# Busy Auditors and Earnings Conservatism

**Abhijeet SINGH**
ORCID: 0000-0001-8425-4857
Email: Abhijeet.S@cbs.curtin.edu.au
Curtin University

**Nigar SULTANA**
ORCID: 0000-0003-4273-2034
Email: n.sultana@curtin.edu.au
Curtin University

**Harjinder SINGH***
ORCID: 0000-0002-8250-5808
Email: h.singh@curtin.edu.au
Curtin University

**Md Ariful ISLAM**
ORCID: 0000-0002-0357-3280
Email: m.islam29@postgrad.curtin.edu.au
Curtin University

**Sarowar HOSSAIN**
ORCID: 0000-0001-6483-7166
Email: s.hossain@unsw.edu.au
University of New South Wales

**Keywords:** Audit partner busyness, audit quality, conservatism, financial reporting quality.

**JEL Classification:** M41, M42, M48, G38

***Corresponding author:** Harjinder Singh, Curtin University, GPO Box U1987, Bentley 6845, Perth, Western Australia. Tel: +61 8 9266 7904 Fax: +61 8 9266 7196 Email: h.singh@curtin.edu.au

**Data availability statement:** All data are publicly available from the sources indicated in the paper.
**Funding statement:** There has been no funding received for this paper.
**Conflict of interest disclosure:** There are no actual or perceived conflicts of interests among the authors.
**Ethics approval statement:** Given the use of secondary data in this paper, there is no ethics approval necessary.
**Permission to reproduce material from other sources:** No material has been reproduced from other sources.
**Acknowledgments:** None to be made.

**Busy Auditors and Earnings Conservatism**

**Abstract**

One recent governance mechanism receiving both scholarly and regulatory attention is audit partner busyness (APB) with the notion that APB can be potentially beneficial or detrimental to governance quality and thereby, audit quality. We seek to provide evidence on this notion by examining the association between APB and earnings conservatism, a central tenet of financial reporting quality. Using five measures of earnings conservatism, we find that APB is negatively related to conservatism. Our results support the contention that auditing multiple clients constrains audit partner's time and effort per engagement and, thus, reduces audit quality. Consequently, by demonstrating that APB is potentially a negative governance feature, we better inform the debate on APB and contribute to policy implications in this area.

## 1. Introduction

For a governance mechanism to work properly, it needs to be appropriately structured, have suitable levels of authority, be adequately resourced and exercise diligence (DeZoort et al., 2002). In terms of exercising diligence, the busyness of members within such structures has received both scholarly and regulatory attention over the last two decades, specifically, the busyness of board of director and audit committee members. One governance factor receiving greater attention both from the researchers and regulators more recently is audit partner busyness (APB) with the notion that APB can be potentially effective or a detriment to governance quality and thereby, audit quality.

Regulators globally have raised concerns about the workload of audit partners. Ranging from the Federation of European Accountants (2016) in the European Union, the Public Company Accounting Oversight Board (2015a) and the Center for Audit Quality (CAQ) (2014) in the US to the Parliamentary Inquiry into audit quality in Australia (Parliamentary Joint Committee on Corporations and Financial Services, 2020), such concerns are underpinned by audit inspection programmes which find an ongoing deterioration in audit quality. Although concerns remain regarding the number of clients each audit partner should have, some argue that there are potential benefits of having multiple clients. Such researchers point to the auditor specialization literature and the director reputational literature to suggest, for example, that busy audit partners may have the skills and expertise, and therefore competence, to be able to increase audit quality when having multiple clients. On the other hand, under the limited

attention theory, audit partners devoting their limited time and attention across multiple clients will invariably be less effective given that appropriate attention demands time.

Using Swedish data, Sundgren and Svanström (2014) show that audit partners with multiple private clients are found to have lower likelihoods of issuing going concern opinions and are hence associated with lower audit quality. Similarly, using a sample of publicly listed firms from China, Gul et al. (2017) find that audit partners with more public clients are associated with lower audit quality providing support for the limited attention theory. In a recent study using a sample of publicly listed firms from the Shanghai and Shenzhen Stock Exchanges of China, Chen et al. (2020) find audit partner workload compression negatively affects audit quality. On the contrary, Goodwin and Wu (2016), using Australian data, find that APB does not impair audit quality and argue busyness is optimally chosen by each partner in equilibrium with market forces.

We extend the line of limited prior research into audit partner busyness by examining its impact on audit quality and therefore use one of its central tenets, earnings conservatism[1]. As indicated by Ruddock et al. (2006), financial reports are a joint product of managements' assertions and the auditors' auditing efforts and as such, conservatism is an important accounting attribute that the auditor is expected to influence. Furthermore, the economic demand for conservatism is also associated with the demand for auditing such that any variation in audit quality provided by busy audit partners is expected to also affect conservatism. Prior research has also firmly established the suitability of conservatism as a proxy for audit quality (M. DeFond & Zhang, 2014; Knechel et al., 2013; Krishnan, 2005; Simnett et al., 2016). We use earnings conservatism for a number of reasons. As indicated above, past literature suggests that conservatism is an important accounting attribute expected to be influenced by external auditors (Krishnan, 2005; Ruddock et al., 2006). In addition, the auditing profession is under continuous regulatory scrutiny particularly given concerns about audit quality globally (Federation of European Accountants, 2016; Parliamentary Joint Committee on Corporations and Financial Services, 2020; Public Company Accounting Oversight Board, 2015a). Such scrutiny increases auditors' litigation risk and jeopardises their reputation. Since overly busy auditors have less time to allocate for each client, one strategy to maintain audit quality and their reputation will be to seek conservative accounting practices as it has been suggested by past research that accounting conservatism is negatively associated with auditor litigation (M. L. DeFond et al., 2012). Earnings conservatism has also been found to be an effective

[1] To some extent, we also answer the call by Daugherty et al. (2012) who suggest that audit partner rotation requirements increases audit partners' workloads resulting indirectly in reduced audit quality.

monitoring mechanism by itself as it reduces agency conflicts by restricting opportunistic payments by managers to themselves and others (A. Ahmed & Duellman, 2007; Ball & Shivakumar, 2005; Holthausen & Watts, 2001; Watts, 2003; Zhang, 2008) and reducing litigation and political costs (Watts, 2003). As such, conservatism can be viewed by auditors as a complementary monitoring mechanism protecting auditor reputation and reducing auditor litigation risk.

Using a sample of Australian companies from 2004 to 2015, we investigate the association between APB and earnings conservatism. Conservative practices have relevance to the market and signal higher quality of financial reporting and thereby audit quality (M. DeFond & Zhang, 2014; Knechel et al., 2013; Simnett et al., 2016). Engaging in a very large number of assignments is likely to have negative implications on the time and effort invested in each assignment. Based on this concern, we expect busy audit partners to less likely be associated with the news dependent conservatism to promote shareholder interest. We use five conservatism measures namely: (1) Basu's (1997) timeliness of earnings (2) Basu's (1997) persistence of earning changes (3) Ball and Shivakumar's (2005) accrual-based loss recognition model, (4) Roychowdhury and Watts's (2007) estimated cumulative earnings and returns over multiple periods model, and (5) Khan and Watts (2009) firm-specific conservatism measure. Based on our expectation, we find negative associations between APB and these five models.

Our study contributes to the limited prior research on the busyness effect of external auditors, a crucial aspect determining auditor's performance, which has produced mixed evidence (Goodwin and Wu, 2016; Gul et al., 2017; Sundgren and Svanström 2014). To the best of our knowledge, our study is the first to examine the impact of audit partner busyness using an important audit quality and financial reporting indicator, earnings conservatism. Given that an audit partners' principal responsibility is to attest to the true and fairness of financial statements prepared by firms, it is reasonable to assess whether APB has a positive or negative impact on the audit partners' ability to ensure conservative financial reporting by firms; one indicator of true and fair financial statements. Our results have serious policy implications for a variety of capital market participants. We find consistent and strong evidence that busy audit partners are negatively associated with conservative earnings practices and employ rigorous endogeneity tests to validate our findings. Our findings support recommendation to policy makers and regulators on capping the number of audits an audit partner can perform (Gul et al., 2017). In support of the limited attention theory, our results suggest that limiting the number of audits an audit partner can undertake may enhance conservative earnings practices and,

consequently, audit quality and financial reporting quality. Merits of having strong internal monitoring mechanisms such as an effective audit committee can be considered by firms to ask workload questions when appointing new auditors, and to montor busy audit partners and maintain audit quality/finncial reporting quality (Singh et al. 2022).

The rest of this paper is organized as follows. In Section 2, we describe the background of the study. Section 3 reviews the related literature and develops our hypotheses. Section 4 describes the research method and sample selection. Section 5 discusses the empirical results and section 6 presents additional tests. Section 7 presents additional econometric analysis to address endogeneity concerns, and Section 8 concludes.

## 2. Background of the study

Accounting and auditing reforms such as those requiring disclosure of audit partner identity have been introduced by regulatory authorities worldwide with an intention of improving audit quality. While in Australia, there has been a requirement to have audit reports signed identifying both the audit partner and firm since the 1970s (Carey & Simnett, 2006), the Public Company Accounting Oversight Board (PCAOB) in the United States (US) recently adopted such disclosure requirements (PCAOB, 2015b) with proponents (see Advisory Committee on the Auditing Profession (ACAP), 2008VII: 19) suggesting usefulness of audit partner identity disclosures for investors and other financial information users.[2] This study, therefore, has direct implications for policy makers as it examines whether identities of partners on public audit reports are informative in facilitating auditor quality at an individual level. Both Gul et al. (2017) and Sundgren and Svanström (2014) draw out policy implications from their findings of a negative relation between APB and audit quality and suggest upper limits of the number of audits undertaken by a partner to improve audit quality. In our paper, we seek to provide further evidence and clarity to their results and consequently comment on the efficacy of such proposed restrictions on the number of audits undertaken by a partner by examining the association between APB and earnings conservatisms in the Australian context. We use data from Australia, a setting that is similar to the U.S. in terms of legal environment and enforcement. There are significant differences between Anglo-Saxon countries and other countries such as China relating to their legal environment and enforcement mechanisms. Therefore, findings from such countries may not be generalizable given for example, that the

[2] A survey by the International Accounting and Auditing Standards Board (IAASB) has previously shown the requirement of a signature by an audit partner being subjected to a debate involving more than 100 associations from both developed and emerging markets (see http://www.ifac.org/sites/default/files/meetings/files/20130415-IAASB-Supplement_to_Agenda_Item_2-Question_12_Responses-Disclosure_of_Engagement_Partner_Name-v1.pdf as cited in Gul et al. (2017)). Practitioners have also been found to express their objections to the requirements of mandatory partner signatures (Deloitte, 2008; Ernst & Young, 2009; KPMG, 2009; PricewaterhouseCoopers, 2009).

existing institutional structures in countries such as China have not been established based on the principles and values entrenched in many other developed economies. We thus believe that findings obtained using data from Australian audit partners are relevant to the US and other developed countries' setting.

**3. Hypotheses development**

The external auditor is widely recognized as the chief corporate governance mechanism for ensuring high principal agent alignment of interests by providing external verification on the reliability of the firm's financial statements, thereby playing a critical role in the information marketplace (Chu et al., 2013; Ferguson et al., 2003; Van Tendeloo & Vanstraelen, 2008). Based on DeAngelo's (1981) definition, auditor quality is perceived as a function of the auditor's competence (that is, the ability to discover material misstatements and accounting system breaches) and independence (that is, the ability to report material misstatements and accounting system breaches). An auditor with a larger client portfolio has been argued by DeAngelo (1981) to have a stronger incentive to be more independent being subjected to a greater potential loss of quasi rents to be earned from a larger client base if the auditor was to "cheat" and get caught. DeAngelo (1981p.191-192) documents "[T]he greater the number of clients, the less the wealth of the partner-in-charge of a given client depends on retaining that client. Therefore, the greater is the probability that he will report a discovered breach." DeAngelo's (1981) theory has been used in prior research to explain the higher audit quality of Big N audit firms and large audit offices in general (Choi et al., 2010; J. Francis, 2004). Similarly, at the audit partner level, it may be reasonable to expect a busy audit partner to be more independent with consequently higher audit quality.

The auditor industry specialization literature may also help to explain why busyness differs across partners. Expert auditors typically have larger client portfolios since auditors gain experience and knowledge and thus build their expertise by performing more audits (Craswell et al., 1995). This suggests higher APB likely represents a partner's expertise and thus higher audit quality. Consistent with the auditor specialization literature, the director reputational hypothesis also provides clues to why busyness may differ across partners. Market forces have been hypothesized in prior research to motivate outside directors to develop their reputations as vigilant monitors (E. Fama, 1980; E. Fama & Jensen, 1983). It can therefore be argued that the number of directorships held can be used to assess a director's human capital with multiple directorships signaling director competence. Prior literature does find evidence consistent with the director reputational hypothesis (Coles & Hoi, 2003; Shivdasani, 1993). Likewise, busy

audit partners are likely to be more competent and better able to provide higher levels of audit assurance compared to their less-busy counterparts.

Ahmed and Duellman (2007) find that earnings conservatism enhances the usefulness of financial statements through the reduction of residual losses from asymmetric information between managers and other parties to the firm. Earnings conservatism minimizes agency problems associated with managerial investment decisions, restricts managers' opportunistic payments to themselves and other parties, improves the efficiency of debt and other contracting, and reduces litigation and political costs (Ball & Shivakumar, 2005; Ryan, 2006; Watts, 2003). Auditing has been shown to play an important role in enforcing conservative accounting choices. Basu et al. (2001) find that the asymmetric timeliness of earnings is greater for Big 8 (now Big 4) audit clients compared to their non-Big 8 counterparts. Similarly, Krishnan (2005) finds that for a sample of Big 6 (now Big 4) auditors, the earnings of clients of industry specialists are timelier in reflecting bad news than earnings of clients of non-specialists. A possible explanation for these findings is that Big 4 accounting firms are subjected to higher reputational and litigation risks which results in these firms having more rigorous requirements for their client's accounting treatments (DeAngelo, 1981; J. Francis et al., 1999; Lennox, 1999). This reflects how factors that impact the auditors and their independence can influence the levels of earnings conservatism in their clients' financial reports.

Based on the above arguments, it is reasonable to expect that busier audit partners who are more likely to suffer a loss of greater quasi rents from a larger client base will have greater incentives to maintain higher levels of quality and hence positively influence the level of earnings conservatism in the financial reports of their clients. However, under the Limited Attention Theory (LAT), scarcity of attention limits the ability of humans to process information and perform tasks simultaneously, resulting in reduction of attention devoted to some tasks to deal more effectively with others (James, 1890; Kahenman, 1973). The common theme when modelling managerial behavior under LAT is that managers allocating their attention across multiple projects or activities inevitably have attention limit their span of control since attention demands time (Gifford, 2005; Radner & Rothschild, 1975). Busy directors with seats on multiple boards have been found to be detrimental to the effectiveness of corporate governance (Ahn et al., 2010; Fich & Shivdasani, 2006) supporting the busyness hypothesis in the director literature that suggests too many directorships inhibit directors to devote sufficient time and effort towards monitoring managers. With reference to LAT or the busyness hypothesis, it can be inferred that higher busyness levels may reduce the amount of

attention audit partners are likely to devote to average clients in their portfolio. Survey and experimental findings from McDaniel (1990), Malone and Roberts (1996), and Willett and Page (1996) demonstrate that time pressure results in suboptimal auditor behavior.

Following the premises of limited attention theory and findings from the bulk of prior APB research (Chen et al., 2020; Gul et al., 2017; Sundgren and Svanström 2014), we argue that audit partners with multiple clients, being over-burdened, are able to allocate ledd attention and time towards their audit effort resulting in poorer audit quality and financial reporting quality. We therefore propose the following hypothesis:

*H1: There is a negative relationship between audit partner busyness and earnings conservatism.*

## 4. Research method

### 4.1 Measurement of *APB*

To test our study's hypothesis, we measure our experimental variable, *APB*, as the number of listed[3] clients in an audit partner's client portfolio in a year (Goodwin & Wu, 2016; Habib et al., 2018). We also perform additional tests by taking the natural logarithmic transformation of *APB* (Goodwin & Wu, 2016; Gul et al., 2017; Habib et al., 2018).

