

Accounting Conservatism and Auditor's Mandatory Timely Interim Review: The Case of USA

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On December 22, 1999, SEC adopted a new rule mandating companies to have independent auditors review the financial information on Form 10-Q (or 10-QSB) prior to filing the form with the SEC. This paper investigates whether mandatory timely auditor review on quarterly reports increases accounting conservatism. Using data of a large pool of US companies, a number of regression models provide evidence for more conservative timely reviewed earnings. The result continues to hold when we analyze earnings variability and use subsamples.

JEL Codes: M42, M48, and M49

1. Introduction

The U.S. Securities and Exchange Commission (SEC) adopted the recommendation of "Blue Ribbon Committee" to require auditor's timely review of interim financial reports. Under the SEC's rules filed on December 22, 1999, companies must have independent auditors review the financial information included in the companies' quarterly reports on Form 10-Q or 10-QSB prior to filing such reports with the SEC.¹ The rule is effective for quarterly financial statements starting with quarterly reports on Form 10-Q or 10-QSB for quarters ending on or after March 15, 2000. The objective of this paper is to investigate whether mandatory timely auditor review on quarterly reports enhances the level of accounting conservatism.

Interim financial statements filing for fiscal quarters ending before March 15, 2000, need not be reviewed before release. Auditors could either perform timely review before filing quarterly statements or perform retrospective review at the fiscal year-end (Krishnan, and Zhang 2005). Because of their "deep pockets," auditors are more likely to be exposed to litigation for overstated earnings. They would prefer to accept more conservative earnings (Ettredge et al. 1994). Ettredge et al. (2000) further find that the frequency and proportion of adjustments recorded during the first three fiscal quarters are greater for companies with timely reviews, while the frequency and proportion of adjustments recorded during the fourth quarter are smaller, compared to those with retrospective reviews. We expect timely reviews to increase the level of reporting conservatism because earlier auditor involvement could prevent and correct inaccuracies that would otherwise only be detected when interim earnings are reviewed at the fiscal year-end.

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A vast controversy about the benefits of timely reviews exists among auditors, regulators, and the client companies. Auditors believe that performing pre-issuance reviews results in early identification and resolution of issues and improvement in the quality of the audit process and communications between auditors and clients. The SEC has also claimed a strong preference to timely interim review and characterizes timely reviews as “enhancing the quality and reliability of secondary market reports.” Opponents of interim review on a timely basis concern about its additional costs and time burden. To shed light on the two opposing viewpoints, we focus on testing whether mandatory requirement for timely review increases the level of earnings’ reporting conservatism.

In contrast to previous studies on voluntary interim review that are based on small samples of review reports or surveys of US companies (e.g., Ettredge, et al. 2000, and Ettredge, et al. 1994) and studies based on firms listed in Canada (i.e., Bédard and Courteau 2015), we adopt an event-study approach to directly compare the same firms in the periods before and after the implementation of mandatory timely interim review. For each firm, *Period One (Zero)* consists of consecutive four fiscal quarters beginning from (before) the first fiscal quarter ending on or after March 15, 2000.

First, our univariate comparisons of the two periods show that more firms report losses when auditors’ timely reviews are required by regulations. The average frequency of reporting losses in *Period One* is significantly greater than that in *Period Zero*. On average, more firms report negative restructuring activities in *Period One* than in *Period Zero*. However, the difference between the average frequencies of positive restructuring activities is insignificant across the two periods. We also find lower average negative restructuring activities driving the average magnitude of restructuring activities in *Period One*, to be significantly less than that in *Period Zero*. Since we didn’t find the magnitude of losses changing significantly across the two periods, we argue that special items explain conservatism.

The average earnings surprise, accruals, discretionary accruals, and cumulative non-operating accruals are significantly lower in *Period One* than in *Period Zero*. Interestingly, the decrease of discretionary accruals is primarily caused by the decrease of positive discretionary accruals, but not negative discretionary accruals, consistent with the requirement of timely interim review eliminating income-increasing accruals and thus increasing auditors’ conservatism. Following Givoly, and Hayn (2000), we also use cumulative non-operating accruals as a measure of conservatism. We find that cumulative non-operating accruals drop significantly from *Period Zero* to *Period One*.

Second, following Basu (1997), and Basu et al. (2002), we take the asymmetric timeliness of quarterly earnings in reporting bad news relative to good news as another measure of reporting conservatism. We find that: (1) the asymmetric timeliness of quarterly earnings to bad news increases in the period when auditors’ timely interim review is mandatorily required by the regulation; (2) when timely interim review is required, earnings are more sensitive to bad news than cash flows.

Finally, we divide the principal sample into the interim quarter subsample (with only interim firm-quarter observations) and the fourth quarter subsample (with only the fourth firm-quarter observations). The imposition of timely interim review affects reporting conservatism in both interim quarters and in the fourth quarter.

This study makes three contributes to the literature. First, it provides direct evidence on the incremental benefits of auditors’ involvement in firms’ interim reporting on a timely basis. In contrast to Bédard and Courteau (2015) that focuses on the costs and benefits associated

with interim reviews on a sample of firms listed in Canada, where interim reviews are voluntary, we use a large sample of firms listed in the U.S. and find that auditors' mandatory timely interim review increase earnings' reporting conservatism systematically. Second, by testing the effects of mandatory timely review on accounting conservatism, we suggest that mandatory timely review is favorable in that it leads to more efficient auditing processes. Third, this study adds to the literature by providing evidence on auditor's role in the period around accounting scandals of 1999-2000. Our results might be of interest to both standard setters and auditors, regarding the profession's concern about whether timely interim reviews result in more reliable and credible interim financial statements, and shift some of the work away from the year-end audit.

