of restatement-related auditors

Panel A: Number of restatement-related auditors											
N	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	Total
Big Four	27	38	41	48	44	32	39	68	50	47	57	491
Non-Big Four	9	8	7	12	14	13	19	21	17	16	11	147
All sample	36	46	48	60	58	45	58	89	67	63	68	638
Panel B: Restatement-related auditors’ other clients (before matching)												
	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	Total
Big Four	291	379	440	535	642	730	812	880	936	971	1023	7639
Non-Big Four	95	99	124	136	139	155	172	183	193	196	203	1695
Total	386	478	564	671	781	885	984	1063	1129	1167	1226	9334
Panel C: Restatement-related auditors’ other clients(matching of res.-related and non-res.-related clients ROA)												
	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	Total
Big Four	291	379	440	535	642	730	812	880	583	971	1023	7286
Non-Big Four	83	86	104	116	119	138	155	165	171	178	181	1496
Total	374	465	544	651	761	868	967	1045	754	1149	1204	8782
Panel D: Restatement-related auditors’ other clients(matching of res.-related and non-res.-related clients ROA according to B4 and Non-B4)												
	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	Total
Big Four	81	171	213	217	349	373	277	272	608	525	332	3418
Non-Big Four	24	32	27	18	33	14	41	32	0	51	12	284
Total	105	203	240	235	382	387	318	304	608	576	344	3702

Model specifications

In keeping with to Geiger, Lennox and North (2008), we estimate the following regressions to test our hypotheses:

$$CAR = \alpha + \beta_1 \mathbf{RESAUCL} + \beta_2 \mathbf{DEBT} + \beta_3 \mathbf{LEV} + \beta_4 \mathbf{INBE} + \beta_5 \mathbf{SIZE} + \beta_6 \mathbf{MANAG} + \varepsilon_t \quad (1)$$

$$CAR = \alpha + \beta_1 \mathbf{BIG4} + \beta_2 \mathbf{DEBT} + \beta_3 \mathbf{LEV} + \beta_4 \mathbf{INBE} + \beta_5 \mathbf{SIZE} + \beta_6 \mathbf{MANAG} + \varepsilon_t \quad (2)$$

Following standard event study methodology, we adopt the market model with ordinary

[12]Since 2003, the Taiwan Securities and Futures Institute (Taiwan SFI) has been entrusted by the Taiwan Stock Exchange Corporation (TSEC) to rank the information transparency of listed companies and to disclose those rankings. Since 2005, the system has ranked into five categories the 630 listed companies that meet the grading-standards requirements, and the government has expected the rankings to encourage the listed companies to become more responsible to the public by increasing transparency.

least squares to estimate the benchmark return[13] and measure cumulative abnormal returns (*CAR*) over a two-day window, beginning the day before the announcement and ending at the end of the day after. The *CAR* is calculated as:

$$CAR_{[-n,+n]} = \sum_{t=-n}^{t=+n} AR_t \ , \tag{3}$$

where the abnormal returns are computed as the prediction errors, e.g., $AR_t = \alpha - \beta$, and time n is 2.

RESAUCL is a dummy variable used for clients of restatement-related auditors. We denote *RESAUCL* as equal to 1 if the client is audited by restatement-related auditor and 0 otherwise; and we use an indicator variable BIG4 that equal to 1 to denote clients that audited by big four auditors. According to related studies, we include ratio of liability (*DEBT*); leverage (*LEV*); income before taxes (*INBE*); natural log of total assets (*SIZE*); and managers' share-holdings (*MANAG*) to control our results.

4 Empirical Result

Table 2 presents the descriptive statistics of this study. We find that the abnormal returns around the announcements of financial statement (in a 2-day window)[14] are negative, on average. After matching by ROA, there are about 55% restatement-related auditors' clients in our sample, and more than 90% of them are audited by Big Four auditors.