### 4.2 Measures of earnings conservatism

**Timeliness of earnings to news (Basu 1997)**

Our first measure of earnings conservatism is based on Basu's (1997) seminal model to measure timeliness of earnings to news. The assumption underlying this model is that the timeliness of earnings is asymmetric with earnings more likely to fully reflect negative news than positive news as exhibited in contemporaneous stock returns. As shown in Equation (1) below the responsiveness of accounting income to the change in market value infers the timeliness of earnings (Basu, 1997). While negative market-adjusted stock returns are used to proxy for bad news, positive market-adjusted stock returns are used to proxy for good news. A positive coefficient on *RRA*DR* in the following equation captures the asymmetric recognition of bad news relative to good news:

$$X = \alpha_0 + \alpha_1 RRA + \alpha_2 DR + \alpha_3 RRA*DR + \varepsilon \quad (1)$$

3 It is a limitation of our study that we only include listed entities as there is no publicly available data regarding audit partner's other clients, such, non-listed, private or government entities. This approach on measuring audit partner busyness is consistent with prior research (Goodwin & Wu, 2016).

where firm *i* and time *t* subscripts are omitted. *X* is the operating profit after tax for firm *i* in fiscal year *t* deflated by the market value of equity at the beginning of the fiscal year, *RRA* is the annual share return for firm *i* from 3 months after the previous fiscal year ($t-1$) to 3 months after the current fiscal year ($t$), adjusted for the ALL Ordinaries Index over the same period, *DR* is an indicator variable equal to 1 if *RRA* is negative, and 0 otherwise.[4]

To examine our hypothesis using Basu's (1997) asymmetric timeliness of earnings to news measure, Equation (2) is developed. A negative (positive) coefficient on *RRA*DR*APB* will indicate that firms with busy audit partners exhibit lower (higher) earnings conservatism; that is, firms with busy audit partners have lower (higher) incremental timeliness of earnings to bad news than to good news.

$$X = \alpha_0 + \alpha_1 RRA + \alpha_2 DR + \alpha_3 RRA*DR + \alpha_4 APB + \alpha_5 RRA*APB + \alpha_6 DR*APB + \alpha_7 RRA*DR*APB + [Control\ Variables] + \varepsilon \quad (2)$$ [5]

We control for partner specific and audit firm level attributes that might be correlated with *APB* and earnings conservatism. To control for auditor competence, we include industry expertise. We use audit market share based on audit fees as a proxy for auditor specialists at both the individual partner and audit firm levels. *EXPPAR* is an indicator for industry experts, defined as partners who are the first-ranked or second-ranked auditor by market share in an industry-city combination for the year. *EXPFIRM* is an indicator variable for audit firms that are first-ranked in an industry-city by market share and are from the first ranked audit firms by market share in the industry nationally for the year. Krishnan (2005) finds earnings of clients of specialist auditors, compared to the earnings of clients of non-specialist auditors, to be timelier in reflecting bad news and exhibit greater conservatism. To control for quality differences attributed to audit firm reputation, we include a *BIG4* indicator variable, which equals one if the audit firm is a Big 4 firm. Large audit firms have greater client specific quasi-rents to lose if there is a questionable audit (DeAngelo, 1981), and hence, may be less likely to compromise their independence.

[4] The interpretation of Equation (1) has been argued to be valid only if market returns cause earnings (and not the reverse), implying an efficient market (Dietrich et al., 2007). Dietrich et al. (2007) find evidence of biased inferences when partitioning a regression sample with one of the regressors (*RRA*). However, Ryan (2006) indicates the concerns raised by Dietrich et al. (2007) is likely to induce a very tiny bias in the estimation of conservatism and recommends (1) measuring returns over the fiscal year to partially remove the impact of the annual earnings announcements over stock prices (which is expected to occur about three months after closing), and (2) using market-adjusted returns to create the partitioning dummy variable in the Basu model. Consistent with prior research (Goh & Li, 2011; Sultana & Van der Zahn, 2015), we measure returns over the fiscal year and use market-adjusted returns (instead of raw returns) to mitigate the concerns of Dietrich et al. (2007).

[5] Goh and Li (2011) argue that mean-adjusting continuous variables help to reduce multicollinearity issues among the interaction terms (Aiken & West, 1991; Neter et al., 1989). Following Goh and Li (2011), we run all our conservatism models both with and without mean adjusting our continuous variables (that is, *APB*, *SIZE*, *MB*, and *LEV*) and find consistent results. For the purposes of brevity, we only report results without mean-adjusting our continuous variables.

Consistent with prior research, Equation (2) also controls for certain firm characteristics to proxy for demand for conservatism. We control for firm size (*SIZE*) using the natural logarithm of market-value of equity at the end of the fiscal year. Givoly et al. (2007) document that the asymmetric timeliness of earnings for large firms is significantly smaller than for small firms consistent with prior research that predicts a positive relation between firm size and conservatism resulting from greater public scrutiny and political costs (Basu, 2005; Watts & Zimmerman, 1978). However, LaFond and Watts (2008) argue that larger firms often have smaller information asymmetry because they produce more public information, reducing the demand for conservative accounting.

To control for the demand of conservative accounting resulting from information asymmetry associated with firm's growth options (LaFond & Roychowdhury, 2008; LaFond & Watts, 2008), the market-to-book ratio (defined as the ratio of the market-value of equity to the book value of equity) is used (denoted as *MB*). We also include the variable *LEV* (that is, sum of long-term debt and current liabilities of firm deflated by total assets) to control for financial leverage. Firms with higher leverage levels tend to have greater bondholder – shareholder conflicts that increase demand for conservative accounting practices (A. Ahmed et al., 2002; Goh & Li, 2011). Zhang (2008) finds more conservative borrowers are offered lower interest rates. Contract modifications alone have not been found to satisfy lenders' demand for information with financial reporting conservatism being also required to reduce agency costs (Beatty et al., 2008).

**Persistence of earnings changes (Basu 1997)**

Our second measure to capture the differential timeliness of loss versus gain recognition is the persistence of earnings changes in Basu (1997) which presumes bad news reverses while good news persists. While Basu's (1997) timeliness of earnings to news model (Equation 1 above) presumes share prices reflect bad news in the form of contemporaneous market losses earlier than good news through market gains, the impact of good or bad news may not be captured in contemporaneous share prices alone. The earlier recognition of relatively bad news results in negative changes in income being more likely to reverse than positive earnings changes. Equation (3) details Basu's (1997) persistence measure of earnings conservatism where the coefficient on $PX*DPX$ is predicted to be negative and significant for timely loss recognition.

$$BPX = \beta_0 + \beta_1 PX + \beta_2 DPX + \beta_3 PX*DPX + \varepsilon \quad (3)$$

*BPX* is the change in operating profit after tax of firm *i* for period *t* from operating profit after tax of firm *i* for period *t*-1 deflated by the market value of equity of firm *i* at the end of the period *t*–1; *PX* is the change in operating profit after tax of firm *i* for period *t*-1 from operating profit after tax of firm *i* for period *t*-2 deflated by the market value of equity of firm *i* at the end of period *t*-2; *DPX* is an indicator variable equal to 1 if *PX* is negative, and 0 otherwise.

To examine our hypothesis using Basu's (1997) persistence of earnings measure, Equation (4) is developed. A positive (negative) coefficient on *PX*DPX*APB* will indicate that firms with busy audit partners exhibit lower (higher) earnings conservatism; that is, firms with busy audit partners have reduced (increased) tendency to reverse negative changes in earnings in the following period.

$$BPX = \beta_0 + \beta_1 PX + \beta_2 DPX + \beta_3 PX*DPX + \beta_4 APB + \beta_5 PX*APB + \beta_6 DPX*APB + \beta_7 PX*DPX*APB + [Control\ Variables] + \varepsilon \quad (4)$$

All variables are previously defined.

**Accruals-based loss recognition (Ball and Shivakumar 2005)**

Our third measure of conservatism is based on Ball and Shivakumar's (2005) accrual-based loss recognition model developed to describe the differential timeliness of gain and loss recognition between accruals and operating cash flows. Ball and Shivakumar (2005) argue that conservatism exists when negative cash flows are more likely to be recognised in a timely manner as unrealised accrued charges against net income. Positive cash flows, on the other hand, are more likely to be recognised when realised and thus accounted for on a cash basis. Equation (5) details the Ball and Shivakumar (2005) model where the coefficient on *CFO*DCFO* is predicted to be positive and significant for earnings conservatism.

$$ACC = \gamma_0 + \gamma_1 CFO + \gamma_2 DCFO + \gamma_3 CFO*DCFO + \varepsilon \quad (5)$$

*ACC* is the accruals for firm *i* in fiscal year *t*, calculated as the difference between net income before extraordinary items and cash flow from operations, and deflated by the book value of total assets at the beginning of the fiscal year; *CFO* is the operating cash flows for firm *i* in fiscal year *t* scaled by the book value of total assets at the beginning of the fiscal year for firm *i; DCFO* is an indicator variable equal to 1 if *CFO* is negative, and 0 otherwise.

To examine our hypothesis using Ball and Shivakumar's (2005) asymmetric timeliness measure, Equation (6) is developed. A negative (positive) coefficient on *DCFO*CFO*APB*

will indicate that firms with busy audit partners exhibit lower (higher) earnings conservatism; that is, accruals of firms with busy audit partners can less (more) effectively and timely reflect the future expectation of the negative change of operating cash flows.

$$ACC = \gamma_0 + \gamma_1 CFO + \gamma_2 DCFO + \gamma_3 CFO*DCFO + \gamma_4 APB + \gamma_5 CFO*APB + \gamma_6 DCFO*APB + \gamma_7 CFO*DCFO*APB + [Control\ Variables] + \varepsilon \quad (6)$$

All variables are previously defined.

### 4.3 Sample selection

We use the Securities Industry Research Centre of Asia-Pacific (SIRCA) corporate governance database and begin with an initial sample of 12,258 ASX-listed firm years audited by Australian audit firms during the 2004 to 2015 period. Our study's auditor attribute variables, including the key experimental variable, *APB*, are calculated using all 12,258 firm years. Share price and all other data are retrieved from the Aspect Huntley's financial database (specifically, FinAnalysis and/or DatAnalysis), Capital IQ, OSIRIS, and ORBIS. Data not available from databases were hand-collected from clients' electronic copies of annual reports downloaded from the Connect4 Annual Reports Collection. Consistent with prior research (Ruddock et al., 2006; Sultana & Van der Zahn, 2015), we delete all observations in the financial services industry and are left with 10,532 firm years. After excluding observations with missing data, the final sample with all necessary data comprises of 6,141 firm years.[6] The final usable sample is winsorized at the 1 percent and the 99 percent levels for all continuous variables to remove the effects of influential eccentric observations (A. Ahmed & Duellman, 2007).

## 5. Empirical results

### 5.1 Descriptive statistics and correlations

Table 1 reports descriptive statistics for the final usable sample. Skewness of average deflated profit after tax (*X*) is negative (that is, -4.808) while the skewness of average market-adjusted stock returns (*RRA*) is positive (2.032). This is consistent with Basu's (1997) asymmetric timeliness of earnings and returns. The mean and median for total accruals as a proportion of total assets (*ACC*) are negative (that is, -0.086 and -0.017, respectively). Consistent with prior Australian research (Sultana & Van der Zahn, 2015), the results for *ACC* suggest the existence of earnings conservatism in financial reporting by the sampled firms.

[6] This is the sample size used for Basu's (1997) timeliness of earnings to news measure. Our sample size varies across the different conservatism models because of data availability and calculation methods involved. Sample sizes are mentioned at the bottom of the tables.

Around 45.5% of the firm years in our sample report a negative cash flow from operations (*DCFO*). In our sample firms, the mean (median) number of ASX listed clients in an audit partner's client portfolio per year (*APB*) is reported to be 4 (3).

[Insert Table 1 about here]

Based on our definitions of audit partner expertise and audit firm expertise, we find 7.4% of sample firm years are audited by specialist partners (*EXPPAR*) while 9.8% of sample firm years are audited by specialists firms (*EXPFIRM*). The Big 4 audit firms (*BIG4*) audited 57.1% of the sample firm years.

Table 2 presents a correlation matrix reporting the Pearson listwise correlation coefficients for all the variables utilized in the main tests of this study. The correlation matrix indicates that our variable of intrerest, *APB*, is negatively correlated with earnings conservatism (*X*).

[Insert Table 2 about here]

The dependent and independent variables are also significantly correlated with several control variables. For instance *X* and *APB* are found to be correlated with *EXPPAR*, *EXPFIRM*, *BIG4*, *SIZE*, *MB*, and *LEV*. Consistent with Goodwin and Wu (2016), busy audit partners are found to less likely be associated with larger, more financially leveraged and more profitable firms, as indicated by the negative correlations of *APB* with *SIZE*, *LEV* and *CFO*.

**5.2 Main results**

Following Pathan (2009), we use a generalized least square (GLS) random effect (RE) technique to examine the association between audit partner busyness and earnings conservatism.[7,8] As outlined in Pathan (2009, pp. 1343), this method "is robust to the first-order autoregressive (AR(1)) disturbances (if any) within unbalanced-panels and cross-sectional correlation and/or heteroscedasticity across panels." We prefer the RE model over the fixed effect (FE) model since we have variables such as *APB* and *BIG4* on the right hand side which are relatively time-invariant for which FE estimates would be imprecise (Woodbridge, 2002).[9]

[7] Standard regressions based on ordinary least squares (OLS) are likely to be biased based on the possibility of omitted variables since researchers are unlikely to include all potential influencers in their empirical models. Such biases have been shown to be more common in social sciences (Firebaugh et al., 2013). Random assignment is a popular statistical technique used to mitigate omitted variable bias. When using the randomization technique, biasing effects of confounding variables can be reduced without having to measure such variables or even having to know them (Firebaugh et al., 2013).

[8] To check for the robustness of our results, we also run all our tests using the standard OLS regressions and find consistent results. For the purposes of brevity, we only report results based on the random effects regression models.

[9] RE models can estimate the effects of measured causes that do not vary over time since such models capture both between–unit as well as within-unit variance as opposed to FE models which only explain the within-unit variance (Firebaugh et al., 2013). As such, RE models are expected to provide more powerful tests of hypothesis by generating narrower confidence intervals.

We also prefer the use of the RE model since, in this study, we examine a large number of firms ('N') over a small timeframe ('T'). Specifically, we examine 1,184 firms over 12 years in this study's panel data set. When dealing with a large N and a fixed small T, FE estimation is found to be inconsistent (Baltagi, 2005). A large N is also reported to result in an enormous loss of degrees of freedom in case of FE estimation (Baltagi, 2005). Hence, we use the GLS random effects models to undertake our analyses.

For each earnings conservatism measure, we run three variations of GLS RE to examine the association between audit partner busyness and earnings conservatism. We first run a GLS RE regression model without controlling for any client effects or partner effects, the results of which are presented under Model 1. Next, we run a GLS RE regression model at the client firm level, where we report results based on Huber-White robust standard errors clustered at both year and firm level, results of which are presented under Model 2. Finally, we also run a GLS RE regression model at the partner level to control for any biased regression estimates that may arise as a result of partner changes during our sample period, the results of which are presented under Model 3.[10]

Table 3 presents the results of GLS RE estimates of regression Equation (2) based on Basu's (1997) timeliness of earnings to news measure. The regression Equation (2) is well fitted with an overall R-squared ranging from 24.6% - 27.6% with statistically significant Wald Chi-square ($\chi^2$) statistics. All three variations of GLS RE show the coefficients on *RRA*DR* to be positive and significant, indicating that financial reporting is conservative in general. Specifically, *RRA*DR* is 4.7315 ($p < 0.01$) in model 1, 4.6548 ($p < 0.01$) in model 2, and 4.8131 ($p < 0.01$) in model 3. The coefficients on *RRA*DR*APB* are negative and significant (specifically, -0.0312 ($p < 0.01$) in model 1, -0.0296 ($p < 0.01$) in model 2, and -0.0309 ($p < 0.01$) in model 3), indicating that firms with busy audit partners have lower incremental timeliness of earnings to bad news than to good news. In other words, firms with busy audit partners are shown to exhibit lower earnings conservatism.