The paper is organized as follows. Section 2 reviews literature and discusses the development of hypotheses. Section 3 provides data sources and sample selection procedures. Section 4 explains empirical models and variable definitions. Section 5 shows main results. Section 6 provides additional tests on earnings variability over the two periods, and shows the coefficient on asymmetric timeliness for each quarter over the sample period. Section 7 presents the conclusions.

2. Literature Review and Hypotheses Development

An audit affords positive assurance that a client's financial statements are fairly presented (Krishnan, and Zhang 2005). Since many aspects of the auditor's review can only be conducted after the company closes its books and prepares complete financial statements, it is either impossible or impractical to "audit" the quarterly financial information. Therefore, the auditor's interim review is more likely to be a negative assurance that the auditor is not aware of any material modifications to the financial statements. Therefore, we assume an audit provides the most assurance, followed by a review and no auditor involvement.

Two streams of previous literature have studied the effect of auditors' review of quarterly statements on financial reporting quality. First, using survey data of US companies, previous studies (e.g., Ettredge, et al. 2000, and Ettredge, et al. 1994) find that auditors' voluntary timely reviews provide benefit by disciplining companies to record write-offs and other reportable, non-routine events in the interim period in which they are first recognizable, thus shifting some adjustments from the fourth quarter to earlier quarters. Second, Bédard and Courteau (2015) examine the costs and benefits associated with voluntary interim reviews on a sample of firms listed in Canada. They find no significant association between auditors' interim reviews and earnings quality in interim quarters or in the fourth quarter. To the best of our knowledge, there is little empirical evidence as to the impact of auditors' mandatory interim review on financial reporting quality. To fill this void, we examine whether auditor's timely quarterly review is related to more conservative earnings than retrospective review.

Previous studies (Krishnan 2005; Basu, et al. 2002) typically conclude that auditing plays an important role in enforcing asymmetric timeliness of earnings. Specifically, Basu, et al. (2002) hypothesize that auditors are more conservative when exposed to greater legal liability. Consistent with this hypothesis, they find earnings to be timelier in recognizing bad news in the fourth quarter than in earlier interim quarters, and such greater timeliness to be largely accomplished through operating accruals. Thus, by linking quarterly earnings to conservatism measures, they provide evidence that auditor conservatism makes fourth quarter earnings systematically different from earlier quarter earnings.

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Although disclosure of auditors' review reports is not mandatory in the interim quarters, the names of independent auditors will be disclosed in the companies' proxy statements at the fiscal year end. Auditors' exposure to legal liability may induce auditors to be "conservative" and their assurance function on financial information may cause reviewed earnings to differ systematically from un-reviewed earnings. Following Basu (1997), we first measure conservatism by the asymmetric timeliness of earnings. As the level of involvement in financial statements increases (i.e. from no involvement to review engagements), auditors are more likely to persuade clients to report economic losses in a timely fashion. Hence, we propose the first hypothesis:

HYPOTHESIS 1: The increased timeliness of earnings to bad news over good news is greater in the period when timely interim review is mandatory than in the period when it is voluntary.

Basu (1997) and Basu, et al. (2002) argue that the analysis on conservatism provides insights into the nature of accounting accruals. Cash transactions are typically considered more objective and less likely to be associated with fraud because cash transfers are always recorded as they occur. We predict that the SEC's requirement for timely interim review has less impact on cash flows than on earnings. Our second hypothesis is developed as:

HYPOTHESIS 2: The asymmetric timeliness to bad news is greater for earnings than for cash flows in the period when timely interim review is mandated.

It is well-known in literature that management has incentives to manipulate income (e.g., Mendenhall, and Nichols 1988). Auditor's investigation is triggered partly by abnormal accruals, i.e., auditors perform analytical procedures to find accounts with outliers for further investigation (Antle et al. 2006; Gul et al. 2003; Heninger 2001). Francis and Krishnan (1999) find that income-increasing accruals are more likely to result in Big 6 reporting conservatism than income-decreasing accruals. Further, Becker et al. (1998) find that non-Big 6 auditors report income-increasing discretionary accruals more than that reported by clients of Big 6 auditors. Both results show that high-quality auditors are more conservative with the recognition of accruals.

We next apply the conservatism definition by Givoly, and Hayn (2000) to the multi-period dimension of the accounting choice on a quarterly basis and gauge the degree of accounting conservatism by the sign and magnitude of accumulated accruals over time. Specifically, we decompose total accruals before depreciation and amortization into operating accruals and non-operating accruals. Operating accruals arise from the firm's daily business (Givoly, and Hayn 2000), which is defined by the following equation:

$$\begin{aligned} \text{Operating accruals} = & \Delta\text{Accounts Receivable} + \Delta\text{Inventories} \\ & + \Delta\text{Prepaid Expenses} - \Delta\text{Accounts Payable} \\ & - \Delta\text{Taxes Payable}. \end{aligned} \tag{1}$$

Non-operating accruals are measured as the difference between total accruals (before depreciation and amortization) and operating accruals. Because the timing or the estimated amount of most of these accruals is under management discretion, the accumulated negative non-operating accruals generally indicate an increase in reporting conservatism over a time period. We expect such an increase to be greater when auditors are involved in the interim quarters (i.e., the increase in reporting conservatism is greater in the time period when timely review is required). Therefore, our third hypothesis is developed as:

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HYPOTHESIS 3: Cumulative non-operating accruals are lower in the period when timely interim review is mandatory than in the period when it is voluntary.

