Value and Costs of Auditor's Assurance: Evidence from the Review of Quarterly Financial Statements

Jean Bédard
Université Laval
Jean.Bedard@ctb.ulaval.ca

Lucie Courteau
Free University of Bolzano
Lucie.Courteau@unibz.it

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ABSTRACT

This study examines the benefits and costs associated with the performance of a timely (concurrent) review of quarterly financial statements by the firm's auditor. Using a sample of 1,690 companies in Canada, a country where interim review are not mandatory, and controlling for variables associated with annual audit fees and the decision to purchase interim reviews, we find that for the years 2004 and 2005 the audit fees are 15 percent higher for companies with timely reviews. We also examine the cost structure of a review and find that contrary to prior beliefs, the costs are proportionately lower for smaller companies.

On the benefits side, we find that the absolute unexpected accruals are on average significantly lower for firms with a timely interim review by their auditor and that the association of timely reviews with the level of unexpected accruals is significantly positive for the interim quarters (Q1-Q3) but significantly negative for the fourth quarter. The results suggest that the presence of the timely review reduces the fourth-quarter abnormal accruals documented in previous studies.

Keywords: interim auditor reviews; audit fees.

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I. INTRODUCTION

This study examines the costs and benefits associated with the performance of a review of quarterly financial statements by the firm's auditor. This issue is important because the regulator's typical response to accounting scandals has been to increase auditors' involvements with the financial statements with prescriptions such as mandatory review of interim financial statements (SEC 1999b) and auditor attestation of management's assessment of the company's internal control (SOX 2002). The merits, benefits, and costs of these prescriptions have fuelled the debate over the last decades and will continue. While in some jurisdictions, such as the U.S, requires that a review of the interim financial statements of a company be carried out by its auditor, in other jurisdictions such as Canada reviews are not required.

Timely reviews are believed to improve the quality of interim reporting by allowing timely consideration of significant accounting matters affecting the interim financial statements and reducing the likelihood of restatements or other adjustments in the fourth quarter (SEC 1999b). Critics of these mandatory reviews, however, contend that they increase audit costs and might not be justified from a cost-benefit analysis, particularly for small companies. While some of the benefits of timely reviews have been demonstrated empirically (2000b; Manry et al. 2003) there is no empirical evidence as to their cost. In its proposal, the SEC (1999a) estimated that the incremental cost of a timely review over a retrospective review would range from approximately $3,000 to $12,000 per year. Given the SEC's gross underestimation of the cost associated with auditor attestation of the company's internal control (e.g. FEI 2005), there is a need for empirical evidence on the cost of this prescription. In addition, while a large body of research provides us with a good understanding of the cost drivers of an audit, there is no empirical data as to the cost structure of an interim review.

This study contributes to this debate and extends the literature on interim review and audits fees by providing empirical evidence on the cost and the benefits associated with auditors' review of interim financial statements. In particular, we seek to estimate the increase in audit cost related to the timely interim review as well as the cost drivers of this type of review. We also investigate whether the main objective of the timely review, i.e. the increase in the quality of interim financial statements, is attained by comparing the level of unexpected accruals between firms with and without a timely interim review. The tests are performed on a sample of 1,690 companies listed in Canada, where quarterly financial statements reviews are voluntary and audit fees are available.

Controlling for variables associated with annual audit fees and the decision to purchase interim reviews, we find that total audit fees are 15 percent higher for companies with timely reviews. We do not find evidence that the costs are proportionately greater for smaller companies, on the contrary the results show that they are proportionally smaller.

On the benefits side, we find that the absolute unexpected accruals are on average significantly lower for firms with a timely interim review by their auditor and that the association of timely reviews with the level of unexpected accruals is significantly positive for the interim quarters (Q1-Q3) but significantly negative for the fourth quarter. This result suggests that the presence of the timely review reduces the fourth-quarter earnings management documented in previous studies (Givoly and Ronen 1981, Das et al. 2007, Dhaliwal et al. 2004, Jacob and Jorgensen 2007).

The remainder of the paper is organized as follow. Section II reviews the literature on timely review and presents the research questions. Section III describes the sample, the model, and empirical measures. Section IV presents the results and Section V the conclusion.

II. BACKGROUND ON THE REVIEW OF QUARTERLY FINANCIAL STATEMENTS

Reviews of interim financial statements originated in the U.S., with ASR No. 177 (SEC 1975) requiring large publicly listed companies to disclose selected quarterly data in their annual reports and their auditor to be associated with these data via the performance of a retroactive "limited review".[1] At that time the SEC recommended a timely review of interim financial statements but did not require it. While not required by regulation, the major U.S. accounting firms started to require timely reviews as a precondition of accepting the audit appointment for SEC registrants in the mid-nineties (Public Accounting Report, 1994). The SEC made them mandatory in March 2000 (SEC 1999b). Foreign SEC registrants that qualify as "foreign private issuers" are not subject to these mandatory review. As in the U.S., Canadian companies report quarterly financial statements but unlike in the U.S., the Canadian Securities Administrators (CSA) do not require an auditor review of quarterly financial statements (neither a timely or retroactive review).

Auditor Fees and Interim Review

While audit fees research has provided us with a good understanding of the cost drivers of a financial statements audit, our knowledge of the cost function of an interim financial statement review is limited. This section presents the net effect of an interim review on the audit fees (including audit and review) and explores the drivers of an interim review costs.

Cost of a Review

Reviews are distinguishable from audits in that their scope is less than that of an audit. A review consists of enquiry, analytical procedures and discussion. It does not normally

[1] Small companies (assets smaller than $200 millions), companies with low income (income smaller than $0.2 millions in any of the last three years), and closely held companies were excluded from the requirement.

include procedures such as physical inspection, confirmation from external parties and examination of documents that are usually performed in an audit, unless the auditor has doubts about the plausibility of the information obtained through enquiry, analytical procedures and discussion with management. The need to perform these review procedures three times throughout the year is expected to lead to increased assurance cost (audit and review). Offsetting the review costs, however, is the performance of some substantive audit procedures during the review instead of at year-end, strengthened client internal accounting and reporting controls resulting from the discipline involved in the review process, and time savings in fixing problems that may not otherwise have been discovered until year-end (Andersen 1999). As indicated by the SEC (1999a), the cost of reviews will only be partially offset by a reduction of year-end audit fees. Accordingly, overall audit and review fees are expected to be higher when the auditor also performs a review of the firm's interim financial statements.

Comments from the audit firms on the SEC's proposed rules provide some indications as to the cost increase associated with timely reviews of interim financial statements. PriceWaterhouseCoopers (1999) estimates that the first implementation of their policy of requiring the performance of timely interim reviews for their U.S. clients, resulted in an incremental annual effort in the range of 5-10 percent from the then-current annual audit effort. Ettredge et al. (1994, 141) report that, in their responses to the SEC's (1989) request for comments, two large accounting firms indicated an incremental price ranging from 5% of the annual audit fees for large clients to 15% or 20% for small clients. The SEC (1999a) estimated that the incremental cost of a timely review over a retrospective review would range from approximately $3,000 to $12,000 per year for non Big 5 auditors. The above discussion suggests the first research hypothesis:

H1: Audit fees are positively associated with the timely review of interim financial statements.