[Insert Table 3 about here]

With respect to control variables, the coefficients on *RRA*DR*BIG4* show that Big 4 auditors are associated with more conservatism, consistent with the reputation hypothesis discussed in DeAngelo (1981). The coefficients on *RRA*DR*SIZE* suggest that larger firms have lower conservatism, consistent also with prior research (Goh & Li, 2011). Finally, the

[10] Given that audit partners will change during our 12 year sample period, largely as a result of the 5 year mandatory rotation policy in Australia, we also re-run regressions at the individual partner level to control for partner effects.

coefficients on *RRA*DR*LEV* show that more highly leveraged firms exhibit less conservatism being negatively associated with asymmetric timeliness of accruals.

Table 4 presents the results of GLS RE estimates of regression Equation (4) based on Basu's (1997) persistence of earnings changes measure. The regression Equation (4) is also found to be well fitted with an overall R-squared ranging from 21.3% to 22.1% with statistically significant Wald Chi-square ($\chi^2$) statistics. All three variations of GLS RE show the coefficients on *PX*DPX* are negative and significant, consistent with the presence of conservative reporting. Specifically, *PX*DPX* is -3.6102 ($p < 0.01$) in model 1, -3.5535 ($p < 0.01$) in model 2, and -3.5633 ($p < 0.01$) in model 3. The coefficients on *PX*DPX*APB* are reported to be positive and significant (specifically, 0.0248 ($p < 0.01$) in model 1, 0.0235 ($p < 0.01$) in model 2, and 0.0230 ($p < 0.01$) in model 3), indicating that firms with busy audit partners have a reduced tendency to reverse negative earnings changes in the following period. This result provides further evidence that the firms with busy audit partners exhibit lower earnings conservatism.

[Insert Table 4 about here]

With respect to control variables, we again find Big 4 auditors associated with more conservatism while larger client firms associated with reduced conservative practices. The coefficients on *PX*DPX*MB* suggest that a firm's growth options are positively associated with earnings conservatism, consistent with prior research (Sultana & Van der Zahn, 2015).

Table 5 presents the results of GLS RE estimates of regression Equation (6) based on Ball and Shivakumar's (2005) accruals-based asymmetric timeliness measure. The coefficients on *CFO*DCFO*APB* are negative and significant (specifically, -0.2193 ($p < 0.01$) in model 1, -0.2194 ($p < 0.01$) in model 2, and -0.2098 ($p < 0.01$) in model 3), implying that firms with busy audit partners accrue less unrealized losses in the cash loss year. Again, this find is consistent with earlier results of a negative relation between audit partner busyness and conservatism.

[Insert Table 5 about here]

With respect to control variables, the coefficients on *CFO*DCFO*EXPAR* and *CFO*DCFO*EXPFIRM* show that both specialist audit partners and specialist audit firms are associated with greater asymmetric timeliness of earnings, providing some support to the findings of Krishnan (2005).

## 6. Additional tests

### 6.1 Alternative measures of earnings conservatism

To check the resilience of our main results reported in Tables 3 to 5, we use alternative measures of earnings conservatism.

#### 6.1.1 Roychowdhury and Watts (2007)

Roychowdhury and Watts (2007) find that conservatism is measured more efficiently using asymmetric timeliness when it is estimated cumulatively over multiple periods. They argue that asymmetric timeliness measured over short periods, as in the case of the one year Basu (1997) measures, is affected by the composition of equity value at the beginning of the period, including the effects of past asymmetric timeliness. Following Roychowdhury and Watts (2007), we estimate the asymmetric timeliness regression using cumulative earnings and returns over three years and examine our hypothesis using Equation (8).

$$X\_R = \eta_0 + \eta_1 RET\_R + \eta_2 DRET\_R + \eta_3 RET\_R*DRET\_R + \eta_4 APB + \eta_5 RET\_R*APB + \eta_6 DRET\_R*APB + \eta_7 RET\_R*DRET\_R*APB + [Control\ Variables] + \varepsilon \quad (7)$$

*X_R* is the three year aggregate (current and previous two fiscal years) of operating profit after tax deflated by the market value of equity at the beginning of the fiscal year, *RET_R* is the three year aggregate (current and previous two fiscal years) of annual share returns adjusted for the ALL Ordinaries Index over the same period, *DRET_R* is an indicator variable equal to 1if *RET_R* is negative, and 0 otherwise. All other variables are previously defined.

Table 6 presents the results of GLS RE estimates of regression Equation (7) based on Roychowdhury and Watts' (2007) proposed three year specification of earnings and returns in the Basu's (1997) timeliness of earnings to news measure.

[Insert Table 6 about here]

Compared to the results reported in Table 3 based on Basu's (1997) asymmetric timeliness based on one year specification of earnings and returns, regression Equation (7) appears to be better fitted with an overall R-squared ranging from 42.5% to 47.2% with statistically significant Wald Chi-square ($\chi^2$) statistics. All three variations of GLS RE show the coefficients on *RET_R*DRET_R* to be positive and significant, confirming that financial reporting is conservative in general. Specifically, *RET_R*DRET_R* is 2.3468 ($p < 0.01$) in model 1, 2.3606 ($p < 0.01$) in model 2, and 2.8212 ($p < 0.01$) in model 3. Consistent with this study's main findings, the coefficients on *RET_R*DRET_R*APB* are negative and significant

(specifically, -0.0131 ($p < 0.01$) in model 1, -0.0138 ($p < 0.01$) in model 2, and -0.0128 ($p < 0.01$) in model 3), confirming that firms with busy audit partners have lower incremental timeliness of earnings to bad news than to good news.

### 6.1.2 Khan and Watts (2009)

Khan and Watts (2009), suggest a firm-specific conservatism measure, *C_SCORE*, based on Basu's (1997) assymetric timeliness regression model, incorporating firm-specific characteristics. While Basu's (1997) measure assumes all firms in an industry are homogenous, *C_SCORE* has the ability to reflect the timing of conservatism changes and the variation of conservatism across firms within an industry (LaFond and Watts, 2008). We follow Khan and Watts (2009) and derive the *C_SCORE* measure, with higher *C_SCORE* indicating greater conservatism. To examine our hypothesis using the *C_SCORE* measure, Equations (5) is developed.

$$C\_SCORE = \theta_0 + \theta_1 APB + \theta_2 EXPPAR + \theta_3 EXPFIRM + \theta_4 BIG4 + \theta_5 SIZE + \theta_6 MB + \theta_7 LEV + \theta_8 CFO + \theta_9 FIRMAGE + \theta_{10} CYCLE + \varepsilon \quad (8)$$

*FIRMAGE* is the number of years since the firm's listing date on ASX, *CYCLE* is calculated as the depreciation expense deflated by the book value of total assets at the beginning of the fiscal year (which is a decreasing measure of the length of the investment cycle). All other variables are previously defined.

Table 7 presents the results of GLS RE estimates of regression Equation (8). Regression Equation (8) appears to be well fitted with an overall R-squared ranging from 98.6% to 98.7% with statistically significant Wald Chi-square ($\chi^2$) statistics.

[Insert Table 7 about here]

All three variations of GLS RE show the coefficients on *APB* to be negative and significant (specifically, -0.0012 ($p < 0.01$) in model 1, -0.0010 ($p < 0.01$) in model 2, and -0.0013 ($p < 0.01$) in model 3). Consistent with the study's main findings, these results confirm that busy audit partners are associated with lower levels of earnings conservatism.

### 6.2 Alternative measure of *APB*

To further test the robustness of our results, we replace our experimental variable, *APB*, with its natural logarithmic transformation, *LNAPB*, and re-run our main tests. We take logarithm because unlogged *APB* is right skewed (skewness statistic = 2.430) (Keene, 1995). Table 8 reports results when *LNAPB* is regressed against all our main earnings conservatism

proxies (Basu's (1997) timeliness of earnings to news measure in Panel A, Basu's (1997) persistence of earnings changes measure in Panel B, and Ball and Shivakumar's (2005) accruals-based asymmetric timeliness measure in Panel C.

[Insert Table 8 about here]

Tabulated results from Table 8 corroborate our main results (Tables 3 to 5) across all variations of GLS RE. The coefficients on *RRA*DR*LNAPB* continue to be negative and significant in Panel A (specifically, -0.1332 ($p < 0.01$) in model 1, -0.1230 ($p < 0.01$) in model 2, and -0.1318 ($p < 0.01$) in model 3); coefficients on *PX*DPX*LNAPB* continue to be positive and significant in Panel B (specifically, 0.1297 ($p < 0.01$) in model 1, 0.1243 ($p < 0.01$) in model 2, and 0.1227 ($p < 0.01$) in model 3); and coefficients on *CFO*DCFO*LNAPB* continue to be negative and significant in Panel C (specifically, -1.5961 ($p < 0.01$) in model 1, -1.6009 ($p < 0.01$) in model 2, and -1.4441 ($p < 0.01$) in model 3). These findings continue to show an inverse relationship between *LNAPB* and earnings conservatism.

**6.3 Audit firm size effects**

On one hand, extensive internal reviews, robust training and development programs, standardized audit methodologies, and greater options for appropriate second partner reviews may be argued to be some of the factors that could possibly result in Big 4 accounting firms exercising greater audit effort and providing superior audit quality (Lawrence et al., 2011; Sundgren & Svanström, 2014). On the other hand, auditors from large audit firms who audit many clients may spend too few hours on each client to compete successfully with smaller audit firms which are likely to have lower cost and the billing per hour of audit work (Sundgren & Svanström, 2014). This may result in busy auditors from larger audit firms to have a detrimental effect on audit quality. Hence, the significance of audit partner busyness could vary with audit firm size.

Table 9 reports the results on the impact of our experimental variable, *APB*, on sub-samples of Big 4 and non-Big 4 auditors for all our main earnings conservatism proxies (Basu's (1997) timeliness of earnings to news measure in Panel A, Basu's (1997) persistence of earnings changes measure in Panel B, and Ball and Shivakumar's (2005) accruals-based asymmetric timeliness measure in Panel C across all three variations of GLS RE (presented under models 1, 2, and 3).

[Insert Table 9 about here]

The coefficients on *RRA*DR*APB*BIG4* and *RRA*DR*APB*NON-BIG4* in Panel A and *CFO*DCFO*APB*BIG4* and *CFO*DCFO*APB*NON-BIG4* in Panel C are negative and significant In other words, the coefficients on *RRA*DR*APB* and *CFO*DCFO*APB* are negative and significant for both sub-samples of Big 4 and non-Big 4 auditors.[11] These results suggest that regardless of audit firm size, *APB* is negatively associated with earnings conservatism.

**6.4 Auditor specialization effects**

An audit partner may build his/her knowledge base as a specialist based on having a number of clients in an industry (Chin & Chi, 2009). Prior research has linked specialist auditors with earnings conservatism (Krishnan, 2005). To check that the results of our study are not driven by industry specialist audit partners, we disentangle the effects between audit partner specialization and audit partner busyness by examining the impact of *APB* on the sub-samples of specialist (*EXPPAR*) and non-specialist (*NON-EXPPAR*) audit partners. Table 10 reports results for such analysis undertaken for all our main earnings conservatism proxies (Basu's (1997) timeliness of earnings to news measure in Panel A, Basu's (1997) persistence of earnings changes measure in Panel B, and Ball and Shivakumar's (2005) accruals-based asymmetric timeliness measure in Panel C) across all three variations of GLS RE (presented under models 1, 2, and 3).

[Insert Table 10 about here]

Table 10 Panel A shows the coefficients on *RRA*DR*APB*NON-EXPAR* are negative and significant at the 1% level while the coefficient on *RRA*DR*APB*EXPPAR* is insignificant. Panel B shows the coefficient on *PX*DPX*APB*NON-EXPAR* is positive and significant at the 1% level while the coefficients on *PX*DPX*APB*EXPAR* are positive and marginally significant only at the 10% level. Panel C reports the coefficient on *CFO*DCFO*APB*NON-EXPAR* is negative and significant at the 1% level while the coefficient on *CFO*DCFO*APB*EXPAR* is negative and significant at the 5% level. Overall, Table 10 shows that our main results of negative associations between *APB* and earnings conservatism appear to be largely driven by non-specialist audit partners compared to specialist audit partners.

[11]In Panel B, the coefficients on *PX*DPX*APB*NON-BIG4* are reported to be positive and significant while the coefficients on *PX*DPX*APB*BIG4* are insignificant. Hence, for Basu's (1997) persistence of earnings changes measure, the inverse relationship between *APB* and conservatism is observed only for the subsample of non-Big 4 auditors.

## 7. Dealing with endogeneity

The statistical significance, sign, and magnitude of the tests undertaken above may be biased if our experimental variable, *APB*, is correlated with the error term. This endogeneity bias may cause inconsistent estimates, leading to incorrect inferences and misleading conclusions. In this section, we address such endogeneity concerns by undertaking additional econometric analysis.

### 7.1 Propensity score matching

The first econometric analysis we undertake is Propensity Score Matching (PSM). To obtain an unbiased and correct estimation, it is important to properly specify the relationship between audit partner busyness and different earnings conservatism models in multiple regression analyses. Failure of properly specified relationships between *APB* and different earnings conservatism proxies may result in a problem called ‘‘functional form misspecification’’ (FFM). Rosenbaum and Rubin (1983) suggest that PSM can alleviate this concern by decreasing the dependency on the specification of the relationship between variables. In PSM, observations are chosen from treatment and control groups based on a number of criteria using the estimated possibility of receiving treatment. As such, PSM can address the differences in the impact of audit partner busyness between audit partners having a small number of clients and a large number of clients.

First, we construct a treatment group and control group from our experimental variable, *APB*, to do PSM analysis. A dummy variable is created which equals 1 if *APB* is equal to or higher than its eightieth percentile, and 0 otherwise (Pan & Bai, 2015). By generating this dummy variable, we create a treatment group of audit partners having a higher number of clients and a control group of audit partners having a lower number of clients. We perform PSM procedure in two stages. In the first stage, we generate a propensity score for each firm-year observation by running a logit regression model by pooling the treatment and control groups based on *SIZE*, *MB*, and *LEV*.[12] We also add industry and year effects to calculate the propensity score. In second stage, we use the calculated propensity score to match each audit partner having a higher number of clients with an audit partner having a lower number of clients by using nearest-neighbor matching technique without replacement subject to caliper (i.e. maximum difference in propensity score between control group and treatment group) of 0.01,

[12] We also conduct a covariate balance test to verify that firms in the treatment and control groups are identical in terms of observable characteristics. We find that none of the differences between the firms' observable characteristics in the treatment and control groups are statistically significant.

as suggested by Leuven and Sianesi (2003). We find 1,728 matches for audit partners having a higher number of clients. Subsequently, we rerun the Equations (2), (4), and (6).

[Insert Table 11 about here]

Table 11 reports the PSM results for all our main earnings conservatism proxies across all three variations of GLS RE (presented under models 1, 2, and 3). Panels A and C show coefficients on *RRA*DR*APB* and *CFO*DCFO*APB* are negative and significant at the 1% level, while Panel B shows the coefficient on *PX*DPX*APB* as positive and significant at the 1% level, confirming the inverse relationship of *APB* with earnings conservatism across all three models. Hence, the results obtained from PSM analysis further confirm the results reported in our main analysis.

**7.2 Heckman two-stage estimation**

A major concern in examining the effects of *APB* on earnings conservatism is that the relationship between *APB* and earnings conservatism could be subject to endogeneity arising from self-selection bias issues. Unobservable time-variant and time-invariant factors may be correlated with both earnings conservatism and audit partner busyness, thereby biasing our correlation estimates. A limitation of PSM is that its matching technique does not address the effects of unobservable characteristics. To address the effects of such unobservable characteristics which may drive earnings conservatism and influence the selection of audit partners having multiple clients, we undertake the Heckman's (1979) two-stage estimation procedure. In the first stage, we run the following probit regression model in which the dependent variable is *APB_DUMMY*, an indicator variable that equals 1 if *APB* is higher than its sample median, and 0 otherwise.

$$APB\_DUMMY = \xi_0 + \xi_1 SIZE + \xi_2 MB + \xi_3 LEV + \varepsilon \quad (9)$$

All variables are previously defined.

In first stage, we use *SIZE*, *MB* and *LEV* as instruments because prior studies show client firm size, growth and leverage affect auditor effort (Gul et al., 2017; Hay et al., 2006). Subsequently, we run the probit regression (Equation 10) to get the inverse mills ratio ($\lambda$) for each firm-year. The results of the first-stage probit regression model are presented in Panel A of Table 12.