3. Data Sources and Sample Selection Procedures

We start with the intersection of all firm-quarter observations in the COMPUSTAT, CRSP, and I/B/E/S databases. The primary sample covers all firms that have non-missing data in both of the two periods with fiscal quarters ending before or after March 15, 2000, respectively. Each period has consecutive quarters for each firm.

We obtain data on quarterly earnings, balance sheet items, cash flows, and stock prices from the Compustat-Fundamentals Quarterly file. Actual quarterly earnings per share and the median consensus analyst forecast information, used to calculate earnings surprise, are from I/B/E/S summary database. We acquire daily stock returns from the daily stock file of CRSP. All variables are winsorized at the 1% and 99% percentiles.

Table 1-Sample selection

Descriptions	Number of observations
Firm-quarter observations in <i>Period 0</i> and <i>Period 1</i> on the merged Compustat/IBES/CRSP sample	13,304
Less: Firm-quarter observations that have less than 10 daily stock returns in the 90-day windows	(4)
Less: Firm-quarter observations with missing net income, net income before extraordinary items and discontinued operations, operating cash flows, or cash flows from operating and investing activities	(2,523)
Less: Firm-quarter observations for firms that only have observations in one period	(370)
Final sample	<u>10,407</u>

Table 1 provides details of this sample selection procedure. Out of the 13,304 firm-quarter observations in the merged Compustat/IBES/CRSP file, 4 firm-quarter observations are deleted because they have less than 10 daily stock returns in the 90-day windows. We also eliminate 2,523 observations that do not have variables for regressions. Another 370 firm-quarters are dropped for firms only have observations in a single period. This yields a final sample containing 1,603 firms (10,407 firm-quarter observations) whose fiscal quarters end between calendar years 1998 and 2002, of which 5,385 (5,022) firm-quarter observations are prior to (after) SEC's mandatory requirement for quarterly review.

4. Regression Models

4.1 Asymmetric Timeliness for Timely Reviewed Earnings

To compare the increased timeliness of earnings to bad news over good news in the periods prior to and after the effectiveness of mandatory timely review, we interact an indicator variable for the pre- and post-March 15, 2000 periods with each of the variables in the "reverse" regression in Basu (1997) and estimate the following regression:

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$$NI = \alpha_0 + \alpha_1 R + \alpha_2 DR + \alpha_3 PERIOD + \alpha_4 DR * PERIOD + \alpha_5 DR * R + \alpha_6 PERIOD * R + \alpha_7 PERIOD * DR * R + \varepsilon, \quad (2)$$

where, NI is net income for quarter t , deflated by market value at the beginning of the quarter. R is cumulative return for each quarter, calculated as the compounded daily return over a 90-day window before the fiscal quarter end of quarter t . DR is a dummy variable, which equals to 1 if R is negative and zero otherwise. $PERIOD$ equals to 1 if fiscal quarter end is within four quarters ending on or after March 15, 2000 (period one, while the other is defined as period zero). We are most interested in the coefficient α_7 , which is predicted to be positive by the first hypothesis.

4.2 Asymmetric Timeliness: Earnings Versus Cash Flows

Prior literature argue that conservatism is reflected primarily through non-cash write-offs and write-downs (Basu 1997; Basu, et al. 2002; Dechow 1994). Therefore, we compare the asymmetric timeliness of cash flow measures, and earnings before extraordinary items and discontinued activities separately.

$$Y = \alpha_0 + \alpha_1 R + \alpha_2 DR + \alpha_3 PERIOD + \alpha_4 DR * PERIOD + \alpha_5 DR * R + \alpha_6 PERIOD * R + \alpha_7 PERIOD * DR * R + \varepsilon \quad (3)$$

The dependent variable Y is quarterly earnings before extraordinary items and discontinued activities (XE), quarterly cash flows from operations (CFO), and quarterly cash flows from operating and investing activities ($CFOI$), respectively. All dependent variables are deflated by the beginning-of-quarter market value. The independent variables are defined as those in equation (2).

4.3 Asymmetric Timeliness: Fourth Quarter Versus Interim Quarters

The effects of timely reviews on the asymmetric timeliness of fourth quarter earnings, compared to that of earlier quarters could be twofold. The first, because fourth-quarter earnings are audited as part of annual earnings in both periods, the sensitivity of earnings to bad news in the first three fiscal quarters should increase more than that in the fourth quarter. The second, because auditors are exposed to higher degree of litigation risk in the fourth quarters than in earlier quarters, fourth-quarter earnings are more conservative than earnings of the first three quarters (Basu et al. 2002). Therefore, we compare the coefficient denoting the increase of conservatism (α_7) for the fourth-quarter subsample with that for the interim-quarter subsample.