Review Cost Structure

Simunic (1980) models audit fees as consisting of a resource cost component, and an expected liability loss component. Resource costs are increasing in the level of audit

work whereas expected liability losses generally decrease with increasing audit work. Simunic (1980) and a large body of subsequent research has examined the effect of various factors that may affect auditor's work or liability (see Hay, Knechel and Wong 2006 for a review).

A review differs from an audit in terms of the work performed and the auditor communication. As indicated before, the nature and extent of work is lower for a review. The form and distribution of the auditor communication also differs. Information about the nature, extent of involvement with the interim financial statements, and the results of the review can be communicated in either oral or written form to the audit committee. In addition, auditors are not allowed to consent that their report be made public; its distribution is limited to the audit committee. These differences between an audit and a review will affect both the resource cost and expected liability loss components of the audit fees.

Resource cost attributes and their effect may differ between a review and an audit. For example, because a review does not normally include procedures such as physical inspection and confirmation from external parties, the presence (or levels) of accounts receivables and inventories may not result in increased work as it is the case for an audit. The attributes of the expected liability loss may also be less important because of the lower litigation risk associated with a review. Indeed, prohibition from consenting to the inclusion of the auditor interim review report in a public document means that neither the company nor its directors and officers can use it for statutory due diligence defence. In addition, exposure to legal liability towards third parties is not increased because the report is not public. As suggested by the negative association found by Krishnan and Zhang (2005) between the disclosure of the auditor's review report and auditor's litigation risk and type, auditors' exposure to legal liability is lower when their report is not public.

Based on the audit fees literature, Ettredge et al. (1994) and the professional literature, we identify the following attributes that we expect to be associated with the

incremental price of a review: the company's size and the number and location of its segments.

Company Size

The work effort of auditors at quarter end varies according to the nature of the assignment and audit firm. Similar to Ettredge et al. (1994), we expect that as company size increases, the incremental effect of a review on audit fees decrease. As suggested by PriceWaterhouseCoopers (1999) the relative cost is higher for smaller companies because of "(1) the relatively lower cost of auditing smaller entities and, therefore, the relatively higher impact of adding three visits to the company during the year, and (2) the less structure in such entities resulting in additional need to follow up on inquiries and analytical procedures." In addition, smaller companies generally have less sophisticated accounting and reporting system, and lower quality accounting personnel. This lead to our second research hypothesis:

H2: The association of audit fees with timely review of interim financial statements decreases as company size increases.

Company's Segments

We expect the incremental price of a review to increase with the number and location of the company's segments. More business and geographic segments not only increase the complexity of the quarterly financial statements but impose additional costs associated with making enquiries and discussions with persons responsible for financial and accounting matters at different locations. Also, foreign operations could results in higher review costs in countries where the auditor does not have an affiliated firm or where quarterly financial statements are not required (Ettredge et al. 1994). We hypothesize that

H3: The association of audit fees with timely review of interim financial statements increases with the number of segments (business and geographic).

The benefits of Auditor Assurance on Interim Financial Information

The Canadian Institute of Chartered Accountants (CICA) in the introduction to Chapter 7050 of the CICA Handbook on interim financial information, identifies four major differences between interim and annual financial reports: (1) interim information is less precise, (2) it is reported on a more timely basis, which leaves less time for its preparation, (3) it uses more estimates than annual information for revenues, cost and expenses, and (4) some of the estimates used are based on expectations of what will happen in the rest of the fiscal year, which means that corrections of these estimates may be needed in subsequent quarters.

These characteristics of interim reporting increase the risk of lower earnings quality caused by difficulty in estimating accrual accounts and managerial opportunism. Indeed, the quality of quarterly financial statements has been questioned because, for example, firms do not disclose all required information (McEwen & Scwartz 1992).

According to regulators and commentators, the review of interim financial statements permits timely consideration of significant accounting matters affecting the quarterly financial statements, and provides an opportunity for early resolution of issues affecting the annual financial statements. (CICA ES .02). Consequently, review should results in more reliable and credible interim financial statements and reduces the likelihood of year-end adjustments (SEC 1999a (SEC ASR No. 177 (1975, 818).). It may also reduce the risk of material misstatements in the audited annual financial statements because of the improved auditor's knowledge of the business (Boritz 2006).

While early research on the benefits of interim review was not consistent with the regulator's assertions(e.g. Givoly et al. 1978; Alford and Edmonds 1981), more recent research results are. Ettredge et al. (2000b) show that for the years 1989 and 1990, 131 companies with timely review recorded had a higher proportion of non-routine adjustments recorded during the first 3 quarters and a lower proportion of non-routine adjustments in the fourth quarter than the 69 companies with retrospective review. Manry et al. (2003) find that between 1990 and 1995, their 412 companies with timely reviews have greater contemporaneous association between returns and interim-quarter earnings

than the 84 companies with retrospective review, suggesting that timely reviewed quarterly earnings "better" reflect economic information that is impounded in contemporary returns.

Because of the lack of public information on the presence of timely review report, these researchers had to rely on surveys. For example, the results of Ettredge et al. (2000b) are based on survey results from 371 companies out of a sample of 709 companies selected from approximately 2,700 NYSE and AMEX companies. Similarly, Manry et al.'s (2003) conclusions are based on the results of a survey from 412 companies out of a sample of 1,025 companies listed in the 1995 Directory of Corporate Affiliations. Moreover, Ettredge et al. (2000b) limited their study to the timely consideration of non-routine items, which is one of the potential benefits of timely review.

The main expected benefit of the timely review, however, is the increase in the quality of the information contained in the interim financial statements. Therefore a complete analysis of the costs and benefits of this auditor assurance service must examine whether information quality is enhanced when quarterly reports are reviewed by the auditor.

Quality of Quarterly Earnings and Interim Review

Financial reporting involves making choices regarding accounting policies and their application, and requires management to make numerous decisions, estimates and judgments that affect results. The quality of earnings and accruals is associated with both the difficulty in estimating accrual accounts and managerial opportunism (Dechow and Dichev 2002). For example, earnings quality may be low because of unintentional errors in estimating numerous future economic events such as expected lives and salvage values of long-term assets, obligations for pension benefits and other post-employment benefits, deferred taxes, and losses from bad debts and asset impairments, or in estimating future tax rates.

Earnings quality may also be reduced through intentional bias in accruals from earnings management.[2] Quarterly earnings are however different from annual earnings. Because they are not audited, interim reports are more likely to suffer from earnings management because there is more opportunity for making accounting choices that may misrepresent the firm's actual situation and performance. On the other hand, many of the incentives to manage earnings are absent at the time of interim reports. Management compensation levels depend on annual earnings, not on quarterly numbers, so there is less incentive for earnings management (Jeter and Shivakumar 1999). Most debt covenant restrictions refer to annual rather than quarterly accounting numbers, so the motivation to manage earnings to avoid violating minimum ratio requirements contained in the covenants is also absent in interim quarters. The incentive to meet or beat analyst earnings forecasts remains however.

No matter its source (difficulty in estimating accrual accounts or managerial opportunism), the quality of quarterly financial statements has been questioned, for example, because firms do not disclose all required information (McEwen & Scwartz 1992), and restatement of quarterly financial statements represent a large proportion of the restatements (Huron Consulting Group, 2004). The cost of these restatements can be quite high, with market impact of around nine percent: 9% for the period 1995-1999 (Palmrose et al. 2004) and 9.5% or $18.2 billion for the period 1997-2002 (GAO 2002).