[Insert Table 12 about here]

All instruments used to predict the busyness of audit partners (i.e., *SIZE*, *MB* and *LEV*) are statistically significant (at the 1% level) and the corresponding coefficients are negative for *SIZE* and *LEV* while positive for *MB*. In the second stage, we re-run the Equations (2), (4), and (6) by including $\lambda$ to control for self-selection bias. Panels B to D of Table 12 present the second stage results of the Heckman's (1979) two-stage estimator for all our main earnings conservatism proxies across all three variations of GLS RE (presented under models 1, 2, and 3).

Panels B and D show coefficients on *RRA*DR*APB* and *CFO*DCFO*APB* to be negative and significant at the 1% level, while Panel C shows the coefficient on *PX*DPX*APB* as positive and significant at the 1% level, confirming the inverse relationship between *APB* and earnings conservatism. Overall, the sign and magnitude of the results reported in Table 12 from the two-stage Heckman procedure are highly consistent with our main results and suggest that *APB* has a negative and significant impact on the various earnings conservatism proxies. Endogeneity arising from self-selection bias issues is therefore not likely to be driving our main results.

## 8. Conclusion

We examine the consequences of busy audit partners auditing multiple clients on earnings conservatism for a sample of ASX-listed firm during the 2004 to 2015 period. Consistent with limited attention theory, our results indicate that audit partners with multiple clients, possibly being overcommitted with the number of clients, compromise the quality of their work when completing their audits and, as such, are associated with lower conservative practices. Our results continue to hold after controlling for endogeneity arising from self-selection bias issues.

We make the following contributions. First, to the best of our knowledge, ours is the first study to comprehensively examine the association between APB and earnings conservatism, an important measure of audit quality and financial reporting quality. The findings of this study therefore add to the limited literature examining the effects of APB on audit quality. Second, our study has implications for policy-makers, audit firms, capital market participants, and academics. Our findings support policy recommendations on capping the number of audits an audit partner can perform. Based on our results, restricting the number of audits that an audit partner can undertake may positively affect earnings conservatism and, consequently, audit quality. Thus, policymakers and regulators can assess the efficacy of placing limits on the number of clients that audit partners can have. Companies may consider

increasing the quality of its internal governance mechanisms such as audit committees to closely monitor the external auditor's work when employing an audit partner with multiple clients. Scholars can also undertake future research to determine at what point, if any, the number of clients an audit partner has can increase conservative practices, and consequently, audit quality.

Based on our study's findings, we encourage future research to examine further the impact of APB on audit quality and financial reporting quality in different jurisdictions. For instance, until recently in the US, identification of audit partners was not required (PCAOB, 2015b), which made it difficult to directly examine audit partner characteristics. Research also remains scarce on the determinants of an audit partner's busyness level (Goodwin & Wu, 2016). With a better understanding of the determinants of the level of APB, there will be greater clarity when inferring how the busyness levels of audit partners affects their performance.

**References**


Advisory Committee on the Auditing Profession (ACAP). (2008). *Final Report of the Advisory Committee on the Auditing Profession for the U.S. Development of the Treasury (October)*. Retrieved 11 January 2023 from https://www.treasury.gov/about/organizational-structure/offices/Documents/final-report.pdf

Ahmed, A., Billings, B., Morton, R., & Stanford-Harris, M. (2002). The Role of Accounting Conservatism in Mitigating Bondholder-Shareholder Conflicts over Dividend Policy and Reducing Debt Costs. *The Accounting Review*, *77*(4), 867 - 890.

Ahmed, A., & Duellman, S. (2007). Accounting Conservatism and Board of Director Characteristics: An Empirical Analysis. *Journal of Accounting and Economics*, *43*(2-3), 411 - 437.

Ahn, S., Jiraporn, P., & Kim, Y. (2010). Multiple Directorships and Acquirer Returns. *Journal of Banking and Finance*, *34*(9), 2011 - 2026.

Aiken, L., & West, S. (1991). *Multiple Regression: Testing and Interpretting Interactions*. Sage Publications.

Ball, R., & Shivakumar, L. (2005). Earnings Quality in U. K. Private Firms: Comparative Loss Recognition Timeliness. *Journal of Accounting and Economics*, *39*(1), 83 - 128.

Baltagi, B. (2005). *Econometric Analysis of Panel Data*. John Wiley and Sons.

Basu, S. (1997). The Conservatism Principle and the Asymmetric Timeliness of Earnings. *Journal of Accounting and Economics*, *24*(1), 3 - 37.

Basu, S. (2005). Discussion on Conditional and Unconditional Conservatism: Concepts and Modelling. *Review of Accounting Studies*, *10*(2-3), 311 - 321.

Basu, S., Hwang, L., & Jan, C. (2001). Differences in Conservatism Between Big Eight and Non-Big Eight Auditors. *SSRN Working Paper Series*.

Beatty, A., Weber, J., & Yu, J. (2008). Conservatism and Debt. *Journal of Accounting and Economics*, *45*(2-3), 154 - 174.

Carey, P., & Simnett, R. (2006). Audit Partner Tenure and Audit Quality. *The Accounting Review*, *81*(3), 653 - 676.

Center for Audit Quality (CAQ). (2014). CAQ Approach to Audit Quality Indicators. Retrieved 5 January 2023 from https://www.thecaq.org/wp-content/uploads/2019/03/caq-approach-to-audit-quality-indicators-april-2014.pdf

Chen, J., Dong, W., Han, H., & Zhou, N. (2020). Does Audit Partner Workload Compression Affect Audit Quality. *European Accounting Review*, *29*(5), 1021-1053.

Chin, C., & Chi, H. (2009). Reducing Restatements With Increased Industry Expertise. *Contemporary Accounting Research*, *26*(3), 729 - 765.

Choi, J., Kim, C., Kim, J., & Zang, Y. (2010). Audit Office Size, Audit Quality and Audit Pricing. *Auditing: A Journal of Practice & Theory*, *29*(1), 73 - 97.

Chu, L., Mathieu, R., & Mbagwu, C. (2013). Audit Quality and Bank's Assessment of Disclosed Accounting Information. *European Accounting Review*, *22*(4), 719 - 738.

Coles, J., & Hoi, C. (2003). New Evidence on the Market for Directors: Board Memberships and Pennsylvania Senate Bill 1310. *Journal of Finance*, *58*(1), 197 - 230.

Craswell, A., Francis, J., & Taylor, S. (1995). Auditor Brand Name Reputations and Industry Specializations. *Journal of Accounting And Economics*, *20*(3), 297 - 322.

Daugherty, B., Dickins, D., Hatfield, R., & Higgs, J. (2012). An Examination of Partner Perceptions of Partner Rotation: Direct and Indirect Consequences to Audit Quality. *Auditing: A Journal of Practice & Theory*, *31*(1), 97 - 114.

DeAngelo, L. (1981). Auditor Size and Audit Quality. *Journal of Accounting and Economics*, *3*(1), 183 - 199.
DeFond, M., & Zhang, J. (2014). A Review of Archival Auditing Research. *Journal of Accounting and Economics*, *58*(2-3), 275 - 326.
DeFond, M. L., Chee, Y. L., & Zang, Y. (2012). *Do auditors value client conservatism?* Singapore Management University
Deloitte. (2008). *Comment Letter to Advisory Committee on the Auditing Profession*. Retrieved 11 November 2022 from http://comments.treas.gov/_files/DeloitteLLPCommentLetter.pdf
DeZoort, F., Hermanson, D., Archambeault, D., & Reed, S. (2002). Audit Committee Effectiveness: A Synthesis of Empirical Audit Committee Literature. *Journal of Accounting Literature*, *21*, 38 - 75.
Dietrich, J., Muller, K., & Riedl, E. (2007). Asymmetric Timeliness Tests of Accounting Conservatism. *Review of Accounting Studies*, *12*(1), 95 - 124.
Ernst & Young. (2009). *Comment Letter #007 to PCAOB Rulemaking Docket Matter No. 29*. Retrieved 11 February 2020 from http://pcaobus.org/Rules/Rulemaking/Docket029/007_EY.pdf
Fama, E. (1980). Agency Problems and the Theory of the Firm. *Journal of Political Economy*, *88*(2), 288 - 307.
Fama, E., & Jensen, M. (1983). Separation of Ownership and Control. *Journal of Law and Economics*, *26*(2), 301 - 325.
Federation of European Accountants. (2016). Overview of Audit Quality Indicators. Update to December 2015 edition. Retrieved 9 December 2022 from https://www.accountancyeurope.eu/wp-content/uploads/1607_Update_of_Overview_of_AQIs.pdf
Ferguson, A., Francis, J., & Stokes, D. (2003). The Effects of Firm-Wide and Office-Level Industry Expertise on Audit Pricing. *The Accounting Review*, *78*(2), 429 - 448.
Fich, E., & Shivdasani, A. (2006). Are Busy Boards Effective Monitors? *Journal of Finance*, *61*(2), 689 - 724.
Firebaugh, G., Warner, C., & Massoglia, M. (2013). *Fixed Effects, Random Effects, and Hybrid Models for Causal Analysis. In S. L. Morgan (Ed.), Handbook for Causal Analysis for Social Research (pp. 113 - 132)*. Springer.
Francis, J. (2004). What Do We Know About Audit Quality? *The British Accounting Review*, *36*(3), 345 - 368.
Francis, J., Maydew, E., & Sparks, H. (1999). The Role of Big 6 Auditors in the Credible Reporting of Accruals. *Auditing: A Journal of Practice & Theory*, *18*(2), 17 - 34.
Gifford, S. (2005). Limited Attention as the Bound on Rationality. *Contributions to Theoretical Economics*, *5*(1), 1 - 40.
Givoly, D., Hayn, C., & Natarajan, A. (2007). Measuring Reporting Conservatism. *The Accounting Review*, *82*(1), 65 - 106.
Goh, B., & Li, D. (2011). Internal Controls and Conditional Conservatism. *The Accounting Review*, *86*(3), 975 - 1005.
Goodwin, J., & Wu, D. (2016). What is the Relationship Between Audit Partner Busyness and Audit Quality? *Contemporary Accounting Research*, *33*(1), 341 - 377.
Gul, F., Ma, S., & Lai, K. (2017). Busy Auditors, Partner-Client Tenure, and Audit Quality: Evidence from an Emerging Market. *Journal of International Accounting Research*, *16*(1), 83 - 105.
Habib, A., Bhuiyan, M. B., & Sun, X. (2018). Audit Partner Busyness and Cost of Equity Capital. *International Journal of Auditing*, *23*(1), 57 - 72.

Hay, D., Knechel, W., & Wong, N. (2006). Audit Fees: A Meta-Analysis of the Effect of Supply and Demand Attributes. *Contemporary Accounting Research*, *23*(1), 141 - 191.
Heckman, J. (1979). Sample Selection Bias as a Specification Error. *Econometrica*, *47*(1), 153 - 161.
Holthausen, R., & Watts, R. (2001). The Relevance of the Value-Relevance Literature for Financial Accounting Standard Setting. *Journal of Accounting and Economics*, *31*(1-3), 3 - 75.
James, W. (1890). *The Principles of Psychology*. Holt & Co.
Kahenman, D. (1973). *Attention and Effort*. Prentice-Hall International.
Keene, O. (1995). The Log Transformation Is Special. *Statistics in Medicine*, *14*, 811 - 819.
Khan, M., & Watts, R. (2009). Estimation and Validation of a Firm-Year Measure of Conservatism. *Journal of Accounting and Economics*, *48*(2-3), 132 - 150.
Knechel, W., Krishnan, G., Pevzner, M., Shefchik, L., & Velury, U. (2013). Audit Quality: Insights from the Academic Literature. *Auditing: A Journal of Practice & Theory*, *32*(1), 385 - 421.
KPMG. (2009). *Comment Letter #021 to PCAOB Rulemaking Docket Matter No. 29*. Retrieved 11 February 2020 from http://pcaobus.org/Rules/Rulemaking/Docket029/021_KPMG.pdf
Krishnan, G. (2005). The Association Between Big 6 Auditor Industry Expertise and the Asymmetric Timeliness of Earnings. *Journal of Accounting, Auditing & Finance*, *20*(3), 209 - 228.
LaFond, R., & Roychowdhury, S. (2008). Managerial Ownership and Accounting Conservatism. *Journal of Accounting Research*, *46*(1), 101 - 135.
LaFond, R., & Watts, R. (2008). The Information Role of Conservatism. *The Accounting Review*, *83*(2), 447 - 478.
Lawrence, A., Minutti-Meza, M., & Zhang, P. (2011). Can Big 4 Versus Non-Big 4 Differences in Audit-Quality Proxies Be Attributed to Client Characteristics? *The Accounting Review*, *86*(1), 259 - 286.
Lennox, C. (1999). Are Large Auditors More Accurate than Small Auditors? *Accounting and Business Research*, *29*(3), 217 - 227.
Leuven, E., & Sianesi, B. (2003). *PSMATCH2: Stata Module to Perform Full Mahalanobis and Propensity Score Matching, Common Support Graphing, and Covariate Imbalance Testing.* Retrieved 10 January 2020 from https://EconPapers.repec.org/RePEc:boc:bocode:s432001
Malone, C., & Roberts, R. (1996). Factors Associated with the Incidence of Reduced Audit Quality Behavior. *Auditing: A Journal of Practice & Theory*, *15*(2), 49 - 64.
McDaniel, L. (1990). The Effects of Time Pressure and Audit Program Structure on Audit Performance. *Journal of Accounting Research*, *28*(2), 267 - 285.
Neter, J., Wasserman, W., & Kutner, M. (1989). *Applied Linear Regression Models* (2 ed.). Irwin.
Pan, W., & Bai, H. (2015). *Propensity Score Analysis: Fundamentals and Developments*. Guilford Press.
Parliamentary Joint Committee on Corporations and Financial Services. (2020). *Audit quality in Australia*.
Pathan, S. (2009). Strong Boards, CEO Power and Bank Risk-Taking. *Journal of Banking and Finance*, *33*(7), 1340 - 1350.
PricewaterhouseCoopers. (2009). *Comment Letter #014 to PCAOB Rulemaking Docket Matter No. 29*. Retrieved 11 February 2020 from http://pcaobus.org/Rules/Rulemaking/Docket029/014_PwC.pdf

Public Company Accounting Oversight Board. (2015a). *Concept Release on Audit Quality Indicators (PCAOB Release No. 2015-005)*. Retrieved 7 January 2023 from https://pcaobus.org/Rulemaking/Docket%20041/Release_2015_005.pdf

Public Company Accounting Oversight Board. (2015b). *PCAOB Adopts Rules Requiring Disclosure of the Engagement Partner and Other Accounting Firms Participating in an Audit*. Retrieved 10 August 2022 from https://pcaobus.org/News/Releases/Pages/PCAOB-adopts-disclosure-rules-Form-AP-12-15-15.aspx

Radner, R., & Rothschild, M. (1975). On the Allocation of Effort. *Journal of Economic Theory*, *10*(3), 358 - 376.

Rosenbaum, P., & Rubin, D. (1983). The Central Role of the Propensity Score in Observational Studies for Causal Effects. *Biometrika*, *70*(1), 41 - 55.

Roychowdhury, S., & Watts, R. (2007). Asymmetric Timeliness of Earnings, Market-to-Book and Conservatism in Financial Reporting. *Journal of Accounting and Economics*, *44*(1-2), 2 - 31.

Ruddock, C., Taylor, S., & Taylor, S. (2006). Nonaudit Services and Earnings Conservatism: Is Auditor Independence Impaired? *Contemporary Accounting Research*, *23*(3), 701 - 746.

Ryan, S. (2006). Identifying Conditional Conservatism. *European Accounting Review*, *15*(4), 511 - 525.

Shivdasani, A. (1993). Board Composition, Ownership Structure, and Hostile Takeovers. *Journal of Accounting and Economics*, *16*(1-3), 167 - 198.

Simnett, R., Carson, E., & Vanstraelen, A. (2016). International archival auditing and assurance research: Trends, methodological issues, and opportunities. *Auditing: A Journal of Theory & Practice*, *35*(3), 1-32.