5. Analysis of Results

5.1 Univariate Tests

Table 2 provides univariate comparison results on the frequency and magnitude of quarterly losses, restructuring activities, earnings surprise, accruals measures, and cash flows measures in period zero and period one. Panel A of Table 2 presents the mean percentages of sample firms that record losses, and either positive or negative restructuring activities, as well as the proportion of firms that report positive restructuring activities in sample firms that report restructuring activities. On average, 20.9% of firms report losses in period one, which is significantly higher than the proportion (16.7%) in period zero. Mean percentages of firms

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reporting restructuring activities, either positive or negative, is 33.5% in period one and 25.7% in period zero, which are also significantly different. However, although the average percentage of firms reporting positive restructuring activities in period one is 1.1% less than that in period zero, such difference is not statistically significant. This result is consistent with our prediction that more firms report losses when auditors' timely reviews are required by regulations.

Panel B of Table 2 presents that, the average magnitude of quarterly restructuring activities in period one is significantly less than that in period zero. The average negative restructuring activities in period one is -0.022, which is also significantly lower than that in period zero. However, the difference between magnitudes of positive restructuring activities in the two periods is insignificant. Although the frequency of reported losses increases as timely reviews are required, the magnitude of losses, scaled by total assets, changes insignificantly from period zero to period one, consistent with special items explaining conservatism. The average earnings surprise (*FERR*) is -0.0001 in period one, significantly lower than that in period zero (0.0001). In period one, the average accruals measure is -0.041, which is significantly lower than that in period zero (-0.037). Discretionary accruals are significantly lower in period one than that in period zero. The decrease of discretionary accruals is primarily caused by the decrease of positive discretionary accruals rather than negative discretionary accruals. This result is consistent with our prediction that the requirement of timely interim review enhances auditors' conservatism and motivates auditors to eliminate income-increasing accruals.

Panel C of Table 2 examines the cumulative accruals measures, which are accumulated on a quarterly basis in each period. Following Givoly, and Hayn (2000), we use total assets, sales, and changes in sales as deflators of cumulative accruals measures and cumulative operating cash flows separately. Non-operating accruals and total accruals exhibit negative accumulation over time in both periods, regardless of which deflator we use. The accumulation of negative non-operating accruals indicates an increase in reporting conservatism over the four quarters in each period. Cumulative operating accruals are positive in both periods. When we use sales and changes in sales as deflators, cumulative non-operating accruals significantly drop by 45% and 210%, respectively, from period zero to period one. We then exclude observations where sales declined. For this subsample, cumulative non-operating accruals drop significantly by 70%. Similar to Givoly, and Hayn (2000), cumulative operating cash flows are positive in both periods. Cumulative operating cash flows in period one are generally more than that in period zero.

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Table 2- Univariate Tests

Panel A: Frequency of losses and restructuring activities

	Mean		Difference in Means (<i>p</i> -values)
	Period = 0	Period = 1	
LOSS	0.167	0.209	(<.0001)***
RESTRUCTURE	0.257	0.335	(<.0001)***
RESTRUCTURE_+	0.265	0.254	(0.479)

Panel B: Magnitude of losses, restructuring activities, earnings surprise, and accruals measures

	Mean		Difference in Means (<i>p</i> -values)
	Period = 0	Period = 1	
RESTRUCTURE_V	-0.002	-0.004	(<.0001)***
RESTRUCTURE_V-	-0.017	-0.022	(0.004)***
RESTRUCTURE_V+	0.014	0.014	(0.709)
LOSS_V	-0.042	-0.046	(0.154)
FERR	0.000	0.000	(0.036)**
ACR	-0.037	-0.041	(0.011)**
DAC	0.005	-0.001	(0.017)**
DAC_-	-0.094	-0.098	(0.434)
DAC_+	0.072	0.062	(<.0001)***
NDAC	-0.037	-0.040	(0.001)***

Panel C: Measures of conservatism: Cumulative total accruals, cumulative non-operating accruals, and cumulative cash flows from operations

	Mean		Difference in Means (<i>p</i> -values)
	Period = 0	Period = 1	
<u>Deflator: Total Assets</u>			
TOTAL ACCRUALS	-0.039	-0.043	(0.139)
OPEACR	0.009	0.007	(0.040)**
NONOPEACR	-0.040	-0.041	(0.728)
OPECASH	0.050	0.049	(0.615)
<u>Deflator: SALES</u>			
TOTAL ACCRUALS	-0.172	-0.237	(<.0001)***
OPEACR	0.024	0.035	(0.021)**
NONOPEACR	-0.152	-0.221	(<.0001)***
OPECASH	0.174	0.202	(0.006)***
<u>Deflator: ΔSALES</u>			
TOTAL ACCRUALS	-0.404	-2.474	(0.001)***
OPEACR	0.188	0.175	(0.083)*
NONOPEACR	-0.566	-1.756	(0.016)**
OPECASH	1.197	1.431	(0.639)
<u>Deflator: ΔSALES (Observations where sales declined were excluded from the analysis.)</u>			
TOTAL ACCRUALS	-5.737	-9.542	(<.0001)***
OPEACR	0.193	0.179	(0.144)
NONOPEACR	-4.632	-7.877	(<.0001)***
OPECASH	7.124	8.569	(0.014)**

This table presents the two-sample t-test results for periods before and after the adoption of auditor's interim reviews. ***, **, and * represent significance at the 1%, 5%, and 10% level, respectively, for a two-tailed test.