Moreover, several studies have shown a discrepancy between the quality of interim reports (Q1-Q3) and that of the fourth quarter. For example, Das et al. (2007) find a significant number of firms which exhibit reversals in earnings between interim and fourth-quarter earnings which are consistent with increased earnings management in the last quarter. Finally, contrary to the contention of the supporters of timely reviews of interim reports that the review would not add to the time necessary to prepare interim reports Ettredge et al. (2000a) estimate that this type of review would increase the

[2] Healy and Palepu (1993) point out that accounting choices are not always made to the detriment of earnings quality, however. They contend that the discretion left to the preparers of financial statements is often used to better represent the real performance of the firm and that it may be a mistake to classify all discretionary accruals as indicators of poor earnings quality.

reporting lag of interim reports and increase the timeliness of annual reports only in cases where interim earnings contain special items, i.e. when major accounting issues have to be resolved in earlier quarters rather than at year end.

Effect of auditing on financial statement quality

There is a large body of literature on the effect of an audit on the quality of financial statements (Becker et al 1998, Chih-Ying et al 2008, Myers et al 2003, Frankel et al. 2002, among others). Studies of post audit financial statements suggest that measures of audit quality such as Big 4, industry specialization, independence and quantity of audit work are positively associated with earnings quality (Francis 2004). In addition adjusting-entry studies (Wright and Wright 1997) and a survey of auditors by Nelson et al. (2002) also show that an audit has a positive effect on the quality of financial statements.

Even if the scope of reviews is less than that of an audit, they have been found positively associated with the quality of financial statements. As indicated before, auditors' review of interim financial statements are associated with more timely consideration of non-routine items (Ettredge et al. 2000b) and greater contemporaneous association between returns and interim-quarter earnings (Manry et al. 2003). In addition, (Mangena and Tauringana 2007) find that the degree of disclosure compliance in interim financial statements is positively associated with the presence of an auditor's review report.

Given the results of previous studies on auditor's involvement with interim reports improve their quality, we hypothesize that:

H4 Quarterly abnormal accruals are negatively associated with the review of interim financial statements

Time-pattern of quarterly earnings management

Because of the differences in opportunity and incentives for earnings management between interim and annual reporting, the methodology used to measure earnings quality

must take into consideration both the seasonality effect present in all quarterly accounting numbers and the differences in earnings management across quarters.

Several studies have documented the difference between interim and fourth-quarter accruals. For example, Jeter and Shivakumar (1999) find a tendency to defer bad news to the last quarter. Kerstein and Rai (2007) find that firms use income-increasing earnings management to convert small cumulative losses in the interim quarters (Q1-Q3) into small annual profits, or to prevent small cumulative profits from becoming small annual losses.[3] Jacob and Jorgensen (2007) confirm Kerstein and Rai's results by comparing distribution of earnings for fiscal year and for 4-quarter periods ending at Q1, Q2 and Q3. They find asymmetry in earnings distribution below and above zero only for the 4-quarter periods that coincide with the fiscal year. Hence it seems that earnings management to avoid small losses is done in the 4th quarter.

Durtschi and Easton (2005) contest the results of this line of research, though, arguing that the methodology used in the studies that find a lower frequency of small losses than small profits may be creating the phenomenon observed. This does not contradict the fact that earnings management differs across quarters, however. Cohen et al. (2004), for example, find significantly less earnings management in the first three quarters of the year than in the fourth.

Das et al. (2007) examine the behaviour of quarterly earnings changes, with respect to the same quarter a year earlier, and find that around 22% of Compustat firms over the period 1988-2004 exhibited reversal of earnings changes in the fourth quarter. Roughly half of these reversals are consistent with an increase in fourth-quarter earnings to reverse decreases in the first three quarters, and half are consistent with decreasing fourth-quarter earnings to build "reserves" for the next year. Using various measures of earnings management, they find that fourth-quarter reversals are associated with earnings management.

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[3] Dechow et al. (2003) had documented a low frequency of firms with small losses and high frequency of small profit firms.

It seems that investors in the market are aware of this fact since Salamon and Stober (1994) find evidence that fourth-quarter earnings response coefficients are smaller than the response to interim earnings, which is consistent with greater earnings management at year end.

But earnings management is not done only in the fourth quarter. Myers et al. (2007) examine firms that report long strings of growing quarterly EPS and find that they enjoy higher stock returns (an average 20% per year in first 5 years of the string). They also find that the high returns disappear very fast after the end of the string. Hence, there is a high incentive for these firms to manage earnings in each quarter, not only in Q4, to ensure the continuation of the string.

Empirically, earnings management is very difficult to detect. Most measures are based on models of the behaviour of accruals which attempt to distinguish the part of a period's accruals which are due to the normal application of accounting rules (termed the *normal* or *expected* accruals) and those that are due to accounting choices made by management to influence the end results, either to their own benefit or in an effort to present accounting numbers that better represent the firm's performance and financial situation. Given the short reporting lag and the heavy use of estimations associated with interim financial statements, they are likely to contain more reporting errors than annual statements. The fourth-quarter accruals are then used to correct these earlier errors.

H5 The negative association between quarterly unexpected accruals and the review of interim financial statements is stronger for the fourth quarter than for the interim quarters.

III. METHOD

Sample

The sample consists of all the COMPUSTAT Canada population for which financial information is available (1,986 firms), from which we exclude companies with non Canadian auditors (74), companies without the audit fee information (150), companies in

the financial industry (115), and because of their large impact on audit fees companies that filed a Sarbanes-Oxley Section 404 report (32) in 2004 or 2005. The final sample includes 1,688 company-years.

Audit Fee Model Specifications and Variable Definitions

Our multivariate model investigates the pricing of interim financial statement review. We model audit fees as a function of the performance of review services, its interaction with attributes hypothesized to relate to review fees, and control variables that have been found to be related to audit fees in previous research.

$$LnFEE = \alpha + \beta_1 REVIEW + \beta_2 \text{INTERACTIONS} + \beta_2 \text{CONTROLS} + \varepsilon \quad (1)$$

Audit fees Variable

Consistent with previous research we use the natural log of the audit fees (Ln*FEE*) as a measure of fees. As in the U.S., under Canadian rules a company must disclose under the caption "Audit Fees" the amount of audit fee billed by its external auditors for the audit and review of its financial statements (CSA 2003a). We collected the fee data manually from the companies' regulatory filing on SEDAR. Depending on the company's status, the information may be disclosed in the Annual Information Form, Management Information Circular, or Management's Discussion and Analysis (CSA 2003a). [4]

Experimental Variables

We examine hypothesis H1 using *REVIEW*, a dichotomous variable that takes a value of one if the company does not disclose that the financial statements have not been reviewed by its auditor and zero otherwise. According to the regulation, since the 30th March 2004, for financial years beginning on or after 1st January 2004, if the company's auditor has