Singh, H., Sultana, N., Islam, A. & Singh, A. (2022). Busy Auditors, Financial Reporting Timeliness and Quality. *The British Accounting Review*, *54*(3), Online: https://doi.org/10.1016/j.bar.2022.101080.

Sultana, N., & Van der Zahn, J.-L. W. (2015). Earnings Conservatism and Audit Committee Financial Expertise. *Accounting & Finance*, *55*(1), 279 - 310.

Sundgren, S., & Svanström, T. (2014). Auditor-In-Charge Characteristics and Going-Concern Reporting. *Contemporary Accounting Research*, *31*(2), 531 - 550.

Van Tendeloo, B., & Vanstraelen, A. (2008). Earnings Management and Audit Quality in Europe: Evidence from the Private Client Segment Market. *European Accounting Review*, *17*(3), 447 - 469.

Watts, R. (2003). Conservatism in Accounting - Part I: Explanations and Implications. *Accounting Horizons*, *17*(3), 207 - 221.

Watts, R., & Zimmerman, J. (1978). Towards A Positive Theory of the Determination of Accounting Standards. *The Accounting Review*, *53*(1), 112 - 134.

Willett, C., & Page, M. (1996). A Survey of Time Budget Pressure and Irregular Auditing Practices Among Newly Qualified UK Chartered Accountants. *British Accounting Review*, *28*(2), 101 - 120.

Woodbridge, J. (2002). *Econometric Analysis of Cross Section and Panel Data*. The MIT Press.

Zhang, J. (2008). The Contracting Benefits of Accounting Conservatism to Lenders and Borrowers. *Journal of Accounting and Economics*, *45*, 27 - 54.

**Table 1: Descriptive Statistics**

| Variables | Mean | Median | Standard Deviation | 25th Percentile | 75th Percentile | Skewness | Kurtosis | Minimum | Maximum |
|---|---|---|---|---|---|---|---|---|---|
| *X* | -0.160 | -0.007 | 0.599 | -0.148 | 0.071 | -4.808 | 30.451 | -4.422 | 0.447 |
| *RRA* | 0.032 | -0.100 | 0.834 | -0.468 | 0.298 | 2.032 | 9.236 | -1.000 | 3.945 |
| *DR* | 0.551 | 1.000 | 0.497 | 0.000 | 1.000 | -0.204 | 1.042 | 0.000 | 1.000 |
| *BPX* | 0.054 | 0.004 | 0.520 | -0.050 | 0.058 | 3.093 | 23.773 | -1.740 | 3.533 |
| *PX* | 0.035 | 0.005 | 0.462 | -0.047 | 0.053 | 2.237 | 20.302 | -1.810 | 2.949 |
| *DPX* | 0.453 | 0.000 | 0.498 | 0.000 | 1.000 | 0.188 | 1.035 | 0.000 | 1.000 |
| *ACC* | -0.086 | -0.017 | 1.572 | -0.090 | 0.024 | -36.240 | 3132.636 | -110.833 | 62.004 |
| *CFO* | -0.089 | 0.002 | 0.463 | -0.130 | 0.111 | -3.921 | 23.008 | -3.039 | 0.553 |
| *DCFO* | 0.455 | 0.000 | 0.498 | 0.000 | 1.000 | 0.182 | 1.033 | 0.000 | 1.000 |
| *APB* | 4.440 | 3.000 | 4.286 | 2.000 | 5.000 | 2.430 | 10.175 | 1.000 | 27.000 |
| *EXPPAR* | 0.074 | 0.000 | 0.262 | 0.000 | 0.000 | 3.259 | 11.623 | 0.000 | 1.000 |
| *EXPFIRM* | 0.098 | 0.000 | 0.298 | 0.000 | 0.000 | 2.695 | 8.264 | 0.000 | 1.000 |
| *BIG4* | 0.571 | 1.000 | 0.495 | 0.000 | 1.000 | -0.289 | 1.083 | 0.000 | 1.000 |
| *MVE ($000)* | 959,819 | 69,794 | 3,823,834 | 15,908 | 317,218 | 7.150 | 59.000 | 922 | 34,948,784 |
| *SIZE* | 18.183 | 18.061 | 2.204 | 16.582 | 19.575 | 0.320 | 2.734 | 13.735 | 24.277 |
| *MB* | 2.621 | 1.622 | 4.278 | 0.845 | 3.056 | 2.758 | 17.681 | -11.260 | 27.630 |
| *LEV* | 0.540 | 0.355 | 2.916 | 0.130 | 0.546 | 37.047 | 1932.359 | 0.000 | 188.602 |

All variables are defined in the Appendix.

**Table 2: Pearson Correlation Matrix**

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) | (13) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| (1) *X* | 1 | | | | | | | | | | | | |
| (2) *RRA* | 0.194*** | 1 | | | | | | | | | | | |
| (3) *BPX* | 0.263*** | 0.099*** | 1 | | | | | | | | | | |
| (4) *PX* | 0.026 | 0.050*** | -0.257*** | 1 | | | | | | | | | |
| (5) *ACC* | 0.135*** | -0.008 | 0.183*** | 0.037** | 1 | | | | | | | | |
| (6) *CFO* | 0.175*** | 0.01 | 0.050*** | -0.024 | 0.008 | 1 | | | | | | | |
| (7) *APB* | -0.029* | 0.048*** | -0.019 | -0.033* | 0.000 | -0.135*** | 1 | | | | | | |
| (8) *EXPPAR* | 0.076*** | -0.015 | -0.002 | 0.001 | 0.013 | 0.097*** | -0.037** | 1 | | | | | |
| (9) *EXPFIRM* | 0.057*** | -0.012 | -0.016 | -0.011 | 0.01 | 0.073*** | -0.044*** | 0.315*** | 1 | | | | |
| (10) *BIG4* | 0.115*** | -0.037** | -0.006 | -0.011 | 0.046*** | 0.191*** | -0.161*** | 0.210*** | 0.293*** | 1 | | | |
| (11) *SIZE* | 0.340*** | 0.092*** | -0.044*** | -0.026* | 0.032* | 0.306*** | -0.145*** | 0.295*** | 0.232*** | 0.458*** | 1 | | |
| (12) *MB* | 0.049*** | 0.192*** | -0.019 | -0.005 | -0.029* | -0.129*** | 0.066*** | -0.028* | 0.02 | -0.003 | 0.135*** | 1 | |
| (13) *LEV* | -0.147*** | -0.058*** | 0.070*** | -0.046*** | -0.025 | -0.065*** | -0.052*** | 0.032* | 0.004 | -0.022 | -0.047*** | -0.068*** | 1 |

***, **, * denote significance at the 1 %, 5% and 10% levels (two-tailed), respectively.
All variables are defined in the Appendix.

**Table 3: Main Test - *APB***
**Regression Results Using Basu's (1997) Timeliness of Earnings to News Measure**

| | Model 1 | | Model 2 | | Model 3 | |
|---|---|---|---|---|---|---|
| Variables | Coefficient | (*t-statistic*) | Coefficient | (*t-statistic*) | Coefficient | (*t-statistic*) |
| *Intercept* | -1.0805*** | (-8.6079) | -1.5644*** | (-7.1520) | -1.2834*** | (-5.8785) |
| *RRA* | -0.0363 | (-0.3053) | -0.0332 | (-0.2811) | -0.0061 | (-0.0523) |
| *DR* | 0.3804** | (2.2381) | 0.3459** | (2.0496) | 0.3519** | (2.0550) |
| *RRA*DR* | 4.7315*** | (15.0882) | 4.6548*** | (14.9187) | 4.8131*** | (15.5861) |
| *APB* | 0.0024 | (0.8015) | -0.0004 | (-0.1257) | 0.0037 | (0.9897) |
| *RRA*APB* | -0.0013 | (-0.6079) | -0.0011 | (-0.5273) | -0.0008 | (-0.3722) |
| *DR*APB* | -0.0094** | (-2.0916) | -0.0078* | (-1.7506) | -0.0071 | (-1.6089) |
| *RRA*DR*APB* | -0.0312*** | (-3.7738) | -0.0296*** | (-3.6137) | -0.0309*** | (-3.8351) |
| *EXPPAR* | -0.0014 | (-0.0300) | -0.0123 | (-0.2620) | -0.0047 | (-0.1020) |
| *RRA*EXPPAR* | 0.0010 | (0.0141) | 0.0207 | (0.2905) | 0.0163 | (0.2275) |
| *DR*EXPPAR* | 0.0159 | (0.2292) | 0.0172 | (0.2498) | 0.0081 | (0.1172) |
| *RRA*DR*EXPPAR* | 0.1473 | (1.0093) | 0.1056 | (0.7293) | 0.1395 | (0.9735) |
| *EXPFIRM* | -0.0123 | (-0.3037) | 0.0007 | (0.0172) | 0.0009 | (0.0234) |
| *RRA*EXPFIRM* | -0.0058 | (-0.1342) | -0.0057 | (-0.1322) | 0.0053 | (0.1236) |
| *DR*EXPFIRM* | -0.0130 | (-0.2128) | -0.0346 | (-0.5712) | -0.0319 | (-0.5221) |
| *RRA*DR*EXPFIRM* | -0.0901 | (-0.7809) | -0.1179 | (-1.0239) | -0.1523 | (-1.3329) |
| *BIG4* | -0.0048 | (-0.1594) | -0.0109 | (-0.3611) | -0.0469 | (-1.3686) |
| *RRA*BIG4* | -0.0059 | (-0.2450) | -0.0045 | (-0.1880) | -0.0089 | (-0.3693) |
| *DR*BIG4* | 0.0490 | (1.1213) | 0.0473 | (1.0931) | 0.0641 | (1.4664) |
| *RRA*DR*BIG4* | 0.3748*** | (4.7764) | 0.3446*** | (4.4242) | 0.3672*** | (4.7309) |
| *SIZE* | 0.0576*** | (8.2429) | 0.0611*** | (8.7245) | 0.0484*** | (7.4629) |
| *RRA*SIZE* | 0.0033 | (0.4927) | 0.0028 | (0.4180) | 0.0009 | (0.1418) |
| *DR*SIZE* | -0.0154 | (-1.6112) | -0.0149 | (-1.5627) | -0.0156 | (-1.6198) |
| *RRA*DR*SIZE* | -0.2402*** | (-13.2678) | -0.2371*** | (-13.1574) | -0.2429*** | (-13.6486) |
| *MB* | -0.0018 | (-0.5970) | -0.0036 | (-1.2254) | -0.0051* | (-1.7500) |
| *RRA*MB* | -0.0010 | (-0.4686) | -0.0005 | (-0.2147) | 0.0007 | (0.3391) |
| *DR*MB* | -0.0030 | (-0.5953) | -0.0031 | (-0.6069) | -0.0034 | (-0.6879) |
| *RRA*DR*MB* | -0.0034 | (-0.4299) | -0.0042 | (-0.5307) | -0.0085 | (-1.0620) |
| *LEV* | -0.0778** | (-2.3890) | -0.0828** | (-2.5614) | -0.1021*** | (-3.2202) |
| *RRA*LEV* | 0.0128 | (0.8485) | 0.0177 | (1.1839) | 0.0219 | (1.4575) |
| *DR*LEV* | -0.0762** | (-2.0745) | -0.0684* | (-1.8767) | -0.0680* | (-1.8470) |
| *RRA*DR*LEV* | -0.1516*** | (-5.2319) | -0.1537*** | (-5.3430) | -0.1775*** | (-6.2821) |
| Year RE | NO | | YES | | YES | |
| Industry RE | NO | | NO | | YES | |
| Audit Partner RE | NO | | NO | | YES | |
| Client RE | NO | | YES | | NO | |
| Model fits: | | | | | | |
| Within $R^2$ | 0.1890 | | 0.2070 | | 0.2410 | |
| Between $R^2$ | 0.3460 | | 0.3420 | | 0.3340 | |
| Overall $R^2$ | 0.2460 | | 0.2570 | | 0.2760 | |
| Wald $\chi^2$ | 1672.0000*** | | 1810.0000*** | | 2064.000*** | |
| Observations | 6,141 | | 6,141 | | 6,141 | |

***, **, * denote significance at the 1 %, 5% and 10% levels (two-tailed), respectively.
All variables are defined in the Appendix.

**Table 4: Main Test - *APB***
**Regression Results Using Basu's (1997) Persistence of Earnings Changes Measure**

| | Model 1 | | Model 2 | | Model 3 | |
|---|---|---|---|---|---|---|
| Variables | Coefficient | (*t-statistic*) | Coefficient | (*t-statistic*) | Coefficient | (*t-statistic*) |
| *Intercept* | -0.1114 | (-1.4884) | -0.0020 | (-0.0255) | -0.0159 | (-0.1937) |
| *PX* | 0.4952*** | (3.1444) | 0.4496*** | (2.8590) | 0.4499*** | (2.8579) |
| *DPX* | 0.0224 | (0.1924) | 0.0447 | (0.3846) | 0.0449 | (0.3864) |
| *PX*DPX* | -3.6102*** | (-12.0961) | -3.5535*** | (-11.9205) | -3.5633*** | (-11.9402) |
| *APB* | -0.0016 | (-0.6974) | -0.0011 | (-0.4943) | -0.0016 | (-0.7174) |
| *PX*APB* | 0.0045 | (1.1639) | 0.0048 | (1.2542) | 0.0052 | (1.3437) |
| *DPX*APB* | -0.0001 | (-0.0460) | -0.0001 | (-0.0461) | 0.0000 | (0.0028) |
| *PX*DPX*APB* | 0.0248*** | (3.5482) | 0.0235*** | (3.3677) | 0.0230*** | (3.2929) |
| *EXPPAR* | 0.0053 | (0.1865) | 0.0026 | (0.0915) | 0.0030 | (0.1042) |
| *PX*EXPPAR* | 0.0383 | (0.4616) | 0.0419 | (0.5063) | 0.0359 | (0.4328) |
| *DPX*EXPPAR* | 0.0045 | (0.0933) | 0.0101 | (0.2100) | 0.0089 | (0.1843) |
| *PX*DPX*EXPPAR* | 0.0097 | (0.0627) | 0.0132 | (0.0853) | 0.0101 | (0.0650) |
| *EXPFIRM* | 0.0046 | (0.1696) | -0.0020 | (-0.0749) | -0.0027 | (-0.0981) |
| *PX*EXPFIRM* | -0.0624 | (-0.6605) | -0.0633 | (-0.6718) | -0.0598 | (-0.6337) |
| *DPX*EXPFIRM* | -0.0181 | (-0.4330) | -0.0086 | (-0.2077) | -0.0072 | (-0.1733) |
| *PX*DPX*EXPFIRM* | 0.1822 | (1.2081) | 0.2123 | (1.4110) | 0.2056 | (1.3648) |
| *BIG4* | -0.0274 | (-1.3813) | -0.0252 | (-1.2718) | -0.0238 | (-1.1989) |
| *PX*BIG4* | 0.0349 | (0.8864) | 0.0265 | (0.6756) | 0.0209 | (0.5309) |
| *DPX*BIG4* | 0.0452 | (1.5401) | 0.0424 | (1.4491) | 0.0426 | (1.4526) |
| *PX*DPX*BIG4* | -0.2732*** | (-3.8414) | -0.2616*** | (-3.6877) | -0.2507*** | (-3.5237) |
| *SIZE* | 0.0069 | (1.6375) | 0.0072* | (1.7180) | 0.0077* | (1.8330) |
| *PX*SIZE* | -0.0319*** | (-3.2072) | -0.0293*** | (-2.9458) | -0.0294*** | (-2.9564) |
| *DPX*SIZE* | -0.0034 | (-0.5190) | -0.0046 | (-0.7022) | -0.0048 | (-0.7253) |
| *PX*DPX*SIZE* | 0.1647*** | (8.8522) | 0.1623*** | (8.7292) | 0.1630*** | (8.7584) |
| *MB* | -0.0033 | (-1.5794) | -0.0031 | (-1.4956) | -0.0032 | (-1.5074) |
| *PX*MB* | 0.0076** | (2.3976) | 0.0075** | (2.3637) | 0.0076** | (2.3875) |
| *DPX*MB* | -0.0023 | (-0.7225) | -0.0024 | (-0.7639) | -0.0025 | (-0.7885) |
| *PX*DPX*MB* | -0.0368*** | (-4.9083) | -0.0370*** | (-4.9454) | -0.0372*** | (-4.9694) |
| *LEV* | 0.0082** | (2.0741) | 0.0085** | (2.1547) | 0.0089** | (2.2420) |
| *PX*LEV* | -0.0009 | (-0.5408) | -0.0009 | (-0.5555) | -0.0010 | (-0.6009) |
| *DPX*LEV* | 0.0033 | (0.3110) | 0.0032 | (0.3056) | 0.0032 | (0.3025) |
| *PX*DPX*LEV* | -0.0090 | (-1.4056) | -0.0092 | (-1.4410) | -0.0090 | (-1.3996) |
| Year RE | NO | | YES | | YES | |
| Industry RE | NO | | NO | | YES | |
| Audit Partner RE | NO | | NO | | YES | |
| Client RE | NO | | YES | | NO | |
| Model fits: | | | | | | |
| Within $R^2$ | 0.2260 | | 0.2330 | | 0.2140 | |
| Between $R^2$ | 0.1900 | | 0.1840 | | 0.3370 | |
| Overall $R^2$ | 0.2130 | | 0.2200 | | 0.2210 | |
| Wald $\chi^2$ | 1799.0000*** | | 1869.0000*** | | 1877.000*** | |
| Observations | 6,678 | | 6,678 | | 6,678 | |

***, **, * denote significance at the 1 %, 5% and 10% levels (two-tailed), respectively.
All variables are defined in the Appendix.