Table 2: Descriptive statistics

Variable	Mean	Standard Deviation	Q1	Median	Q3
CAR	-1.257	8.508	-5.766	-1.292	3.067
RESAUCL	0.556	0.497	0.000	1.000	1.000
BIG4	0.923	0.266	1.000	1.000	1.000
DEBT	4.551	33.123	0.431	0.748	2.750
LEV	3.784	33.135	0.540	0.945	1.771
INBE	102.858	60.966	7.184	145.462	547.660
SIZE	8.685	0.996	8.281	8.989	9.410
MANAG	0.893	1.920	0.020	0.210	0.860

Variable Definitions: CAR = cumulative abnormal return, market-model -adjusted CAR around the financial statement announcement; RESAUCL = dummy variable (1 if the firm is the restatement-related auditors' client, and 0 otherwise); BIG 4= dummy variable (company has a Big 4 auditor = 1, else = 0); ROA = return on asset; DEBT = ratio of total liabilities to total assets in year t; LEV = ratio of total liabilities to total shareholder in year t; INBE = income before tax; SIZE = natural log of total asset; MANAG = manager's share-holdings.

Table 3 documents that, generally speaking, clients of restatement-related auditors experience significantly more negatively market reactions around the financial statement announcement period. Besides, manager stock holdings and income before tax are significantly positively associated with cumulate abnormal returns around the financial

[13] We select 300 days as the estimate period, or at least 100 days.

[14] We examine the 1-day and 3-day windows, and find similar results as well.

statement announcement period. TABLE 3 also shows that some independent variables are significantly correlated, but the VIF values do not suggest a collinearity problem.

Table 3: Correlation matrix

	CAR	RESAUCL	MANAG	DEBT	LEV	SIZE	INBE
CAR	1.000	-0.020	0.021	-0.007	-0.003	0.003	0.127
	.	(0.033)**	(0.023)**	(0.241)	(0.373)	(0.388)	(0.000)***
RESAUCL		1.000	0.001	-0.011	-0.005	-0.008	0.001
		.	(0.495)	(0.151)	(0.309)	(0.219)	(0.493)
MANAG			1.000	0.002	-0.011	0.006	0.017
			.	(0.436)	(0.156)	(0.279)	(0.051)**
DEBT				1.000	-0.005	-0.437	0.010
				.	(0.315)	(0.000)***	(0.177)
LEV					1.000	-0.015	-0.020
					.	(0.076)*	(0.030)**
SIZE						1.000	0.013
						.	(0.106)
INBE							1.000
							.

Variable Definitions: CAR = cumulative abnormal return, market-model -adjusted CAR around the financial statement announcement; RESAUCL = dummy variable(1 if the firm is the restatement-related auditors' client, and 0 otherwise); ROA = return on asset; DEBT = ratio of total liabilities to total assets in year t; LEV = ratio of total liabilities to total shareholder in year t; INBE = income before tax; SIZE = natural log of total asset; MANAG = manager's share-holdings.
Statistical significance: *p < .05; **p < .01; ***p < .001

For testing our hypotheses, we first examine the difference of cumulative abnormal returns around the financial statement announcement between restatement-related and non-restatement-related auditors' clients for whole matched sample, Big Four clients, and Non-Big Four clients. We argue that, if the information hypothesis is true, clients of restatement-related auditors should experience more negative market reactions around the financial statement announcement than clients of non-restatement-related auditors which is indicated by our first hypothesis. Moreover, while Big-Four auditors are expected to provide higher quality audit, the information role impaired by accounting restatement should be more significant for Big-Four auditors. Therefore, cumulative abnormal returns of Big Four restatement-related auditors' clients should experience even more negative market reactions than Big Four non-restatement-related auditor' clients which is indicated by our second hypothesis. The difference analysis results are presented in Table 4. Panel A of Table 4 shows that, generally speaking, clients of restatement-related auditors experience significantly more negative market reactions than that of non-restatement-related auditors, in accordance with our first hypothesis. In addition, by separating our sample according to audit firm size, Panel A of Table 4 shows that although abnormal returns for clients of restatement-related auditors are more negative than that of non-restatement-related auditors for both Big-Four and Non-Big Four groups, the difference is significant only in Big-Four group. The results comply with our second hypothesis which suggests that the differences between market reactions to clients of restatement-related and non-restatement-related Big Four auditors are greater than that between restatement-related and non-restatement-related Non-Big Four auditors. To demonstrate our hypothesis further, this study processes a more precise matching procedure that match sample companies separately for Big-Four and Non-Big Four audit clients and examines the difference of market reactions between Big-Four and Non-Big Four clients for restatement-related and non-restatement-related group individually. Panel B of Table 4 shows that while the results of non-restatement -related group complies with the literature that suggested significantly more positive market reactions for Big-Four clients, the abnormal returns are more negative for Big-Four clients of restatement-related auditors for the impairment of their information role.