[4] When collecting the data, we noticed that the description of the nature of the services comprising the fees disclosed under the caption "Audit-Related Fees" often includes the review of quarterly financial statements that should be included under the caption "Audit Fees". We repeated the analyses using the total of the fees disclosed under the captions "Audit Fees" and "Audit-Related Fees" as a measure of audit fees. The results for our hypotheses are unchanged.

not performed a review of the interim financial statements, the company must disclose that fact in a notice accompanying the interim financial statements (CSA 2003b). The presence or absence of such notice is determined by reviewing quarterly financial statements filed on SEDAR.[5] In the absence of notice it is presumed that a review has been performed. The absence of notice may also occur if there is no review and the company is unaware of the requirement. Given that some companies could be unaware of this requirement in the quarters closely following the date that the requirement came into force (second and third quarters of 2004), for the year 2004 we use the third quarter of 2004 when a notice of no review is disclosed in that quarter and the first quarter of the 2005 financial year otherwise.[6]

In H2 we hypotheses that the incremental effect of an interim review on audit fees decreases as a company size increases. We use the interaction between *REVIEW* and *SIZE* as measured with the natural logarithm of total assets (*REVIEW*SIZE*) to test this hypothesis and expect a negative sign for this variable. We use the natural logarithm of the number of business segments (*BUSSEG*) and geographical segments (*GEOSEG*) as indicators of the number and location of the company's segments. Because this information is not available in COMPUSTAT Canada, we collected the segment information manually from the financial statements. We test H3 with the interaction between *REVIEW* and these two variables.

Control Variables

To obtain the incremental effect of a review on total audit fees (audit and review) we need to control for attributes related to audit fees. Our control variables are derived from Hay et al.'s (2006) meta-analysis. Given the dominance of size as a determinant of audit

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[5] Quarterly financial statements were searched with the keyword "review". In the absence of a hit, the file pdf format was checked to determine if it was in an image format, and if so, the presence or absence of a notice was manually searched.

[6] Indeed, Boritz (2006) indicates that oral reporting, as permitted by Canadian review standards, can lead to vagueness as to whether or not a complete review was conducted and results in companies that have not had a review failing to include a notice in their interim filings because they believe that any auditor involvement with interim financial statements constitutes a review.

fees and its significance in the decision to buy quarterly reviews (Ettredge et al. 1994) we control for client size with *SIZE* (the natural logarithm of total assets) and expect a positive relationship between size and fees.

We control for client complexity with the number of business segments (*BUSSEG*) and the number of geographical segment (*GEOSEG*). We expect that complexity will be positively associated with audit fees. Some accounts require additional audit effort because the auditing standards require procedures as a means of obtaining audit evidence regarding their existence and measurement. For example, for accounts receivable the auditor must use confirmation and for inventories the auditor must be present for the physical count. We use *INVREC* (the ratio of inventory plus accounts receivable to total assets) to control for this effect.

We control for the audit firm's professional risk with variables related to the client's profitability and its presence on the U.S. market. Poor financial performance increases the auditor's professional risk (Simunic 1980). Hence, we expect that the relationship between audit fee and *ROA* (net income divided by total assets) will be negative. Also, the U.S. being a more litigious environment than Canada (Clarkson and Simunic 1994), an auditor is more exposed to professional risk if the Canadian company has securities listed or quoted on a U.S. marketplace. In general, auditors will perform more work and charge a risk premium for higher professional risk clients. Moreover, companies with securities listed or quoted on a U.S. marketplace may require work related to the reconciliation between Canadian GAAP and U.S. GAAP and assistance with and review of documents filed with the SEC. We expect that that the relationship between audit fee and *USA* (an indicator variable equal to 1 if the company is also a SEC registrant and zero otherwise) will be positive.

We also control for two auditor attributes: size and tenure. We expect that *BIG4* (an indicator variable equal to one when the auditor is a Big 4 firm and zero otherwise) will be positively associated with fees. Since a change in auditor may result in reduced fees because of low-balling or more efficient service and in higher fees because of the costs associated with obtaining a sufficient understanding of the entity, we do not propose a

direction of association for *AUDCHG* (an indicator variable equal to one if the company changed auditors from the previous year and zero otherwise).

Finally, we control for industries with indicator variables for energy (GICS= 10), materials (GICS= 15), consumer discretionary (GICS= 25), consumer staples (GICS= 30), health care (GICS= 35), financials (GICS= 40), information technology (GICS= 45), telecommunications services (GICS= 50), utilities (GICS= 55) and for year with an indicator variable equal to one for the 2005 fiscal year (Y2005).

Earnings Quality Model Specification and Variable Definitions

Measuring Earnings Quality

We use two types of measures for the quality of quarterly earnings, one of the most important benefits of timely review. We first measure the lack of quality as the level of current unexpected accruals and then use fourth-quarter earnings reversals as indicators of earnings management (Das et al. 2007).

Unexpected current accruals[7]

Current accruals are likely to be used for earnings management because accounting decisions associated with them have only a short-term effect. Several methodologies have been developed for the detection of earnings management through accruals, each one with its advantages and its problems. The basic model was developed by Jones (1981) and it still serves as the basis for most models used today.

The Jones model has been found to be quite efficient at detecting unexpected accruals, except for firms with extreme performance, i.e. firms with very high or very low cash flows from operations or net income. To correct for this weakness of the model, researchers have added independent variables to control for extreme performance. Bowen

[7] The terms discretionary, abnormal, and unexpected accruals are often used interchangeably in the accounting literature. Because the underlying construct for our measure is unexpected accruals, we label our measure unexpected accruals.

et al. (2005) add the change in operating cash flows, Cohen et al. (2004) add current cash flow level, a measure of current operating performance, Kothari et al (2002) add return on assets (ROA) to the regression model and Jeter and Shivakumar (1999) add a discrete variable indicating the quintile in which the firm's cash flows from operations falls, with respect to the other sample firms. As an alternative to adding ROA to the model, Kothari et al. (2002) also use a matched pair design where control firms are matched by ROA and find that this methodology is more efficient at reducing the bias induced by extreme performance.

The Jones model does not take into account that some earnings management is done through real operations rather than with accounting accruals. Graham et al. (2005) find that 78% of the 400 executives they surveyed say they would be likely to take economic actions to smooth earnings while only 21% say they would do it primarily through accounting choices. Dechow and Sloan (1995) propose a modification to the Jones model that takes this form of earnings management into consideration. This modification is now known under the name of *Modified Jones Model*.

Other modifications have been also proposed. Cohen et al. (2004) add the firm's Book/Market ratio to the Modified Jones model to take into account that fast growing firms are likely to have larger accruals, even in the absence of earnings management. This decreases the likelihood of classifying as discretionary some accruals which are in fact non-discretionary. In a study of quarterly earnings management, Das et al. (2007) add the total accruals of the same quarter of the preceding year as an additional independent variable to take into consideration that part of the previous year's accruals have to reverse in the current year.

Many authors have criticised these models for their poor performance at detecting earnings management and have proposed alternatives. Dechow and Dichev (2002) propose a model that includes accounting estimation errors in the definition of earnings quality. Defond and Park (2001) use the ratio of working capital to sales of the same quarter a year earlier to measure "normal" current accrual at the end of a quarter. Dhaliwal et al. (2004) measure earnings management as the difference between the

effective tax rate estimated in the third-quarter report and the tax rate used to estimate deferred taxes at year end. Their results suggest that managers decrease the effective tax rate in the last quarter to achieve earnings targets that otherwise could not be reached and increase it to create reserves when targets would be exceeded otherwise. Kerstein and Rai (2007) measure fourth-quarter earnings management as a dichotomous variable that indicates whether or not the firm's net income shifts up from its year-to-date level by more than 0.5% of its market value.