**Table 5: Main Test - *APB***
**Regression Results Using Ball and Shivakumar's (2005) Accrual-Based Loss Recognition Measure**

| | Model 1 | | Model 2 | | Model 3 | |
|---|---|---|---|---|---|---|
| Variables | Coefficient | (*t-statistic*) | Coefficient | (*t-statistic*) | Coefficient | (*t-statistic*) |
| *Intercept* | -0.3303 | (-0.5680) | -0.3269 | (-0.3686) | 0.2394 | (0.2861) |
| *CFO* | -3.2137 | (-1.0778) | -3.1906 | (-1.0699) | -4.7552* | (-1.7079) |
| *DCFO* | -0.6979 | (-0.9760) | -0.7599 | (-1.0612) | -0.8473 | (-1.3319) |
| *CFO*DCFO* | 0.8206 | (0.2678) | 0.8121 | (0.2650) | 2.6052 | (0.9156) |
| *APB* | -0.0216 | (-1.4142) | -0.0223 | (-1.4534) | -0.0181 | (-1.2871) |
| *CFO*APB* | 0.1334** | (2.0512) | 0.1342** | (2.0618) | 0.1281** | (2.0043) |
| *DCFO*APB* | -0.0089 | (-0.5168) | -0.0089 | (-0.5207) | -0.0100 | (-0.6191) |
| *CFO*DCFO*APB* | -0.2193*** | (-3.3206) | -0.2194*** | (-3.3203) | -0.2098*** | (-3.2349) |
| *EXPPAR* | 1.3642*** | (7.6756) | 1.3498*** | (7.5912) | 1.2143*** | (7.1715) |
| *CFO*EXPPAR* | -11.2985*** | (-11.3224) | -11.2593*** | (-11.2752) | -9.9023*** | (-10.1844) |
| *DCFO*EXPPAR* | -1.2532*** | (-4.3476) | -1.2358*** | (-4.2731) | -1.1492*** | (-4.0365) |
| *CFO*DCFO*EXPPAR* | 11.2014*** | (9.5933) | 11.1611*** | (9.5529) | 9.7749*** | (8.5904) |
| *EXPFIRM* | 0.6918*** | (4.3356) | 0.6985*** | (4.3655) | 0.7296*** | (4.7463) |
| *CFO*EXPFIRM* | -6.5034*** | (-7.3606) | -6.5042*** | (-7.3553) | -6.2533*** | (-7.3619) |
| *DCFO*EXPFIRM* | -0.6855*** | (-2.9877) | -0.6841*** | (-2.9780) | -0.6424*** | (-2.8787) |
| *CFO*DCFO*EXPFIRM* | 7.6188*** | (7.9467) | 7.6202*** | (7.9417) | 7.0686*** | (7.6839) |
| *BIG4* | -0.0448 | (-0.3253) | -0.0437 | (-0.3178) | -0.0545 | (-0.4543) |
| *CFO*BIG4* | 0.0502 | (0.0811) | 0.0366 | (0.0592) | 0.0919 | (0.1572) |
| *DCFO*BIG4* | -0.0473 | (-0.2888) | -0.0571 | (-0.3491) | -0.0086 | (-0.0586) |
| *CFO*DCFO*BIG4* | -0.8088 | (-1.2667) | -0.7959 | (-1.2462) | -0.6701 | (-1.1159) |
| *SIZE* | 0.0202 | (0.6322) | 0.0210 | (0.6583) | 0.0013 | (0.0483) |
| *CFO*SIZE* | 0.1321 | (0.8133) | 0.1311 | (0.8069) | 0.2216 | (1.4573) |
| *DCFO*SIZE* | 0.0485 | (1.1887) | 0.0520 | (1.2709) | 0.0545 | (1.4976) |
| *CFO*DCFO*SIZE* | 0.0524 | (0.3119) | 0.0522 | (0.3107) | -0.0531 | (-0.3399) |
| *MB* | -0.0011 | (-0.0572) | -0.0019 | (-0.0969) | -0.0010 | (-0.0540) |
| *CFO*MB* | 0.0476 | (0.7693) | 0.0482 | (0.7781) | 0.0372 | (0.6174) |
| *DCFO*MB* | -0.0099 | (-0.4743) | -0.0097 | (-0.4628) | -0.0138 | (-0.6821) |
| *CFO*DCFO*MB* | -0.0519 | (-0.8308) | -0.0530 | (-0.8465) | -0.0449 | (-0.7372) |
| *LEV* | 0.0486 | (0.3582) | 0.0517 | (0.3809) | 0.0242 | (0.1838) |
| *CFO*LEV* | -0.4943 | (-1.1217) | -0.5064 | (-1.1468) | -0.4432 | (-0.9934) |
| *DCFO*LEV* | -0.0921 | (-0.6754) | -0.0948 | (-0.6947) | -0.0603 | (-0.4547) |
| *CFO*DCFO*LEV* | 0.4899 | (1.1118) | 0.5022 | (1.1371) | 0.4390 | (0.9838) |
| Year RE | NO | | YES | | YES | |
| Industry RE | NO | | NO | | YES | |
| Audit Partner RE | NO | | NO | | YES | |
| Client RE | NO | | YES | | NO | |
| Model fits: | | | | | | |
| Within $R^2$ | 0.0655 | | 0.0671 | | 0.0701 | |
| Between $R^2$ | 0.0578 | | 0.0594 | | 0.0571 | |
| Overall $R^2$ | 0.0547 | | 0.0562 | | 0.0721 | |
| Wald $\chi^2$ | 425.1000*** | | 434.5000*** | | 487.2000*** | |
| Observations | 6,317 | | 6,317 | | 6,317 | |

***, **, * denote significance at the 1 %, 5% and 10% levels (two-tailed), respectively.
All variables are defined in the Appendix.

**Table 6: Additional Test - *APB***
**Regression Results Using Roychowdhury and Watt's (2007) Timeliness of Earnings to News Measure**

| | Model 1 | | Model 2 | | Model 3 | |
|---|---|---|---|---|---|---|
| Variables | Coefficient | (*t-statistic*) | Coefficient | (*t-statistic*) | Coefficient | (*t-statistic*) |
| *Intercept* | -0.5107*** | (-10.7743) | -0.4900*** | (-10.0887) | -0.3234*** | (-6.7914) |
| *RET_R* | -2.3941*** | (-15.7041) | -2.4055*** | (-15.8036) | -2.8849*** | (-17.7344) |
| *DRET_R* | -0.0527 | (-0.9500) | -0.0465 | (-0.8409) | -0.0095 | (-0.1561) |
| *RET_R*DRET_R* | 2.3468*** | (11.3815) | 2.3606*** | (11.4599) | 2.8212*** | (12.7308) |
| *APB* | -0.0037*** | (-3.3461) | -0.0034*** | (-3.0815) | -0.0015 | (-1.0433) |
| *RET_R*APB* | 0.0110*** | (3.1702) | 0.0116*** | (3.3406) | 0.0133*** | (3.5638) |
| *DRET_R*APB* | 0.0011 | (0.7568) | 0.0008 | (0.5782) | 0.0015 | (1.0036) |
| *RET_R*DRET_R*APB* | -0.0131*** | (-3.0443) | -0.0138*** | (-3.2170) | -0.0128*** | (-2.7700) |
| *EXPPAR* | -0.0171 | (-1.0415) | -0.0146 | (-0.8909) | -0.0115 | (-0.6383) |
| *RET_R*EXPPAR* | 0.1297* | (1.7597) | 0.1227* | (1.6712) | 0.1068 | (1.3056) |
| *DRET_R*EXPPAR* | 0.0123 | (0.5603) | 0.0095 | (0.4327) | 0.0188 | (0.7827) |
| *RET_R*DRET_R*EXPPAR* | -0.1518 | (-1.6438) | -0.1533* | (-1.6664) | -0.1527 | (-1.4837) |
| *EXPFIRM* | -0.0072 | (-0.4919) | -0.0089 | (-0.6103) | -0.0110 | (-0.6997) |
| *RET_R*EXPFIRM* | 0.1179** | (2.0838) | 0.1180** | (2.0952) | 0.1363** | (2.2031) |
| *DRET_R*EXPFIRM* | 0.0063 | (0.3299) | 0.0029 | (0.1505) | 0.0013 | (0.0612) |
| *RET_R*DRET_R*EXPFIRM* | -0.1026 | (-1.4758) | -0.1117 | (-1.6125) | -0.1409* | (-1.8529) |
| *BIG4* | 0.0179 | (1.5798) | 0.0194* | (1.7101) | 0.0149 | (1.0618) |
| *RET_R*BIG4* | -0.0534 | (-1.5531) | -0.0515 | (-1.5031) | -0.0581 | (-1.5652) |
| *DRET_R*BIG4* | -0.0040 | (-0.2940) | -0.0004 | (-0.0312) | -0.0052 | (-0.3431) |
| *RET_R*DRET_R*BIG4* | 0.0447 | (1.0179) | 0.0421 | (0.9614) | 0.0786* | (1.6628) |
| *SIZE* | 0.0276*** | (10.2319) | 0.0254*** | (9.2937) | 0.0183*** | (7.0628) |
| *RET_R*SIZE* | 0.1212*** | (13.0859) | 0.1213*** | (13.1055) | 0.1449*** | (14.6650) |
| *DRET_R*SIZE* | 0.0031 | (0.9871) | 0.0029 | (0.9394) | 0.0018 | (0.5101) |
| *RET_R*DRET_R*SIZE* | -0.1170*** | (-9.7078) | -0.1178*** | (-9.7785) | -0.1422*** | (-10.9988) |
| *MB* | -0.0016 | (-1.5401) | -0.0015 | (-1.4679) | -0.0024** | (-2.0984) |
| *RET_R*MB* | -0.0062** | (-2.0849) | -0.0061** | (-2.0828) | -0.0060* | (-1.8414) |
| *DRET_R*MB* | -0.0034** | (-2.2007) | -0.0035** | (-2.2898) | -0.0032* | (-1.9273) |
| *RET_R*DRET_R*MB* | 0.0015 | (0.3963) | 0.0017 | (0.4507) | 0.0022 | (0.5422) |
| *LEV* | -0.0087*** | (-4.6476) | -0.0087*** | (-4.7059) | -0.0115*** | (-5.6428) |
| *RET_R*LEV* | -0.0032 | (-0.7168) | -0.0031 | (-0.6824) | 0.0022 | (0.4418) |
| *DRET_R*LEV* | -0.0087 | (-0.7253) | -0.0096 | (-0.7960) | -0.0315** | (-2.3810) |
| *RET_R*DRET_R*LEV* | -0.0332 | (-0.7330) | -0.0399 | (-0.8854) | -0.0600 | (-1.2172) |
| Year RE | NO | | YES | | YES | |
| Industry RE | NO | | NO | | YES | |
| Audit Partner RE | NO | | NO | | YES | |
| Client RE | NO | | YES | | NO | |
| Model fits: | | | | | | |
| Within $R^2$ | 0.2760 | | 0.2840 | | 0.4100 | |
| Between $R^2$ | 0.5250 | | 0.5320 | | 0.4870 | |
| Overall $R^2$ | 0.4250 | | 0.4320 | | 0.4720 | |
| Wald $\chi^2$ | 2565.0000*** | | 2638.0000*** | | 3945.0000*** | |
| Observations | 5,451 | | 5,451 | | 5,451 | |

***, **, * denote significance at the 1 %, 5% and 10% levels (two-tailed), respectively.
All variables are defined in the Appendix.

**Table 7: Additional Test – *APB***
**Regression Results Using the Firm-Specific Conservatism Measure in Khan and Watts (2009)**

| | Model 1 | | Model 2 | | Model 2 | |
|---|---|---|---|---|---|---|
| Variables | Coefficient | (t-statistic) | Coefficient | (t-statistic) | Coefficient | (t-statistic) |
| *Intercept* | 4.6234*** | (630.9801) | 4.6669*** | (197.3251) | 4.6431*** | (191.4716) |
| *APB* | -0.0012*** | (-6.3644) | -0.0010*** | (-4.9505) | -0.0013*** | (-5.1086) |
| *PARSPEC* | 0.0143*** | (4.7338) | 0.0111*** | (3.4513) | 0.0170*** | (5.4550) |
| *FIRMSPEC* | -0.0033 | (-1.2300) | -0.0013 | (-0.4598) | -0.0023 | (-0.8552) |
| *BIG4* | 0.0096*** | (5.3355) | 0.0129*** | (5.6570) | 0.0104*** | (4.9030) |
| *SIZE* | -0.2357*** | (-570.1200) | -0.2378*** | (-433.7347) | -0.2361*** | (-549.7107) |
| *MB* | -0.0003*** | (-20.4525) | -0.0003*** | (-21.7521) | -0.0003*** | (-20.5661) |
| *LEV* | -0.0068*** | (-30.2472) | -0.0071*** | (-31.1301) | -0.0070*** | (-31.0357) |
| *CFO* | 0.0282*** | (15.3141) | 0.0213*** | (10.9485) | 0.0259*** | (13.9090) |
| *FIRMAG* | 0.0004*** | (6.5243) | 0.0004*** | (3.9328) | 0.0002*** | (3.6258) |
| *CYCLE* | -0.0000 | (-0.0651) | -0.0001 | (-0.2925) | 0.0000 | (0.0412) |
| Year RE | NO | | YES | | YES | |
| Industry RE | NO | | NO | | YES | |
| Audit Partner RE | NO | | NO | | YES | |
| Client RE | NO | | YES | | NO | |
| Model fits: | | | | | | |
| Within $R^2$ | 0.986 | | 0.944 | | 0.975 | |
| Between $R^2$ | 0.996 | | 0.995 | | 0.994 | |
| Overall $R^2$ | 0.986 | | 0.987 | | 0.987 | |
| Wald $\chi^2$ | 460273*** | | 233065*** | | 417067*** | |
| Observations | 6,317 | | 6,317 | | 6,317 | |

***, **, * denote significance at the 1 %, 5% and 10% levels (two-tailed), respectively.
All variables are defined in the Appendix.