Table 4: Difference analysis

Panel A: Differences of CAR around the annual report announcement date between Restatement-Related and Non-Restatement-Related auditors' other clients

	N	Restatement -Related Mean	Non-Restatement -Related Mean	T Stat.	P Value
All	8782	-1.369	-1.036	-1.791*	0.073
BIG4	7286	-1.385	-1.023	-1.839*	0.066
NONBIG4	1496	-1.187	-1.090	-0.168	0.867

Panel B: Differences of CAR around the annual report announcement date between Big four and Non-Big Four restatement-related auditors' other clients

	N	BIG4 Mean	NONBIG4 Mean	T Stat.	P Value
Restatement-Related	2060	-1.148	-1.214	- 0.118	0.907
Non-Restatement -Related	1642	1.849	-0.843	1.803*	0.073

Statistical significance: *p < .05; **p < .01; ***p < .001

We present the regression results of the influence of the auditors' information role impairment on the market reactions in Table5 and Table 6. In Table5, we first use a dummy to indicate the clients of restatement-related auditors (RESAUCL) to examine whether these clients experience negative market reactions around the financial restatement announce day. From Panel A of Table5, we find that RESAUCL significantly negatively associate with CAR in full sample which indicate that market will punish auditors that for the impairment of their information role which is indicated in our first hypothesis. Moreover, for the regression results separate by firm size, Pane B and Panel C of Table 5 reveal that the negative market reactions appear significant only for clients of Big-Four auditors. In other words, as predicted in our second hypothesis, an additional penalty for reports audited by Big Four auditors associated with restatements impairs the perception of the information role of Big Four auditors.

Table 5: Regression result of restatement VS. non-restatement related clients

$$CAR = \alpha + \beta_1 RESAUCL + \beta_2 DEBT + \beta_3 LEV + \beta_4 INBE + \beta_5 SIZE + \beta_6 MANAG + \varepsilon_t$$

	Panel A		Panel B		Panel C	
	ALL		BIG 4		NON-BIG 4	
	Coeff.	T stat.	Coeff.	T stat.	Coeff.	T stat.
INTERCEPT	-2.408	-3.169 ***	-2.182	-2.660 ***	-3.730	-1.557 ***
RESAUCL	-0.359	-1.868 *	-0.377	-1.866 *	-0.062	-0.097
DEBT	-0.002	-0.898	-0.002	-0.966	-0.003	-0.140
LEV	0.000	-0.084	-0.001	-0.199	0.007	0.559
INBE	0.348	12.018 ***	0.359	11.269 ***	0.306	4.345 ***
SIZE	-0.026	-0.304	-0.058	-0.626	0.145	0.546
MANAG	0.069	1.807 *	0.052	1.210	0.143	1.653 *
N		8782		7286		1496
R^2		0.016		0.017		0.011

Variable Definitions: CAR = cumulative abnormal return, market-model -adjusted CAR around the financial statement announcement; RESAUCL = dummy variable(1 if the firm is the restatement-related auditors' client, and 0 otherwise); ROA = return on asset; DEBT = ratio of total liabilities to total assets in year t; LEV = ratio of total liabilities to total shareholder in year t; INBE = income before tax; SIZE = natural log of total asset; MANAG = manager's share-holdings.
Statistical significance: *p < .05; **p < .01; ***p < .001

Table 6 presents the association of market reactions for clients' financial statement announcement and their auditor choice (BIG4). As predicted by prior studies, clients of Big-Four auditors gained significantly positive abnormal returns in non-restatement-related group. However, the Big-Four audited indicator appears to be negatively related to abnormal returns. Again, the results of Table 6 demonstrate that the negative effects of information role impairment are more significant for Big Four auditors.

Table 6: Regression results of restatement VS. non-restatement related clients

$$CAR = \alpha + \beta_1 AUDITOR + \beta_2 DEBT + \beta_3 LEV + \beta_4 INBE + \beta_5 SIZE + \beta_6 MANAG + \varepsilon_t$$

	Panel A		Panel B	
	RES		NON_RES	
	Coeff.	T stat.	Coeff.	T stat.
INTERCEPT	0.777	0.410	-1.037	-0.749
BIG4	-0.036	-0.061	1.127	2.303 **
DEBT	-0.011	-0.769	-0.006	-1.904 *
LEV	0.002	0.224	-0.003	-1.139
INBE	0.001	2.320 **	0.000	1.274
SIZE	-0.234	-1.156	-0.079	-0.536
MANAG	0.112	1.488	0.157	2.054 **
N		2060		1642
R^2		0.016		0.030