We choose to use the Jones (1981) and the Modified Jones models of expected quarterly current accruals, estimated in cross-section by industry. Several studies use the Jones model in combination with other models of earnings management and their results are quite consistent across models (e.g. Das et al. 2007). We do take into consideration the difference in earnings management across quarters by adding indicator variables in the tests of H4 and H5.

Current expected quarterly accruals are modeled as follows:

$$Current\ Accruals_{i,q} = \beta_1 (1/\text{Assets}_{i,q-1}) + \beta_2 (\Delta Revenue_{i,q}) + \varepsilon_{i,q} \quad (2)$$

where *Current Accruals* is computed as net income before extraordinary items (item #Q8) plus depreciation and amortization (item #Q5) minus operating cash flows (item #108), $Assets_{q-1}$ is total assets at the end of the previous quarter (item #Q6), $\Delta Revenue$ is the change in revenue (item #12) from the previous quarter to the current quarter, *i* is the firm, and *q* is the quarter. All variables (except *1/Assets*) are scaled by total assets at the end of the previous quarter (q-1).

The βs are estimated in cross-sectional regressions, one for each quarter and each industry (2-digit SIC). Industry-quarters with less than 6 observations are excluded. Following Kothari et al. (2004), we delete observations in which the absolute value of total current accruals scaled by beginning total assets are greater than one. Earnings and operating cash flows are winsorized at the level of the 1st and 99th percentiles to minimise the bias induced by extreme firm performance (Dechow and Sloan 1995). The coefficient estimates are then used to compute the expected accruals for each firm-quarter. The

difference between the firm's actual and expected accruals is the measure of unexpected accruals.

For the Modified Jones model, the coefficient estimates obtained from the regressions of Equation (2), the $\hat{\beta}$ s, are used to compute expected current accruals with the following equation for each firm-quarter observation. The unexpected accruals are the difference between actual.

$$\begin{aligned} \textit{Unexpected Current Accruals}_{\,i,q} = \textit{Current Accruals}_{i,q} - [\hat{\beta}_1 (1/\text{Assets}_{\,i,\,q-1}) \\ + \hat{\beta}_2 (\Delta \textit{Revenue}_{i,q} - \Delta \textit{Receivables}_{i,q})] \end{aligned} \tag{3}$$

where $\Delta \textit{Receivables}_{i,q}$ is the increase in firm i's receivables during quarter q.

Given the results of previous studies, we expect earnings management to be more extensive in the fourth quarter than in the interim quarters. Whether the incentive is to increase or decrease reported earnings depends on whether managers need to add to pre-managed earnings to attain earnings target or to create reserves for subsequent periods when the results exceed the target. Therefore we examine both signed (*UnAccruals*) and absolute unexpected accruals (|*UnAccruals*|). We also examine whether the association between timely reviews and earnings management is different for firms with positive (income-increasing) unexpected accruals (*PosUnAccruals*).

In order to test hypotheses H4 and H5 on the effect of timely interim reviews on earnings quality, we use the following regression model.

$$\begin{aligned} \textit{ACCRUALS} = \; & \alpha + \beta_1 \textit{REVIEW} * \text{Q1-Q3} + \beta_2 \textit{REVIEW*Q4} + \beta_3 \textit{Q4} + \beta_4 \textit{SIZE} \\ & + \beta_5 \textit{MGREORG} + \beta_6 \textit{ROA} + \beta_7 \textit{USA} + \beta_8 \textit{BIG4} + \varepsilon \end{aligned} \tag{4}$$

where *ACCRUALS* equal, successively, |*UnAccruals*|, *UnAccruals* and *PosUnAccruals* computed with the Jones Model and then the Modified Jones Model, Q1-Q3 is equal to 1 for interim quarters and 0 otherwise, Q4 indicates a fourth-quarter observation and all other variables are defined as before. Q1-Q3 and Q4 are introduced to take into account the differences in earnings management across quarters that have been documented in prior research. From H4, we expect earnings management to be lower for firms with a timely review, which means that β_1 and β_2 are expected to be negative. From H5, we

expect the effect of the timely review on earnings management to be larger for Q4 than for Q1-Q3, so that the review would decrease the level of unexpected accruals to a higher degree and β_2 would be more negative than β_1.

Earnings reversals

As an alternative to current unexpected accruals, we also measure earnings quality with a methodology developed by Das et al. (2007) for detecting unexpected accounting changes in the fourth quarter. For each firm-year, the earnings increase is measured for each of the interim quarters and for the last quarter as the difference between the quarter's earnings and those of the same quarter of the previous year. If a firm's earnings are down from the year before in the interim quarters, it is expected that they will be down also in the last quarter of the year. A reversal of the tendency of the first three quarters is considered as an indication of possible earnings management. In fact, Das et al. (2007) find a significant association between the presence of earnings reversals and accrual-based measures of fourth-quarter earnings management.

Following Das et al. (2007), we compute each quarter's earnings change by subtracting from the quarter's earnings the earnings of the same quarter of the preceding year. In any one year, if the firm had positive earnings changes in at least 2 interim quarters and a negative change in the 4^{th} quarter, it is classified as having a Positive to Negative reversal. If it has at least 2 interim quarters with positive changes and a negative change in the 4^{th} quarter, it is classified as a Negative to Positive reversal. Firms which experience neither type of reversal are in the non-reversal group.

Table 1 provides a summary of the definition and sources of all variables.

TABLE 1

IV. RESULTS

Descriptive statistics

Table 2 provides descriptive data about the sample. Of the 1,688 companies included in our sample, 59.47 percent did not disclose that their interim financial statements had not been reviewed by their auditor. Thus, 1003 companies voluntarily purchased a timely review. The timely review purchase rate is slightly higher than the 54 percent reported in the by Ettredge et al. (1994) for a sample of 371 U.S. companies in 1989 and lower than the 80 percent reported by Manry et al. (2003) for a sample of 443 U.S. companies in 1995.

The average fees billed for the audit are $400,580 (median $125,370). While mean Total Assets is quite large (more than 1 billion dollars), the median company is much smaller with $95 millions of assets. This skewness is corrected with the variable SIZE. More than one quarter of the companies are cross listed in the US (27.46%) and 76.33% are audited by BIG4 firms.

Panel B of Table 2 provides summary statistics of our three measures of earnings management. The unexpected current accruals from the Jones and the Modified Jones models are very similar, their absolute value representing a little more than 4% of total assets (means of 0.044 for the Jones model and 0.047 for the Modified Jones model). The reversal measure detects earnings management only when it is important enough to modify the earnings trend between the interim and the last quarter, which is why the measure is much lower than with the accrual-based methodology. While the two versions of the Jones model find 46.56 and 48.01 percent of firm-quarters with positive (income-increasing) unexpected accruals, only 19.63 percent of firm-years are identified with negative-to-positive reversals.