**Table 8: Robustness Check - *LNAPB***

| **Panel A: Regression Results Using Basu's (1997) Timeliness of Earnings to News Measure** | | | | | | |
|---|---|---|---|---|---|---|
| | Model 1 | | Model 2 | | Model 3 | |
| Variables | Coefficient | (*t-statistic*) | Coefficient | (*t-statistic*) | Coefficient | (*t-statistic*) |
| *Intercept* | -1.0904*** | (-8.5883) | -1.5643*** | (-7.1225) | -1.2782*** | (-5.8337) |
| *RRA* | -0.0291 | (-0.2421) | -0.0246 | (-0.2064) | -0.0039 | (-0.0325) |
| *DR* | 0.4020** | (2.3244) | 0.3638** | (2.1179) | 0.3639** | (2.0866) |
| *RRA*DR* | 4.7529*** | (14.9160) | 4.6670*** | (14.7256) | 4.8301*** | (15.3778) |
| *LNAPB* | 0.0154 | (1.0044) | 0.0031 | (0.2012) | 0.0190 | (1.0877) |
| *RRA*LNAPB* | -0.0088 | (-0.7205) | -0.0090 | (-0.7461) | -0.0058 | (-0.4724) |
| *DR*LNAPB* | -0.0468** | (-2.0347) | -0.0385* | (-1.6905) | -0.0338 | (-1.4750) |
| *RRA*DR*LNAPB* | -0.1332*** | (-3.1691) | -0.1230*** | (-2.9500) | -0.1318*** | (-3.1517) |
| Control Variables | YES | | YES | | YES | |
| Year RE | NO | | YES | | YES | |
| Industry RE | NO | | NO | | YES | |
| Audit Partner RE | NO | | NO | | YES | |
| Client RE | NO | | YES | | NO | |
| Overall $R^2$ | 0.2450 | | 0.2560 | | 0.2760 | |
| Wald $\chi^2$ | 1666.0000*** | | 1804.0000*** | | 2058.0000*** | |
| Observations | 6,141 | | 6,141 | | 6,141 | |
| **Panel B: Regression Results Using Basu's (1997) Persistence of Earnings Changes Measure** | | | | | | |
| *Intercept* | -0.1071 | (-1.4124) | 0.0008 | (0.0104) | -0.0132 | (-0.1593) |
| *PX* | 0.4950*** | (3.1431) | 0.4494*** | (2.8582) | 0.4490*** | (2.8521) |
| *DPX* | 0.0382 | (0.3236) | 0.0617 | (0.5232) | 0.0631 | (0.5343) |
| *PX*DPX* | -3.6317*** | (-12.1496) | -3.5743*** | (-11.9722) | -3.5832*** | (-11.9891) |
| *LNAPB* | -0.0091 | (-0.8639) | -0.0069 | (-0.6533) | -0.0096 | (-0.8894) |
| *PX*LNAPB* | 0.0382* | (1.9320) | 0.0384* | (1.9478) | 0.0395** | (1.9997) |
| *DPX*LNAPB* | -0.0040 | (-0.2547) | -0.0041 | (-0.2618) | -0.0039 | (-0.2457) |
| *PX*DPX*LNAPB* | 0.1297*** | (3.5391) | 0.1243*** | (3.4013) | 0.1227*** | (3.3534) |
| Control Variables | YES | | YES | | YES | |
| Year RE | NO | | YES | | YES | |
| Industry RE | NO | | NO | | YES | |
| Audit Partner RE | NO | | NO | | YES | |
| Client RE | NO | | YES | | NO | |
| Overall $R^2$ | 0.2140 | | 0.2210 | | 0.2220 | |
| Wald $\chi^2$ | 1810.0000*** | | 1881.0000*** | | 1889.0000*** | |
| Observations | 6,678 | | 6,678 | | 6,678 | |
| **Panel C: Regression Results Using Ball and Shivakumar's (2005) Accrual-Based Loss Recognition Measure** | | | | | | |
| *Intercept* | -0.2513 | (-0.4295) | -0.2691 | (-0.3023) | 0.2927 | (0.3482) |
| *CFO* | -3.7665 | (-1.2592) | -3.7531 | (-1.2546) | -5.2957* | (-1.8934) |
| *DCFO* | -0.7529 | (-1.0465) | -0.8242 | (-1.1439) | -0.9371 | (-1.4599) |
| *CFO*DCFO* | 1.4793 | (0.4812) | 1.4773 | (0.4806) | 3.2891 | (1.1508) |
| *LNAPB* | -0.1585** | (-2.2607) | -0.1625** | (-2.3169) | -0.1346** | (-2.0759) |
| *CFO*LNAPB* | 1.2330*** | (3.8160) | 1.2426*** | (3.8443) | 1.1200*** | (3.5491) |
| *DCFO*LNAPB* | 0.0381 | (0.4546) | 0.0387 | (0.4615) | 0.0366 | (0.4625) |
| *CFO*DCFO*LNAPB* | -1.5961*** | (-4.8159) | -1.6009*** | (-4.8291) | -1.4441*** | (-4.4661) |
| Control Variables | YES | | YES | | YES | |
| Year RE | NO | | YES | | YES | |
| Industry RE | NO | | NO | | YES | |
| Audit Partner RE | NO | | NO | | YES | |
| Client RE | NO | | YES | | NO | |
| Overall $R^2$ | 0.0509 | | 0.0525 | | 0.0685 | |
| Wald $\chi^2$ | 400.8000*** | | 410.8000*** | | 460.6000*** | |
| Observations | 6,317 | | 6,317 | | 6,317 | |

***, **, * denote significance at the 1 %, 5% and 10% levels (two-tailed), respectively.
All variables are defined in the Appendix.

**Table 9: Regression Results After Partitioning Sample Based on Auditor Brand to Test for Audit Firm Size Effects**

**Panel A: Regression Results Using Basu's (1997) Timeliness of Earnings to News Measure**

| | Model 1 | | Model 2 | | Model 3 | |
|---|---|---|---|---|---|---|
| Variables | Coefficient | (*t-statistic*) | Coefficient | (*t-statistic*) | Coefficient | (*t-statistic*) |
| *Intercept* | -1.0877*** | (-8.9259) | -1.5820*** | (-7.3056) | -1.3081*** | (-6.0167) |
| *RRA* | -0.0331 | (-0.2819) | -0.0317 | (-0.2719) | -0.0016 | (-0.0136) |
| *DR* | 0.3515** | (2.1351) | 0.3149* | (1.9268) | 0.3068* | (1.8512) |
| *RRA*DR* | 4.5662*** | (14.8188) | 4.5107*** | (14.7196) | 4.6610*** | (15.3101) |
| *APB* | 0.0025 | (0.8295) | -0.0003 | (-0.1065) | 0.0032 | (0.8488) |
| *RRA*APB* | -0.0012 | (-0.5763) | -0.0011 | (-0.5017) | -0.0007 | (-0.3125) |
| *DR*APB* | -0.0101** | (-2.2333) | -0.0084* | (-1.8850) | -0.0078* | (-1.7576) |
| *RRA*DR*APB*BIG4* | -0.0195** | (-2.1238) | -0.0181** | (-1.9800) | -0.0179* | (-1.9343) |
| *RRA*DR*APB*NON-BIG4* | -0.0445*** | (-5.1716) | -0.0423*** | (-4.9632) | -0.0443*** | (-5.2015) |
| Control Variables | YES | | YES | | YES | |
| Year RE | NO | | YES | | YES | |
| Industry RE | NO | | NO | | YES | |
| Audit Partner RE | NO | | NO | | YES | |
| Client RE | NO | | YES | | NO | |
| Overall $R^2$ | 0.2420 | | 0.2530 | | 0.2730 | |
| Wald $\chi^2$ | 1632.0000*** | | 1775.0000*** | | 2023.0000*** | |
| Observations | 6,141 | | 6,141 | | 6,141 | |
| **Panel B: Regression Results Using Basu's (1997) Persistence of Earnings Changes Measure** | | | | | | |
| *Intercept* | -0.0821 | (-1.1433) | 0.0267 | (0.3617) | 0.0127 | (0.1595) |
| *PX* | 0.4533*** | (3.0530) | 0.4185*** | (2.8234) | 0.4266*** | (2.8750) |
| *DPX* | -0.0181 | (-0.1607) | 0.0068 | (0.0607) | 0.0067 | (0.0597) |
| *PX*DPX* | -3.4695*** | (-12.0064) | -3.4240*** | (-11.8662) | -3.4450*** | (-11.9230) |
| *APB* | -0.0013 | (-0.5879) | -0.0008 | (-0.3811) | -0.0013 | (-0.5923) |
| *PX*APB* | 0.0046 | (1.1920) | 0.0049 | (1.2695) | 0.0052 | (1.3517) |
| *DPX*APB* | -0.0005 | (-0.1480) | -0.0004 | (-0.1361) | -0.0003 | (-0.0907) |
| *PX*DPX*APB*BIG4* | -0.0024 | (-0.2689) | -0.0032 | (-0.3622) | -0.0034 | (-0.3843) |
| *PX*DPX*APB*NON-BIG4* | 0.0394*** | (5.4358) | 0.0379*** | (5.2414) | 0.0373*** | (5.1450) |
| Control Variables | YES | | YES | | YES | |
| Year RE | NO | | YES | | YES | |
| Industry RE | NO | | NO | | YES | |
| Audit Partner RE | NO | | NO | | YES | |
| Client RE | NO | | YES | | NO | |
| Overall $R^2$ | 0.2130 | | 0.2200 | | 0.2210 | |
| Wald $\chi^2$ | 1803.0000*** | | 1873.0000*** | | 1881.0000*** | |
| Observations | 6,678 | | 6,678 | | 6,678 | |
| **Panel C: Regression Results Using Ball and Shivakumar's (2005) Accrual-Based Loss Recognition Measure** | | | | | | |
| *Intercept* | -0.2818 | (-0.5004) | -0.2905 | (-0.3335) | 0.3049 | (0.3709) |
| *CFO* | -3.0402 | (-1.0583) | -3.0320 | (-1.0554) | -4.8789* | (-1.8263) |
| *DCFO* | -0.4676 | (-0.6765) | -0.5063 | (-0.7321) | -0.5831 | (-0.9532) |
| *CFO*DCFO* | 1.2017 | (0.4066) | 1.2210 | (0.4131) | 3.3719 | (1.2334) |
| *APB* | -0.0226 | (-1.4891) | -0.0227 | (-1.4961) | -0.0175 | (-1.2530) |
| *CFO*APB* | 0.1350** | (2.0948) | 0.1359** | (2.1069) | 0.1286** | (2.0319) |
| *DCFO*APB* | -0.0060 | (-0.3548) | -0.0062 | (-0.3637) | -0.0082 | (-0.5130) |
| *CFO*DCFO*APB*BIG4* | -0.3308*** | (-5.0015) | -0.3311*** | (-5.0027) | -0.3145*** | (-4.8478) |
| *CFO*DCFO*APB*NON-BIG4* | -0.1630** | (-2.4836) | -0.1634** | (-2.4875) | -0.1567** | (-2.4331) |
| Control Variables | YES | | YES | | YES | |
| Year RE | NO | | YES | | YES | |
| Industry RE | NO | | NO | | YES | |
| Audit Partner RE | NO | | NO | | YES | |
| Client RE | NO | | YES | | NO | |
| Overall $R^2$ | 0.0709 | | 0.0723 | | 0.0885 | |
| Wald $\chi^2$ | 540.1000*** | | 549.2000*** | | 608.5000*** | |
| Observations | 6,317 | | 6,317 | | 6,317 | |

***, **, * denote significance at the 1 %, 5% and 10% levels (two-tailed), respectively.
All variables are defined in the Appendix.

**Table 10: Regression Results After Partitioning Sample Based on Audit Partner Specialists to Test for Auditor Specialization Effects**

**Panel A: Regression Results Using Basu's (1997) Timeliness of Earnings to News Measure**

| | Model 1 | | Model 2 | | Model 3 | |
|---|---|---|---|---|---|---|
| Variables | Coefficient | (*t-statistic*) | Coefficient | (*t-statistic*) | Coefficient | (*t-statistic*) |
| *Intercept* | -1.0809*** | (-8.7225) | -1.5721*** | (-7.2205) | -1.3014*** | (-5.9896) |
| *RRA* | -0.0348 | (-0.2943) | -0.0348 | (-0.2964) | -0.0064 | (-0.0545) |
| *DR* | 0.3756** | (2.2631) | 0.3421** | (2.0753) | 0.3537** | (2.1118) |
| *RRA*DR* | 4.6897*** | (15.1777) | 4.6298*** | (15.0517) | 4.7855*** | (15.7249) |
| *APB* | 0.0023 | (0.7873) | -0.0004 | (-0.1442) | 0.0037 | (0.9794) |
| *RRA*APB* | -0.0013 | (-0.6072) | -0.0011 | (-0.5179) | -0.0007 | (-0.3574) |
| *DR*APB* | -0.0094** | (-2.0789) | -0.0078* | (-1.7368) | -0.0071 | (-1.6032) |
| *RRA*DR*APB*EXPPAR* | -0.0236 | (-1.4498) | -0.0195 | (-1.2076) | -0.0171 | (-1.0731) |
| *RRA*DR*APB*NON-EXPPAR* | -0.0314*** | (-3.7916) | -0.0300*** | (-3.6508) | -0.0315*** | (-3.9016) |
| Control Variables | YES | | YES | | YES | |
| Year RE | NO | | YES | | YES | |
| Industry RE | NO | | NO | | YES | |
| Audit Partner RE | NO | | NO | | YES | |
| Client RE | NO | | YES | | NO | |
| Overall $R^2$ | 0.2460 | | 0.2560 | | 0.2760 | |
| Wald $\chi^2$ | 1671.0000*** | | 1810.0000*** | | 2060.0000*** | |
| Observations | 6,141 | | 6,141 | | 6,141 | |
| **Panel B: Regression Results Using Basu's (1997) Persistence of Earnings Changes Measure** | | | | | | |
| *Intercept* | -0.1160 | (-1.5870) | -0.0052 | (-0.0693) | -0.0186 | (-0.2311) |
| *PX* | 0.4968*** | (3.1636) | 0.4501*** | (2.8702) | 0.4505*** | (2.8695) |
| *DPX* | 0.0213 | (0.1869) | 0.0413 | (0.3623) | 0.0417 | (0.3655) |
| *PX*DPX* | -3.6098*** | (-12.1592) | -3.5540*** | (-11.9865) | -3.5617*** | (-11.9973) |
| *APB* | -0.0015 | (-0.6818) | -0.0011 | (-0.4807) | -0.0016 | (-0.6871) |
| *PX*APB* | 0.0044 | (1.1467) | 0.0048 | (1.2367) | 0.0051 | (1.3284) |
| *DPX*APB* | 0.0000 | (0.0006) | 0.0000 | (0.0026) | 0.0002 | (0.0509) |
| *PX*DPX*APB*EXPPAR* | 0.0617* | (1.9186) | 0.0611* | (1.9039) | 0.0589* | (1.8268) |
| *PX*DPX*APB*NON-EXPPAR* | 0.0252*** | (3.6536) | 0.0238*** | (3.4638) | 0.0234*** | (3.3973) |
| Control Variables | YES | | YES | | YES | |
| Year RE | NO | | YES | | YES | |
| Industry RE | NO | | NO | | YES | |
| Audit Partner RE | NO | | NO | | YES | |
| Client RE | NO | | YES | | NO | |
| Overall $R^2$ | 0.2130 | | 0.2200 | | 0.2210 | |
| Wald $\chi^2$ | 1801.0000*** | | 1871.0000*** | | 1879.0000*** | |
| Observations | 6,678 | | 6,678 | | 6,678 | |
| **Panel C: Regression Results Using Ball and Shivakumar's (2005) Accrual-Based Loss Recognition Measure** | | | | | | |
| *Intercept* | -0.5663 | (-0.9640) | -0.5029 | (-0.5627) | -0.0790 | (-0.0942) |
| *CFO* | 0.0493 | (0.0164) | 0.1147 | (0.0382) | -0.9277 | (-0.3335) |
| *DCFO* | -0.4456 | (-0.6179) | -0.5164 | (-0.7150) | -0.5712 | (-0.8958) |
| *CFO*DCFO* | -2.4293 | (-0.7879) | -2.4822 | (-0.8051) | -1.2200 | (-0.4291) |
| *APB* | -0.0211 | (-1.3646) | -0.0217 | (-1.4034) | -0.0174 | (-1.2242) |
| *CFO*APB* | 0.1292** | (1.9677) | 0.1298** | (1.9756) | 0.1248* | (1.9384) |
| *DCFO*APB* | -0.0091 | (-0.5238) | -0.0091 | (-0.5261) | -0.0105 | (-0.6436) |
| *CFO*DCFO*APB*EXPPAR* | -0.2070** | (-2.3469) | -0.2110** | (-2.3906) | -0.2003** | (-2.3627) |
| *CFO*DCFO*APB*NON-EXPPAR* | -0.2152*** | (-3.2264) | -0.2150*** | (-3.2223) | -0.2065*** | (-3.1599) |
| Control Variables | YES | | YES | | YES | |
| Year RE | NO | | YES | | YES | |
| Industry RE | NO | | NO | | YES | |
| Audit Partner RE | NO | | NO | | YES | |
| Client RE | NO | | YES | | NO | |
| Overall $R^2$ | 0.0381 | | 0.0397 | | 0.0564 | |
| Wald $\chi^2$ | 288.6000*** | | 298.5000*** | | 374.6000*** | |
| Observations | 6,317 | | 6,317 | | 6,317 | |

***, **, * denote significance at the 1 %, 5% and 10% levels (two-tailed), respectively.
All variables are defined in the Appendix.