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The above tests are consistent with our third hypothesis that cumulative non-operating accruals are lower in the period when timely interim review is mandatory.

5.2 Asymmetric Timeliness for Timely Reviewed Earnings

Hypothesis 1 predicts that the increased timeliness of earnings to bad news over good news is greater in the period when auditors' timely interim review is required. Table 3 presents regression results of equation (2).

We find that the slope coefficient on negative returns in Model 1 is 0.075 (0.081-0.006), which is significantly higher than on positive returns (-0.006). The variable of interest is the *PERIOD*DR*R* (Coefficient=0.039; *t*-stat.=5.40) in Model 2. The slope coefficient on bad news in period one is 0.087, which is about 80% higher than that in period zero. The results are consistent with our hypothesis that earnings are more timely in capturing bad news in the period when timely interim review is mandatorily required.

Table 3- Constructs of Conservatism: Asymmetric Timeliness of Earnings

Dependent Variable: NI	Model 1		Model 2	
	Coefficient	(t-stat.)	Coefficient	(t-stat.)
<i>Intercept</i>	0.012	(16.21)***	0.012	(12.11)***
<i>R</i> (a ₁)	-0.006	(-4.18)***	-0.006	(-3.33)***
<i>DR</i> (a ₂)	0.007	(6.66)***	0.006	(3.62)***
<i>DR*R</i> (a ₅)	0.081	(23.56)***	0.054	(9.87)***
<i>PERIOD</i> (a ₃)			0.000	(-0.19)
<i>DR*PERIOD</i> (a ₄)			0.001	(0.29)
<i>PERIOD*R</i> (a ₆)			0.000	(-0.08)
<i>PERIOD*DR*R</i> (a ₇)			0.039	(5.40)***
N	10,407		10,407	
Adj. R ²	6.11%		6.90%	

The dependent variable is NI. The sample includes 1,603 firms (10,407 firm-quarter observations) whose fiscal quarters end between calendar years 1998 and 2002, of which 5,385 (5,022) firm-quarter observations are prior to (after) SEC's mandatory requirement for quarterly review. ***, **, and * represent significance at the 1%, 5%, and 10% level, respectively, for a two-tailed test.

5.3 Asymmetric Timeliness: Earnings Versus Cash Flows

We further compare the asymmetric timeliness of earnings and different cash flow measures to test Hypothesis 2. Panel A of Table 4 reports regression results (equation 3) parallel to those in Table 3. Model 1 shows results from regressions of each quarterly accounting measure (XE, CFO, and CFOI, respectively) on quarterly returns. The slope coefficient for XE is 0.010 (*t*-stat.=10.87), which is similar to the coefficient for net income. The slope coefficients for CFO (CFOI) are -0.012 (0.015). Similar to Basu, et al. (2002), the adjusted R²s are relatively small for both cash flow measures (0.18% and 0.14%, respectively).

Model 2 includes a dummy variable for negative returns and reports the regression results for each quarterly accounting measure. The slope coefficients on negative returns are all significantly positive for XE, CFO, and CFOI, while the slope coefficient on positive returns is significantly negative for XE and CFO and insignificant for CFOI. The relative size of the coefficients on negative and positive returns decreases from XE to CFO (11.49, and 2.21).

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All three adjusted R^2 s increase when the negative-return dummy is added to the regressions. The adjusted R^2 for XE is the highest among the three regressions (6.16%). The overall results in Model 2 are consistent with prior literature that most of earnings' asymmetric timeliness to bad news is due to accruals rather than cash flows.

Model 3 interacts the timely-review period dummy, with each of the variables in Model 2. The slope coefficient for XE on negative returns in period one is 0.080, which is 74% higher than that in period zero. The slope coefficient for CFO on negative returns in period one is 85.71% higher than that in period zero. The relative size of the coefficients for XE on negative and positive returns in period one is 11.43 (absolute value of $0.080 / (-0.006 - 0.001)$), which implies that earning is about eleven times as sensitive to negative returns as it is to positive returns. The relative size of the coefficients for XE is 49% higher than that in period zero. In contrast, the relative size of the coefficients for CFO on negative and positive returns in period one is 73.25% lower than that in period zero. The slope coefficients for CFOI on $PERIOD * R$ and $PERIOD * DR * R$ are both insignificant. The adjusted R^2 s further increase in all three regressions, indicating the adding explanatory power when the period dummy is included. These results are consistent with our second hypothesis that the asymmetric timeliness to bad news is greater for earnings than for cash flows in the period when timely interim review is required.

Panel B of Table 4 reports the adjusted R^2 s from separate regressions of the three accounting measures on positive returns and negative returns for period zero and period one. The adjusted R^2 s for XE are the highest among all the groups except the Period 1-Positive Returns group. Further, the adjusted R^2 s are higher for negative returns (i.e., 5.03% for period zero, and 8.07% for period one). We do not find such pattern for the CFO measure.