TABLE 2

Auditors Review and Audit fees

Panel A of Table 3 shows that companies with reviewed interim financial statements were billed higher audit fees, with a mean (median) audit fees of $574,020 ($188,350) for companies with interim reviews and $146,110 ($69,510) for companies without.

Panel B reports the coefficients and tests statistics for the regressions of equation (1) . Model 1 regress *LnAuditFees* on *Review* and the control variables. Model 2 regress *LnAuditFees* on the explanatory variables separately for the companies with reviews (model 2a) and without (model 2b).[8] Running separate regression allows the coefficients to be different to account for the possible different audit cost structure of reviewed and non reviewed firms. The last columns of the table present the differences between the coefficients for these two regressions. All three models are highly significant. Model 1 has the highest explanatory power with an adjusted R^2 of 0.78. The R^2 is lower for model 2a and 2b with R2 of 0.55 and 0.32 respectively.

Model 1 is used to test hypothesis H1 that having a timely review of interim financial statements is associated with an increase in audit fees. In that model, the coefficient on *REVIEW*, has a positive value of 0.156 and is significant at the .01 level. Consequently, having the interim financial statements reviewed is associated to an increase of approximately 15 percent in audit fees. Thus, even if the cost of reviews may be partially offset by a reduction of year-end audit fees, the net effect is an increase in the overall audit and review fees billed by the auditors.

Consistent with the expectations based on prior research, audit fees are positively associated with size (*SIZE*,), complexity (*GEOSEG, INVREC*, *MGREORG*), audit firm professional risk (1-*ROA*, *USA*), and the use of a Big 4 auditing firms (*BIG4*). The coefficient on *AUDCHG*, while not significant in Models 1 and 2b is negative and

[8] Also, because of the high correlation between *BUSSEG* and *GEOSEG* we exclude *BUSSEG* from the models.

significant in Model 2a. The coefficient on Y2005, is positive and significant indicating that audit fees have increased from 2004 and 2005.

Comparison of the coefficients of Models 2a and 2b, indicates that four regression coefficients are different (*Intercept, SIZE, MGREORG, ROA*). The audit cost structure of reviewed and non reviewed firms is then different. Hypotheses H2 and H3 proposed that the effect of having a review will decrease with SIZE and increase with the number of segments (GEOSEG). Contrary to the expectation (H2), the effect of size is significantly larger when there is a review than not, suggesting that the incremental effect of a review is increasing with size. It should be noted, however, that the intercept is significantly smaller for non reviewed firms. The effect of *GEOSEG* is not significantly different between the two models. Contrary to the expectation, the number of geographic segments (*GEOSEG*) does not increase the cost of a review. We repeated the analysis of Models 2a and b with the number of business segments (BUSEG) and found similar results (not tabulated).

Contrary to the suggestion of Ettredge et al. (1994), the lack of significant difference on RECINV indicates that a higher proportion of accounts receivable and inventory does not increase the cost of quarterly review. Such a result is consistent with the CICA standards, which indicate that a review does not generally include test of details. The difference on *MGREORG* suggests that having a timely review reduce the effect on audit fees of being involved in a merger/acquisition or a reorganization.

Timely Review and Earnings Quality

Tables 4, 5 and 6 show the results of testing hypotheses H4 and H5. In Table 4, earnings quality is (negatively) measured by unexpected current accruals from a cross-sectional version of the Jones (1981) applied to current accruals. In Panel A as well as in Figure 1, the univariate comparison of absolute unexpected accruals (|*UnAccruals*|) reveals that they are significantly higher for firms whose interim reports are not reviewed by the auditor on a timely basis. For the interim reports, unexpected accruals are 0.045 for firms without a timely review and 0.033 for the reviewed quarterly reports. The difference of 0.081 vs. 0.051 for the fourth quarter is also significant at the 1% level. This first result

seems to support H4 that timely reviews are significantly associated with lower levels of earnings management. This result does not hold for signed unexpected accruals (*UnAccruals*), however. The mean and median unexpected accruals are negative (i.e. income-decreasing) for both reviewed and non-reviewed firms in interim reports as well as in the fourth quarter, and non-reviewed firms have more income-decreasing accruals although none of the differences are significant.

FIGURE 1

Panel B of Table 4 shows the results of the multivariate analysis which takes into account other factors that have been found to affect the level of accruals. The first section of the panel refers to the regression with absolute unexpected accruals (|*UnAccruals*|) as the dependent variable. While the effect of the review on fourth-quarter accruals, as measured by the coefficient on the interaction term *REVIEW*Q4*, is negative and significant (-0.013, p=0.003), as expected, the coefficient on the interaction term *REVIEW*Q1-Q3*, is significantly positive (0.005, p=0.042), suggesting that unexpected accruals are higher with review. Hence, H4 seems to be supported only for the final quarter of the year. It seems that having a review results in a more timely consideration of the possible difficulties in estimating accrual accounts in the interim quarters and in curtailing of managerial opportunism at year-end.

Hypothesis H5 seems to be supported, however, since the coefficient on *REVIEW*Q4* is negative and lower than that of *REVIEW*Q1-Q3*, which is positive. Hence, the reduction in unexpected accruals associated with timely review is stronger for Q4 than for Q1-Q3.

The significantly positive coefficient on Q4 indicates that absolute unexpected accruals are higher in the fourth quarter than in the interim quarters, which is consistent with prior results on the difference in earnings management across quarters.

The two remaining models of Panel B in Table 4 take into consideration whether the unexpected accruals are positive (income-increasing) or negative. The estimation of both β_1 and β_2 are insignificant both when the signed accruals are used as the dependant

variable (*UnAccruals*) and when we only consider whether the unexpected accruals are positive or not (*PosUnAccruals*).

Contrary to the model for absolute accruals where it is positive, the coefficient on Q4 is significantly negative in both regressions, suggesting that the increase in unexpected accruals observed in the first model relates to income-decreasing accruals. This is consistent with the hypothesis that fourth-quarter accruals are used for the correction of errors made in the first three quarters rather than for attaining earnings targets or avoiding the reporting of small losses.

TABLE 4

Table 5 presents the univariate and regression results when the Modified Jones model is used to measure unexpected current accruals. The results are very similar to those of Table 4 and thus show that the inferences drawn from the previous tests are robust to the measure of unexpected accruals.

TABLE 5

Table 6 presents the analysis based on fourth-quarter earnings reversal as a measure of earnings management. Panel A shows that the percentage of reversals is essentially the same between firms who have a timely review and those who don't. It is even a little higher for firms with a review, although the difference between the two groups is not significant. This is true both for the positive-to-negative (PN) and the negative-to-positive (NP) firms. This contradicts the results obtained with unexpected accruals. This is to be expected, however, since earnings reversals represent a much more restrictive measure of earnings management.

The absence of association between interim review and earnings reversal is confirmed by the results of the logistic regression presented in Panel B of Table 6. Whether the NP and PN reversals are considered separately, in the second or third model, or together in the first model, none of the coefficient estimates on the dichotomous variable Review is significantly different from zero.

This result puts in question the benefits that are expected from a timely auditor review of quarterly financial statements. While the review seems to significantly reduce the size of fourth-quarter absolute unexpected accruals, it does not seem to be enough to impede levels of earnings management that cause a reversal of earnings trend between interim quarters and year-end. One must be cautious, however, in interpreting the results of Table 6, since the explanatory power of the model, as measured by the R^2 and the likelihood ratio χ^2, is very low.