**Table 11: Propensity Score Matching (PSM) Results for Second-Stage**

**Panel A: Regression Results Using Basu's (1997) Timeliness of Earnings to News Measure**

| | Model 1 | | Model 2 | | Model 3 | |
|---|---|---|---|---|---|---|
| Variables | Coefficient | (*t-statistic*) | Coefficient | (*t-statistic*) | Coefficient | (*t-statistic*) |
| *Intercept* | -1.0638*** | (-5.6943) | -1.9814*** | (-6.4358) | -1.9018*** | (-6.0793) |
| *RRA* | 0.0281 | (0.1683) | 0.0603 | (0.3653) | 0.0921 | (0.5705) |
| *DR* | 0.3860 | (1.3415) | 0.3759 | (1.3223) | 0.4600 | (1.6265) |
| *RRA*DR* | 5.2234*** | (10.5698) | 5.1438*** | (10.4515) | 5.0749*** | (10.4217) |
| *APB* | 0.0034 | (0.8956) | -0.0002 | (-0.0483) | 0.0037 | (0.7884) |
| *RRA*APB* | -0.0016 | (-0.6084) | -0.0011 | (-0.4233) | -0.0013 | (-0.4943) |
| *DR*APB* | -0.0127** | (-2.1132) | -0.0105* | (-1.7677) | -0.0108* | (-1.8621) |
| *RRA*DR*APB* | -0.0464*** | (-4.3183) | -0.0429*** | (-4.0369) | -0.0420*** | (-4.0466) |
| Control Variables | YES | | YES | | YES | |
| Year RE | NO | | YES | | YES | |
| Industry RE | NO | | NO | | YES | |
| Audit Partner RE | NO | | NO | | YES | |
| Client RE | NO | | YES | | NO | |
| Overall $R^2$ | 0.2790 | | 0.3020 | | 0.3100 | |
| Wald $\chi^2$ | 1141.0000*** | | 1294.0000*** | | 1344.0000*** | |
| Observations | 3,190 | | 3,190 | | 3,190 | |
| **Panel B: Regression Results Using Basu's (1997) Persistence of Earnings Changes Measure** | | | | | | |
| *Intercept* | -0.1188 | (-0.9823) | -0.4956** | (-1.9866) | -0.5236** | (-2.0292) |
| *PX* | -0.3007 | (-1.2442) | -0.3148 | (-1.2982) | -0.2912 | (-1.1970) |
| *DPX* | -0.3212* | (-1.7414) | -0.3029 | (-1.6382) | -0.3018 | (-1.6302) |
| *PX*DPX* | -3.9411*** | (-8.4322) | -3.9725*** | (-8.4705) | -4.0087*** | (-8.5286) |
| *APB* | -0.0015 | (-0.5216) | -0.0022 | (-0.7955) | -0.0022 | (-0.7405) |
| *PX*APB* | 0.0159*** | (3.2882) | 0.0166*** | (3.4313) | 0.0167*** | (3.4423) |
| *DPX*APB* | 0.0034 | (0.8545) | 0.0034 | (0.8637) | 0.0032 | (0.8153) |
| *PX*DPX*APB* | 0.0291*** | (3.0174) | 0.0276*** | (2.8516) | 0.0265*** | (2.7300) |
| Control Variables | YES | | YES | | YES | |
| Year RE | NO | | YES | | YES | |
| Industry RE | NO | | NO | | YES | |
| Audit Partner RE | NO | | NO | | YES | |
| Client RE | NO | | YES | | NO | |
| Overall $R^2$ | 0.2140 | | 0.2190 | | 0.2210 | |
| Wald $\chi^2$ | 856.9000*** | | 879.6000*** | | 892.6000*** | |
| Observations | 3,180 | | 3,180 | | 3,180 | |
| **Panel C: Regression Results Using Ball and Shivakumar's (2005) Accrual-Based Loss Recognition Measure** | | | | | | |
| *Intercept* | -0.4966 | (-0.5051) | -0.5852 | (-0.4612) | -0.1555 | (-0.1142) |
| *CFO* | 1.3353 | (0.3311) | 1.9139 | (0.4714) | -2.5365 | (-0.5197) |
| *DCFO* | -1.3395 | (-1.2830) | -1.2577 | (-1.1946) | -0.7317 | (-0.6653) |
| *CFO*DCFO* | -7.1846* | (-1.7345) | -7.7649* | (-1.8614) | -2.0762 | (-0.4180) |
| *APB* | -0.0190 | (-1.0765) | -0.0213 | (-1.1958) | -0.0433** | (-2.1355) |
| *CFO*APB* | 0.0838 | (1.1598) | 0.0840 | (1.1557) | 0.3314*** | (3.5723) |
| *DCFO*APB* | -0.0189 | (-0.9823) | -0.0191 | (-0.9883) | 0.0090 | (0.3939) |
| *CFO*DCFO*APB* | -0.2012*** | (-2.7480) | -0.2016*** | (-2.7377) | -0.4491*** | (-4.7761) |
| Control Variables | YES | | YES | | YES | |
| Year RE | NO | | YES | | YES | |
| Industry RE | NO | | NO | | YES | |
| Audit Partner RE | NO | | NO | | YES | |
| Client RE | NO | | YES | | NO | |
| Overall $R^2$ | 0.0877 | | 0.0920 | | 0.1800 | |
| Wald $\chi^2$ | 360.9000*** | | 372.6000*** | | 710.8000*** | |
| Observations | 3,295 | | 3,295 | | 3,295 | |

***, **, * denote significance at the 1 %, 5% and 10% levels (two-tailed), respectively.
All variables are defined in the Appendix.

**Table 12: Heckman's (1979) Two-Stage Estimation Results for Audit Partner Busyness Effects on Earnings Conservatism**

**Panel A: Results for First Stage – ALL Models**

| | Basu (1997) Timeliness | | Basu (1997) Persistence | | Ball and Shivakumar (2005) | | Givoly and Hayn (2000) | |
|---|---|---|---|---|---|---|---|---|
| Variables | Coefficient | (*t-statistic*) | Coefficient | (*t-statistic*) | Coefficient | (*t-statistic*) | Coefficient | (*t-statistic*) |
| *Intercept* | 1.1459*** | (9.1256) | 1.3277*** | (10.8058) | 1.2036*** | (9.7887) | 0.5930*** | (4.5153) |
| *SIZE* | -0.0830*** | (-12.0956) | -0.0953*** | (-14.1044) | -0.0899*** | (-13.3169) | -0.0645*** | (-8.9825) |
| *MB* | 0.0128*** | (3.5631) | 0.0115*** | (3.3540) | 0.0149*** | (4.2940) | 0.0110*** | (2.8831) |
| *LEV* | -0.2348*** | (-7.5322) | -0.0279*** | (-3.2156) | -0.0348*** | (-3.7112) | -0.0234** | (-2.5714) |
| Observations | 7,958 | | 8,149 | | 8,041 | | 7,407 | |

**Panel B: Results for Second Stage - Basu's (1997) Timeliness of Earnings to News Measure**

| | Model 1 | | Model 2 | | Model 3 | |
|---|---|---|---|---|---|---|
| Variables | Coefficient | (*t-statistic*) | Coefficient | (*t-statistic*) | Coefficient | (*t-statistic*) |
| *Intercept* | -0.6343*** | (-5.0038) | -1.1709*** | (-5.4326) | -0.8494*** | (-3.9579) |
| *RRA* | -0.1108 | (-0.9546) | -0.1053 | (-0.9125) | -0.1088 | (-0.9519) |
| *DR* | 0.2627 | (1.5828) | 0.2293 | (1.3915) | 0.2236 | (1.3374) |
| *RRA*DR* | 4.3472*** | (14.1528) | 4.2709*** | (13.9812) | 4.4675*** | (14.7973) |
| *APB* | 0.0022 | (0.7641) | -0.0006 | (-0.1921) | 0.0044 | (1.1922) |
| *RRA*APB* | -0.0013 | (-0.6382) | -0.0012 | (-0.5742) | -0.0007 | (-0.3676) |
| *DR*APB* | -0.0069 | (-1.5600) | -0.0053 | (-1.2225) | -0.0047 | (-1.0879) |
| *RRA*DR*APB* | -0.0232*** | (-2.8740) | -0.0217*** | (-2.7139) | -0.0230*** | (-2.9260) |
| $\lambda$ | 8.6145*** | (16.9337) | 8.6133*** | (17.0603) | 8.6824*** | (17.4541) |
| Control Variables | YES | | YES | | YES | |
| Year RE | NO | | YES | | YES | |
| Industry RE | NO | | NO | | YES | |
| Audit Partner RE | NO | | NO | | YES | |
| Client RE | NO | | YES | | NO | |
| Observations | 6,141 | | 6,141 | | 6,141 | |

**Panel C: Results for Second Stage - Basu's (1997) Persistence of Earnings Changes Measure**

| | | | | | | |
|---|---|---|---|---|---|---|
| *Intercept* | -0.6120*** | -0.6120*** | -0.5226*** | (-3.1980) | -0.5569*** | (-3.3463) |
| *PX* | 0.5087*** | 0.5087*** | 0.4624*** | (2.9424) | 0.4636*** | (2.9473) |
| *DPX* | 0.0471 | 0.0471 | 0.0701 | (0.6027) | 0.0715 | (0.6150) |
| *PX*DPX* | -3.6795*** | -3.6795*** | -3.6223*** | (-12.1377) | -3.6383*** | (-12.1760) |
| *APB* | -0.0015 | -0.0015 | -0.0011 | (-0.4917) | -0.0018 | (-0.7912) |
| *PX*APB* | 0.0050 | 0.0050 | 0.0054 | (1.4024) | 0.0058 | (1.5139) |
| *DPX*APB* | -0.0001 | -0.0001 | -0.0001 | (-0.0440) | 0.0000 | (0.0155) |
| *PX*DPX*APB* | 0.0251*** | 0.0251*** | 0.0238*** | (3.4145) | 0.0232*** | (3.3236) |
| $\lambda$ | -2.8568*** | -2.8568*** | -2.9676*** | (-3.6108) | -3.0980*** | (-3.7365) |
| Control Variables | YES | | YES | | YES | |
| Year RE | NO | | YES | | YES | |
| Industry RE | NO | | NO | | YES | |
| Audit Partner RE | NO | | NO | | YES | |
| Client RE | NO | | YES | | NO | |
| Observations | 6,678 | | 6,678 | | 6,678 | |

**Panel D: Results for Second Stage - Ball and Shivakumar's (2005) Accrual-Based Loss Recognition Measure**

| | | | | | | |
|---|---|---|---|---|---|---|
| *Intercept* | 0.2492 | (0.3766) | 0.2239 | (0.2387) | 0.5109 | (0.5739) |
| *CFO* | -3.2752 | (-1.0985) | -3.2460 | (-1.0886) | -4.7508* | (-1.7063) |
| *DCFO* | -0.9416 | (-1.2947) | -0.9997 | (-1.3726) | -0.9943 | (-1.5132) |
| *CFO*DCFO* | 0.6838 | (0.2232) | 0.6723 | (0.2194) | 2.4993 | (0.8777) |
| *APB* | -0.0211 | (-1.3799) | -0.0217 | (-1.4203) | -0.0179 | (-1.2703) |
| *CFO*APB* | 0.1319** | (2.0284) | 0.1327** | (2.0392) | 0.1276** | (1.9964) |
| *DCFO*APB* | -0.0091 | (-0.5312) | -0.0092 | (-0.5353) | -0.0101 | (-0.6263) |
| *CFO*DCFO*APB* | -0.2168*** | (-3.2822) | -0.2169*** | (-3.2825) | -0.2087*** | (-3.2177) |
| $\lambda$ | 6.1893* | (1.8384) | 6.0702* | (1.8044) | 2.7635 | (0.8929) |
| Control Variables | YES | | YES | | YES | |
| Year RE | NO | | YES | | YES | |
| Industry RE | NO | | NO | | YES | |
| Audit Partner RE | NO | | NO | | YES | |
| Client RE | NO | | YES | | NO | |
| Observations | 6,317 | | 6,317 | | 6,317 | |

***, **, * denote significance at the 1 %, 5% and 10% levels (two-tailed), respectively.
All variables are defined in the Appendix.

**Appendix: Definition of Variables**

| Variables | Definition |
|---|---|
| *X* | Operating profit after tax for firm *i* in fiscal year *t* deflated by the market value of equity at the beginning of the fiscal year. |
| *RRA* | Annual share return for firm *i* from 3 months after the previous fiscal year ($t-1$) to 3 months after the current fiscal year ($t$), adjusted for the ALL Ordinaries Index over the same period. |
| *DR* | An indicator variable equal to 1 if *RRA* is negative, and 0 otherwise. |
| *BPX* | Change in operating profit after tax of firm *i* for period *t* from operating profit after tax of firm *i* for period *t*-1 deflated by the market value of equity of firm *i* at the end of the period $t-1$. |
| *PX* | Change in operating profit after tax of firm *i* for period *t*-1 from operating profit after tax of firm *i* for period *t*-2 deflated by the market value of equity of firm *i* at the end of period *t*-2. |
| *DPX* | An indicator variable equal to 1 if *PX* is negative, and 0 otherwise. |
| *ACC* | Accruals for firm *i* in fiscal year *t*, calculated as the difference between net income before extraordinary items and cash flow from operations, and deflated by the book value of total assets at the beginning of the fiscal year. |
| *CFO* | Operating cash flows for firm *i* in fiscal year *t* scaled by the book value of total assets at the beginning of the fiscal year for firm *i.* |
| *DCFO* | An indicator variable equal to 1 if *CFO* is negative, and 0 otherwise. |
| *X_R* | Three year aggregate (current and previous two fiscal years) of operating profit after tax deflated by the market value of equity at the beginning of the fiscal year. |
| *RET_R* | Three year aggregate (current and previous two fiscal years) of annual share returns adjusted for the ALL Ordinaries Index over the same period. |
| *DRET_R* | An indicator variable equal to 1 if *RET_R* is negative, and 0 otherwise |
| *C_SCORE* | Khan and Watts' (2009) firm specific conservatism measure based on Basu's (1997) asymmetric timeliness regression model, incorporating firm-specific characteristics. |
| *APB* | Number of listed clients in an audit partner's client portfolio in a year. |
| *LNAPB* | Natural logarithmic transformation of the number of listed clients in an audit partner's client portfolio in a year. |
| *EXPPAR* | An indicator equal to 1 if an audit partner is the first-ranked or second-ranked auditor by market share in an industry-city combination for the year, and 0 otherwise. |
| *EXPFIRM* | An indicator variable equal to 1 if an audit firm is the first-ranked in an industry-city by market share and is the first ranked by market share in the industry nationally for the year, and 0 otherwise. |
| *BIG4* | An indicator variable equal to 1 if an audit firm is a Big 4 firm, and 0 otherwise. |
| *MVE* | Firm's market value of equity at the end of the fiscal year. |
| *SIZE* | Natural logarithmic transformation of market value of equity at the end of the fiscal year. |
| *MB* | Market-to-book ratio, defined as the ratio of the market value of equity to the book value of equity. |
| *LEV* | Leverage, defined as the sum of long-term debt and current liabilities of a firm deflated by total assets. |
| *FIRMAGE* | Number of years since the firm's listing date on ASX. |
| *CYCLE* | Depreciation expense deflated by the book value of total at the beginning of the fiscal year. |
| *APB_DUMMY* | An indicator variable that equals 1 if *APB* is higher than its sample median, and 0 otherwise. |
| *YEAR* | Series indicator variables controlling time temporal differences of reporting periods for firm-year observations with firm *i* scored 1 if financial data corresponds to time period *t*, and 0 otherwise. |
| *INDUSTRY* | Industry indicator variable to control for industry effects. |