Variable Definitions: CAR = cumulative abnormal return, market-model -adjusted CAR around the financial statement announcement; BIG 4= dummy variable (company has a Big 4 auditor = 1, else

= 0); ROA = return on asset; DEBT = ratio of total liabilities to total assets in year t; LEV = ratio of total liabilities to total shareholder in year t; INBE = income before tax; SIZE = natural log of total asset; MANAG = manager's share-holdings.
Statistical significance: *p < .05; **p < .01; ***p < .001

4.1 Sensitive Analysis

4.1.1 Eliminating the influence of restated firms

We exclude the clients that announced a restatement of financial statement in the current year to reduce their influence, arguing that examining the companies other than these restated companies enables us to examine the effect of auditors alone, instead of the joint effect of investors' negative impression on restated companies and their auditors[15]. To ensure our results represent the information role of audit rather than that of the managers of restated companies, we omit clients that announced a restatement in the current year. To examine the influence of restated firms, we include them in a second analysis and find similar results remain similar.

4.1.2 The Role of industry specialists

Numerous recent studies have suggested that industry specialists provide better audit quality than do non-specialists, so we also consider the influence of restatement-related specialist auditors by using a similar analysis but changing the indicator of Big-Four auditors to one a specialist indicator, which equals to 1 if the auditor is a specialist and 0 otherwise. We get very similar results to those we get using Big-Four indicator, so we believe that industry-specialized auditors provide an enhanced information effect over non-specialized auditors. However, when using an interaction variable to indicate an auditor who is a Big-Four auditor as well as a specialist, we do not find a significant additional effect on specialized auditors.

5 Conclusion

Although academic research has extensively studied the relationship between audit quality and financial reporting, little has been discussed about the consequences of financial reporting failure for auditors in terms of impairment of the audit information role. While the insurance role of audit can be captured using the bankruptcy event by examining the market reaction to the disappearance of an audit firm's insurance function or by examining private company settings that intrinsically have less demand for the information role of audit, no studies are known to have completely separated the information role from the insurance role.

Since an audit report has been required for public companies in Taiwan since 1983, no auditor in Taiwan has been required to provide compensation. Consequently, the auditor's insurance role that is prevalent in the U.S. and other countries does not exist in Taiwan;

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[15]The financial statements are always viewed as the co-product of managers and auditors, and empirical evidence has documented that accounting restatements lead to market penalties for managers as well as auditors (e.g., Beneish 1999; Desai, Hogan, Wilkins 2006; Cheng and Farber 2008).

auditors play only the information role in Taiwan.

The regulations in Taiwan that require that audit reports for public companies be certified by two audit partners from the same audit firm and that the audit partners' names be disclosed in the audit reports provide us the opportunity to trace the effects of financial restatement to specific auditors. An accounting restatement is perceived to be the failure of an auditor who fails to detect financial misstatements prior issuance and is usually regarded as an important proxy for audit quality. Accordingly, based on the unique setting of Taiwan, this study documents the information role of audit by examining the market reaction to restatement-related auditors' annual reports of their other clients.

The results reveal that market reaction to the financial reports of clients audited by restatement-related auditors are more negative than is reaction to the financial reports of clients audited by non-restatement-related auditors, supporting our first hypothesis. Our results also reveal that reaction to clients audited by Big Four restatement-related auditors is significantly more negative than is reaction to clients audited by Big Four non-restatement-related auditors for Big Four auditors. Furthermore, by separate sample companies to restate-related of not, we find that, clients of Big-Four auditors gained significantly positive abnormal returns in non-restatement-related group. However, the Big-Four audited indicator appears to be negatively related to abnormal returns. We conclude that there is an additional penalty for reports audited by Big Four restatement-related auditors in terms of the perceived information role of Big Four auditors, and hypothesis two is strongly supported.

This study contributes to the literature by documenting the information role of audit, which has never been examined independent of the insurance role. Based in the unique setting of Taiwan, this study highlights the information role of audit and provides evidence to demonstrate that the market will give an additional penalty to Big Four auditors in terms of impairment of the information role. In addition, while most prior studies have examined the demand for audits based on U.S. data, this study provide evidence from outside the U.S. that suggests that the role of audit may be different from country to country.

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