TABLE 6

V. CONCLUSION

In this study we examine the costs and benefits associated with the performance of a timely review of quarterly financial statements by the company's auditor and find that total audit fees are 15 percent higher for companies with timely reviews. We also examine the cost drivers of a review. We find that contrary to expectations based on audit firms' comments (e.g. PriceWaterhouseCoopers 1999) the costs are proportionately lower for smaller companies. Our results also suggest that having a timely review reduce the effect on audit fees of being involved in a merger/acquisition or a reorganization, a results consistent with the benefits of the timely involvement of the auditor in these situations.

The main benefit from timely reviews is the improvement in interim financial reports. In our sample of Canadian firms, we find a significant increase (not a decrease) in the level of unexpected accruals in the interim reports that have been reviewed by the auditors, as compared with those that had not been reviewed, but a significant decrease in the fourth-quarter unexpected accruals. Moreover, when the level of earnings management is measured by the presence of earnings reversal in the fourth quarter, the effect of timely reviews seem to disappear.

Mandatory timely reviews were required before the enactment of the Sarbanes-Oxley Act (2002) with its new requirement regarding disclosure controls and procedures, internal control over financial reporting, and audit committees. Given that internal controls and assurance services are alternative means to improve the quality of interim

reports, future research could examine the cumulative effect of these controls and assurance service on the quality of interim reports as well as their cumulative costs. Regulators should also take into account the benefit and costs of these alternative/complementary means of control before requiring mandatory quarterly reviews.

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TABLE 1
Variables Definition

Variable	Definition (Source)
EXPLANATORY VARIABLES	
LnAuditFees	Natural log of Audit Fees where Audit fees ($ 000) are the audit fees billed by the company's external auditor as reported in the firm's Annual Information Form (AIF) or Management Information Circular (MIC))
UnAccruals	Unexpected quarterly accruals from the Jones (1981) model or the Modified Jones model, estimated cross-sectionally by industry and by quarter.
|*UnAccruals*|	Absolute value of *UnAccrual*
PosUnAccruals	Dichotomous variable that takes a value of one if *UnAccrual* > 0
REVIEW	Dichotomous variable that takes a value of one if the company does not discloses that the financial statements have not been reviewed by its auditor and zero otherwise (Quarterly Financial Statements)
SIZE	Natural log of Total Assets
Total Assets	Total assets ($ MM) (Compustat item #6)
BUSSEG	Number of business segments (Financial statements)
GEOSEG	Number of geographical segment (Financial statements)
INVREC	Ratio of inventory (Compustat item #3) and accounts receivable (Compustat item #151) to total assets.
MGREORG	Indicator variable equal to one if the merger/acquisition (Compustat item #360) in the current and past year, or reorganization (Compustat item #376) in the current year
ROA	Net income before extraordinary items (Compustat item #172) divided by beginning of year total assets (Compustat item #6)., winsorized at ± 1.
USA	Indicator variable equal to 1 if the company is also a SEC registrant; zero otherwise (Compustat, AuditAnalytic)
BIG4	Indicator variable equal to one when the auditor is a Big 4 firm and zero otherwise (Compustat)
AUDCHG	Indicator variable equal to one if the company changed auditors from the previous year and zero otherwise (Compustat)
Y2005	Indicator variable equal to one for the 2005 fiscal year and zero otherwise
Industries	Indicator variables for energy (gics= 10), materials (gics= 15), consumer discretionary (gics= 25), consumer staples (gics= 30), health care (gics= 35), financials (gics= 40), information technology (gics= 45), telecommunications services (gics= 50), utilities (gics= 55)
Reversal	Dichotomous variable that takes a value of one if earnings are increasing in at least two interim quarters, with respect to the same quarter a year earlier, and decreasing in the 4th quarter (Positive to Negative) or if earnings are decreasing in at least two of the interim quarter and increasing in the 4th quarter (Negative to Positive), and zero otherwise.

TABLE 2
Sample Statistics

Variable	*Mean*	*median*	*Standard Deviation*
FEE ($000)	400.58	125.37	1,041.70
LnFEE	11.77	11.74	1.46
Review	59.47%		
ASSETS ($millions)	1,001.90	95.20	3,352.18
SIZE	11.42	11.46	2.44
BUSSEG	1.67	1.00	1.16
GEOSEG	2.67	1.00	1.70
INVREC	0.18	0.00	0.30
MGREORG	0.17	0.00	0.38
ROA	-0.03	0.07	0.30
USA	27.46%		
BIG4	76.33%		
AUDCH	7.63%		
YEAR-05	47.63%		

The variables are defined in Table 1. Sample of 1,688 firm-years from Canadian listed firms over 2004-2005

Panel B Earnings management measures

Jones (1981)			
|UnAccruals|	0.044	0.021	0.078
UnAccruals	-0.008	-0.002	0.089
PosUnAccruals	46.56%		
Modified Jones			
|UnAccruals|	0.047	0.022	0.084
UnAccruals	-0.007	-0.001	0.096
PosUnAccruals	48.01%		
Earnings reversals			
Negative to Positive	19.63%		
Positive to Negative	16.64%		
All reversals	36.27%		

The variables are defined in Table 1. Sample of 4,905 firm-quarters from Canadian listed firms over 2004-2005

TABLE 3
Effect of Auditors' Review on Audit Fees

Panel A Univariate Results

	No Review (n= 685)		Review (n=1005)		t value	p level
	Mean	Median	Mean	Median		
Audit Fees($000)	146.11	69.51	574.02	188.35	-10.03***	
LnAuditFees	11.10	11.15	12.22	12.14	-17.20***	

Panel A Regression Results

$$LnAuditFees = \alpha + \beta_1 REVIEW + \beta_2 SIZE + \beta_3 GEOSEG + \beta_4 INVREC + \beta_5 MGREORG + \beta_6 ROA + \beta_7 USA + \beta_8 BIG4 + \beta_9 AUDCH + \beta_{10} Y2005 + \beta_{11\text{-}26} Industries + \varepsilon$$

		Model 1		Model 2a Review		Model 2b No Review		Difference		
Variables	**Sign**	**Coef.**	**p value**[a]	**Coef.**	**p value**	**Coef.**	**p value**	**Sign**	**Diff.**	**p value**
Intercept	?	5.877	<.01	11.078	<.01	12.204	<.01	+	-1.126	<.01
REVIEW	+	0.156	<.01							
SIZE	+	0.481	<.01	0.472	<.01	0.224	<.01	+	0.248	<.01
GEOSEG	+	0.226	<.01	0.269	<.01	0.216	<.01	+	0.053	.60
INVREC	+	0.806	<.01	0.683	<.01	0.698	<.01	?	-0.015	.96
MGREORG	+	0.267	<.01	0.173	<.01	0.536	<.01	?	-0.363	0.04
ROA	-	-0.648	<.01	-0.328	<.01	0.425	0.03	?	-0.753	<.01
USA	+	0.251	<.01	0.373	<.01	0.148	0.11	?	0.225	0.12
BIG4	+	0.237	<.01	0.261	<.01	0.471	<.01	?	-0.21	0.17
AUDCHG	?	-0.101	0.11	-0.150	0.06	-0.120	0.47	?	-0.03	0.89
Y2005	+	0.112	<.01	0.108	<.01	0.093	0.16	?	0.015	0.90
Industries		Incl.	<.01	Incl.	<.01	Incl.	<.01			
F		295.89		115.2	<.01	45.17	<.01			
Adj. R^2		0.78		0.55		0.32				
n		1690		1005		685				

The variables are defined in Table 1. The sample consists of 1,680 firm-years from Canadian listed firms over 2004-2005.