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Table 4- Constructs of Conservatism: Asymmetric Timeliness of Earnings and Cash Flow for Operations

Panel A: Regression results						
Model 1:	XE		CFO		CFOI	
	Coefficient	(t-stat.)	Coefficient	(t-stat.)	Coefficient	(t-stat.)
<i>Intercept</i>	0.006	(17.05)***	0.051	(47.82)***	-0.030	(-19.20)***
<i>R</i>	0.010	(10.87)***	-0.012	(-4.49)***	0.015	(3.89)***
<i>N</i>	10,407		10,407		10,407	
<i>Adj. R²</i>	1.11%		0.18%		0.14%	
Model 2:	XE		CFO		CFOI	
	Coefficient	(t-stat.)	Coefficient	(t-stat.)	Coefficient	(t-stat.)
<i>Intercept</i>	0.012	(17.63)***	0.059	(28.19)***	-0.021	(-6.99)***
<i>DR</i>	0.007	(6.26)***	0.011	(3.36)***	0.001	(0.28)
<i>R</i>	-0.006	(-4.40)***	-0.034	(-7.91)***	-0.005	(-0.76)
<i>DR*R</i>	0.076	(23.60)***	0.108	(10.92)***	0.073	(5.14)***
<i>N</i>	10,407		10,407		10,407	
<i>Adj. R²</i>	6.16%		1.30%		0.40%	
Model 3:	XE		CFO		CFOI	
	Coefficient	(t-stat.)	Coefficient	(t-stat.)	Coefficient	(t-stat.)
<i>Intercept</i>	0.012	(12.83)***	0.049	(17.10)***	-0.030	(-7.27)***
<i>R</i>	-0.006	(-3.42)***	-0.018	(-3.47)***	0.003	(0.33)
<i>DR</i>	0.005	(3.41)***	0.015	(3.30)***	0.003	(0.46)
<i>PERIOD</i>	0.000	(0.26)	0.023	(5.52)***	0.018	(3.02)***
<i>DR*PERIOD</i>	0.001	(0.28)	-0.012	(-1.92)*	0.000	(0.01)
<i>DR*R</i>	0.052	(10.08)***	0.067	(4.25)***	0.089	(3.90)***
<i>PERIOD*R</i>	-0.001	(-0.18)	-0.040	(-4.45)***	-0.016	(-1.26)
<i>PERIOD*DR*R</i>	0.035	(5.24)***	0.082	(3.96)***	-0.006	(-0.21)
<i>N</i>	10,407		10,407		10,407	
<i>Adj. R²</i>	6.81%		1.61%		0.74%	

Panel B: Adj. R² from separate regressions on four groups of observations

	Period 0		Period 1	
	Positive returns	Negative returns	Positive returns	Negative returns
<i>XE</i>	0.96%	5.03%	0.31%	8.07%
<i>CFO</i>	0.74%	0.39%	2.38%	1.66%
<i>CFOI</i>	-0.03%	0.53%	0.04%	0.54%

Panel A presents results of asymmetric timeliness of earnings and cash flow for operations. Panel B presents adjusted R² from separate regressions on four groups of observations: Period 0-Positive Returns, Period 0-Negative Returns, Period 1-Positive Returns, and Period 1-Negative Returns. ***, **, and * represent significance at the 1%, 5%, and 10% level, respectively, for a two-tailed test.

5.4 Asymmetric Timeliness: Fourth Quarter Versus Interim Quarters

Table 5- Asymmetric timeliness of earnings: interim quarters versus the fourth quarters

Panel A: The interim-quarters			
	MODEL 1	MODEL 2	MODEL 3
Dependent Variable: NI	Coefficient (<i>t-stat.</i>)	Coefficient (<i>t-stat.</i>)	Coefficient (<i>t-stat.</i>)
<i>Intercept</i>	0.008 (22.35)***	0.013 (18.86)***	0.012 (12.95)***
<i>R</i>	0.008 (8.92)***	-0.007 (-4.66)***	-0.007 (-3.57)***
<i>DR</i>		0.007 (6.93)***	0.005 (3.21)***
<i>DR*R</i>		0.071 (22.33)***	0.050 (9.59)***
<i>PERIOD</i>			0.002 (1.62)
<i>DR*PERIOD</i>			0.003 (1.59)
<i>PERIOD*R</i>			0.000 (-0.01)
<i>PERIOD*DR*R</i>			0.031 (4.58)***
N	7,547	7,547	7,547
Adj. R ²	1.03%	7.14%	7.48%
Panel B: The fourth-quarter			
	MODEL 1	MODEL 2	MODEL 3
Dependent Variable: NI	Coefficient (<i>t-stat.</i>)	Coefficient (<i>t-stat.</i>)	Coefficient (<i>t-stat.</i>)
<i>Intercept</i>	-0.001 (-0.59)	0.008 (4.53)***	0.011 (4.59)***
<i>R</i>	0.017 (6.64)***	-0.005 (-1.43)	-0.005 (-1.28)
<i>DR</i>		0.010 (3.53)***	0.008 (1.99)**
<i>DR*R</i>		0.124 (13.04)***	0.062 (4.70)***
<i>PERIOD</i>			-0.005 (-1.44)
<i>DR*PERIOD</i>			-0.002 (-0.38)
<i>PERIOD*R</i>			-0.006 (-0.73)
<i>PERIOD*DR*R</i>			0.127 (6.76)***
N	2,860	2,860	2,860
Adj. R ²	1.49%	7.10%	13.11%

The dependent variable is NI. Panel A presents regression results for the interim quarters. Panel B presents regression results for the fourth quarters. ***, **, and * represent significance at the 1%, 5%, and 10% level, respectively, for a two-tailed test.