[a]: p value are for one tail tests when the expected sign is positive or negative.

TABLE 4
Effect of Auditors' Review on Current Unexpected Accruals (Jones Model)*

Panel A Univariate Results: Mean (Median) unexpected accruals

	Q1 to Q3				Q4			
	No Review (n= 1511)	**Review (n=2174)**	**t value**	**p level**	**No Review (n= 492)**	**Review (n=728)**	**t value**	**p level**
|*UnAccruals*|	0.045 (0.021)	0.033 (0.017)	5.40	<.01	0.081 (0.037)	0.051 (0.023)	4.28	<.01
UnAccruals	-0.005 (-0.001)	-0.002 (0.000)	-1.03	0.30	-0.025 (-0.010)	-0.020 (-0.006)	-0.58	0.56
PosUnAccruals	48.44%	49.26%		0.62	40.24%	38.87%		0.63

Panel B Regression Results

$$ACCRUALS = \alpha + \beta_1 REVIEW * \text{Q1-Q3} + \beta_2 REVIEW*Q4 + \beta_3 Q4 + \beta_4 SIZE + \beta_5 MGREORG + \beta_6 ROA + \beta_7 USA + \beta_8 BIG4 + \varepsilon$$

ACCRUALS		***|UnAccruals|***		***UnAccruals***		***PosUnAccruals***	
	Sign	**Coef.**	**p value**	**Coef.**	**p value**	**Coef.**	**p value**
Review Q1-Q3	-	0.005	0.042	-0.002	0.608	0.013	0.780
Review Q4	-	-0.013	0.003	0.000	0.942	-0.044	0.558
Q4		0.037	<.001	-0.020	<.001	-0.210	0.001
SIZE		-0.006	<.001	-0.001	0.253	-0.028	0.015
MGREORG		0.008	0.003	-0.003	0.438	0.020	0.675
ROA		-0.054	<.001	0.055	<.001	0.397	<.001
USA		-0.002	0.352	-0.004	0.149	0.004	0.935
BIG4		-0.001	0.802	0.009	0.264	0.070	0.147
Intercept		0.105	<.001	-0.002	0.608	0.240	0.040
F		109.58	<.001	25.80	<.001	64.83	<.001
Adj. R^2		0.15		0.04		0.02	
n		4905		4905		4905	

* Sample of 4,905 firm-quarters from Canadian listed firms over 2004-2005. Variables are as defined in Table 1. p-values are for two-tailed tests.

TABLE 5
Effect of Auditors' Review on Current Unexpected Accruals
(Modified Jones Model)*

Panel A Univariate Results: Mean (Median) unexpected accruals

	Q1 to Q3				Q4			
	No Review (n= 1511)	**Review (n=2174)**	**t value**	**p level**	**No Review (n= 492)**	**Review (n=728)**	**t value**	**p level**
|*UnAccruals*|	0.047 (0.022)	0.036 (0.019)	4.67	<.01	0.085 (0.038)	0.055 (0.024)	4.29	<.01
UnAccruals	-0.004 (-0.001)	-0.001 (0.001)	-1.03	0.30	-0.023 (-0.009)	-0.018 (-0.006)	-0.66	0.51
PosUnAccruals	48.91%	51.24%		0.16	42.07%	40.52%		0.63

Panel B Regression Results

$$ACCRUALS = \alpha + \beta_1 REVIEW * \text{Q1-Q3} + \beta_2 REVIEW*Q4 + \beta_3 Q4 + \beta_4 SIZE + \beta_5 MGREORG + \beta_6 ROA + \beta_7 USA + \beta_8 BIG4 + \varepsilon$$

ACCRUALS		***|UnAccruals|***		***UnAccruals***		***PosUnAccruals***	
	Sign	**Coef.**	**p value**	**Coef.**	**p value**	**Coef.**	**p value**
Review Q1-Q3	-	0.007	0.014	-0.001	0.745	0.048	0.281
Review Q4	-	-0.012	0.010	0.001	0.799	-0.050	0.505
Q4		0.038	<.001	-0.019	<.001	-0.175	0.008
SIZE		-0.007	<.0001	-0.001	0.120	-0.020	0.087
MGREORG		0.009	0.002	-0.001	0.703	0.032	0.503
ROA		-0.051	<.001	0.061	<.001	0.357	<.001
USA		-0.002	0.536	-0.004	0.185	-0.034	0.440
BIG4		-0.001	0.840	0.002	0.612	0.038	0.426
Intercept		0.117	<.001	0.016	0.071	0.188	0.107
F		98.26	<.001	24.29	<.001	61.10	<.001
Adj. R^2		0.14		0.04		0.02	
n		4905		4905		4905	

* Sample of 4,905 firm-quarters from Canadian listed firms over 2004-2005. Variables are as defined in Table 1. p-values are for two-tailed tests.

TABLE 6
Effect of Auditors' Review on Fourth-Quarter Earnings Reversals*

Panel A Univariate Results: Mean (Median) unexpected accruals

Type of reversal	No Review (N = 492)	Review (N = 728)	Chi square	p value
Positive to negative	16.06%	17.17%	0.262	0.609
Negative to positive	18.50%	20.05%	0.458	0.499
All reversals	34.55%	37.23%	0.911	0.340

Panel B Logistic Regression Results

$$Reversal = \alpha + \beta_1 REVIEW + \beta_2 SIZE + \beta_3 MGREORG + \beta_4 ROA + \beta_5 USA + \beta_6 BIG4 + \varepsilon$$

S		***All Reversals***		***Negative to Positive***		***Positive to negative***	
	Sign	**Coef.**	**p value**	**Coef.**	**p value**	**Coef.**	**p value**
Review	-	0.085	0.295	0.090	0.328	0.030	0.748
SIZE		-0.035	0.142	-0.044	0.093	-0.004	0.890
MGREORG		0.148	0.125	0.133	0.214	0.072	0.516
ROA		0.168	0.300	0.188	0.300	0.046	0.807
USA		0.185	0.037	0.203	0.039	0.053	0.610
BIG4		-0.017	0.862	-0.039	0.721	0.018	0.875
Intercept		-0.017	0.767	-0.458	0.084	-0.980	<.001
Chi square		8.473	0.205	8.118	0.230	1.023	0.985
Adj. R^2		0.01		0.01		0.001	
n		1,220		1,220		1,220	

* Sample of 1,220 firm-years from Canadian listed firms over 2004-2005. Variables are as defined in Table 1. Reversals refer to reversals in earnings changes between interim quarters and 4th quarter and are computed as in Das et al. (2007). p-values are for two-tailed tests.

Figure 1 Absolute Value of the Currents Quarterly Accruals by Auditor Review (Jones Model)