Table 5 presents regression results of equation (2) for the interim-quarter subsample (Panel A) and for the fourth-quarter subsample (Panel B). Model 1 presents quarterly earnings are significantly positively related to quarterly returns in both subsamples. The fourth quarter coefficient on quarterly returns doubles that of interim quarters. Model 2 in Panels A and B presents that the coefficient on *DR*R* for the interim quarter is about half of the coefficient for the fourth quarter subsample. The relative size of the coefficients on negative and positive returns is 9.14 $((-0.007+0.071) / 0.007)$ for the interim quarter subsample, while it is 23.8 $((-0.005+0.124) / 0.005)$ for the fourth quarter subsample. This result is consistent with Basu et al. (2002) that the increased timeliness to bad news over good news is greater in the fourth quarter than in interim quarters. Model 3 in Panel A and Panel B reports positive and significant coefficients on *PERIOD*DR*R*. Accordingly, the level of reporting conservatism is higher in period one than that in period zero, in both subsamples. For the interim-quarter, the relative size of the coefficients on negative and positive returns in period one is 72% greater than that in period zero. For the fourth-quarter subsample, the relative

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size of the coefficients on negative and positive returns in period one is only 42% greater than that in period zero. This result is consistent with the prediction that the requirement for timely interim review imposes more effect on reporting conservatism in interim quarters than in the fourth quarter.

Table 6- Asymmetric timeliness of quarterly earnings and cash flow measures: interim quarters versus the fourth quarters

Panel A: The interim-quarters						
	XE		CFO		CFOI	
	Coefficient	(t-stat.)	Coefficient	(t-stat.)	Coefficient	(t-stat.)
<i>Intercept</i>	0.012	(13.75)***	0.036	(12.80)***	-0.026	(-6.18)***
<i>R</i>	-0.006	(-3.63)***	-0.008	(-1.35)	0.007	(0.85)
<i>DR</i>	0.004	(3.12)***	0.002	(0.47)	-0.005	(-0.77)
<i>PERIOD</i>	0.003	(2.35)**	0.001	(0.21)	-0.001	(-0.09)
<i>DR*PERIOD</i>	0.003	(1.56)	0.013	(2.05)**	0.020	(2.06)**
<i>DR*R</i>	0.048	(9.83)***	0.048	(3.01)***	0.050	(2.11)**
<i>PERIOD*R</i>	-0.001	(-0.21)	-0.013	(-1.49)	0.001	(0.05)
<i>PERIOD*DR*R</i>	0.030	(4.76)***	0.029	(1.45)	-0.003	(-0.11)
N	7,547		7,547		7,547	
Adj. R ²	7.84%		0.64%		0.49%	
Panel B: The fourth-quarter						
	XE		CFO		CFOI	
	Coefficient	(t-stat.)	Coefficient	(t-stat.)	Coefficient	(t-stat.)
<i>Intercept</i>	0.012	(4.93)***	0.084	(12.59)***	-0.043	(-4.32)***
<i>R</i>	-0.005	(-1.37)	-0.045	(-4.15)***	-0.001	(-0.05)
<i>DR</i>	0.007	(1.79)*	0.043	(4.07)***	0.028	(1.74)*
<i>PERIOD</i>	-0.005	(-1.44)	0.061	(6.36)***	0.064	(4.48)***
<i>DR*PERIOD</i>	-0.002	(-0.40)	-0.059	(-3.99)***	-0.046	(-2.04)**
<i>DR*R</i>	0.061	(4.81)***	0.137	(3.89)***	0.172	(3.25)***
<i>PERIOD*R</i>	-0.005	(-0.70)	-0.081	(-3.87)***	-0.062	(-1.98)**
<i>PERIOD*DR*R</i>	0.113	(6.28)***	0.130	(2.58)***	0.017	(0.23)
N	2,860		2,860		2,860	
Adj. R ²	12.27%		4.79%		1.76%	

The dependent variables are XE, CFO, and CFOI, respectively. Panel A presents regression results for the interim quarters. Panel B presents regression results for the fourth quarters. ***, **, and * represent significance at the 1%, 5%, and 10% level, respectively, for a two-tailed test.

Table 6 compares the asymmetric timeliness for different earnings and cash flow measures for the interim-quarter and fourth-quarter subsamples. The coefficients on *PERIOD*DR*R* for XE (0.030 for the interim subsample and 0.113 for the fourth quarter subsample) are similar to those for net income in Table 5. For the interim-quarter subsample (Panel A), the relative size of the coefficients for XE on negative and positive returns in period one is 10.71 (absolute value of 0.075 / (-0.007), 53% greater than that in period zero (7.00, absolute value of 0.042 / (-0.006)). The coefficients for CFO and CFOI on *PERIOD*DR*R* are both insignificant. For the fourth-quarter subsample (Panel B), the relative size of the coefficients for XE on negative and positive returns in period one is 46.4% greater than that in period zero. The result for XE is again consistent with earnings' timeliness to bad news increasing more for interim quarters than for the fourth quarter when timely interim review is mandated. In addition, the difference-in-difference estimators for XE are lower than their counterparts

for net income in both interim-quarter and fourth-quarter subsamples, consistent with special items reflecting reporting conservatism.

6. Additional Analyses

Under conservatism reporting, bad news is recognized more timely than good news. Givoly, and Hayn (2000) argue that the extent of conservatism is associated with how rapid the firm recognizes bad news and records losses. We expect the variability of earnings increases as the extent of reporting conservatism increases. We find that the standard deviation of ROA in period one is 9% greater than that in period zero (untabulated). The results imply a higher level of conservatism in the period with mandatory timely interim review.

To address the concern that increased conservatism is driven by a particular quarter. We predict the slope coefficients on DR^*R in the earnings-returns regression for each quarter in period zero and period one. We find that all four quarterly coefficients (untabulated) in period one are higher than their counterparts in period zero, indicating that our results are not driven by a specific fiscal quarter.

7. Conclusions

Following prior literature, we argue that the level of auditors' assurance increases from no auditor involvement to auditors' reviews, and to audit. Because of their greater litigation exposure, auditors have incentives to accept earnings more conservatively when they are more involved in the reporting process. When the SEC's requirement for timely interim review is applied, earnings are reviewed by auditors before they are released to the public. We find that timely reviewed earnings are more conservative than retrospectively reviewed earnings.

Specifically, our empirical analysis supports the first hypothesis which predicts that the increased timeliness of earnings to bad news over good news is greater in the period when timely interim review is mandatory than in the period when it is voluntary. We further compare the asymmetric timeliness of earnings and different cash flow measures to test the second hypothesis where we find that the asymmetric timeliness to bad news is greater for earnings than for cash flows in the period when timely interim review is mandated. Our univariate analysis also provides consistent results with the third hypothesis that cumulative non-operating accruals are lower in the period when timely interim review is mandatory. Additional analyses on earnings variability and separate regression analysis for each quarter generally support our main results.

Prior literature has investigated the relationship between quarterly reviews and accounting conservatism (e.g., Ettredge et al. 2000, Manry et al. 2003). However, the studies suffer from small sample sizes. In contrast to prior literature, we explore such relationship from an event study perspective by using a large sample of US firms in periods before and after the effectiveness of auditor's mandatory interim reviews.

There are certain limitations to the study. For example, changes in the economic environment could cause firms' earnings to appear more conservative irrespective of auditor's mandatory timely review. Moreover, we do not identify publicly listed audit clients that voluntarily purchase timely reviews before the mandated date because some misclassification could exist if firms did not include auditors' review letter with their 10-Q filings.

Endnotes

1. SEC. 1999. Final Rule: Audit Committee Disclosure. Release No. 34-42266; File No. S7-22-99.

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Appendix

Variables	Definitions
<i>PERIOD</i>	An indicator variable that takes a value of one if fiscal quarter end is within four quarters after Mar. 15, 2000, including Mar. 15, 2000, and zero if fiscal quarter end is within four quarters before Mar. 15, 2000;
<i>RESTRUCTURE</i>	An indicator variable that takes a value of one if special items, deflated by total assets are non-zero, and zero otherwise;
<i>RESTRUCTURE_+</i>	An indicator variable that takes a value of one if special items, deflated by total assets are positive, and equal to zero if special items are negative;
<i>RESTRUCTURE_V</i>	Magnitude of restructuring activities, calculated as special items, deflated by total assets;
<i>RESTRUCTURE_V-</i>	Negative amount of restructuring activities, calculated as special items, deflated by total assets;
<i>RESTRUCTURE_V+</i>	Positive amount of restructuring activities, calculated as special items, deflated by total assets;
<i>LOSS</i>	An indicator variable that takes a value of one if quarterly net income is less than 0, and zero otherwise;
<i>LOSS_V</i>	Amount of loss, scaled by current quarter's total assets;
<i>FERR</i>	Earnings surprise, defined as actual quarterly earnings per share for firm <i>i</i> in quarter <i>t</i> minus the median consensus analyst forecast (from IBES summary), scaled by stock price for quarter <i>t</i> -1;
<i>ACR</i>	Accruals, measured by (Income Before Extraordinary Items - Net cash flow from operating activities) / total assets at the fiscal quarter;
<i>DAC</i>	The discretionary portion of total accruals, calculated as the residual of Jones (1991) model;
<i>DAC_-</i>	Negative amount of DAC;
<i>DAC_+</i>	Positive amount of DAC;
<i>NDAC</i>	The non-discretionary portion of total accruals;
<i>TOTAL ACCRUALS</i>	Total accruals before depreciation: (Net Income + Depreciation) - Cash Flows from Operations;
<i>OPEACR</i>	Operating accruals;
<i>NONOPEACR</i>	Non-operating accruals, equal to Total Accruals (before depreciation) - Operating Accruals;
<i>OPECASH</i>	Cash flows from operations;
<i>NI</i>	Net income, deflated by the beginning-of-quarter market value;
<i>XE</i>	Earnings before extraordinary items and discontinued activities for the quarter, deflated by market value at the beginning of the quarter;
<i>CFO</i>	Cash flow from operations for quarter <i>t</i> , deflated by market value at the beginning of the quarter;
<i>CFOI</i>	Cash flow from operating and investing activities for quarter <i>t</i> , deflated by market value at the beginning of the quarter;
<i>R</i>	Cumulative returns for each quarter, measured as the compounded daily returns over a 90-day window prior to the fiscal quarter end;
<i>DR</i>	An indicator variable that takes a value of one if <i>R</i> is negative, and zero otherwise.