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Auditor Independence and Earnings Management: Evidence of Non-Audit Fees Disclosure in Australia

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Abstract

This study examines the association between the magnitude of earnings management and auditor independence of 325 Australian listed firms. Auditor independence is the epicentre of this study's analysis as this factor is considered to be a key determinant of earnings management. Our findings indicate the lack of a universal association between auditor independence and earnings management attributes. The main result is supported by tests using alternative measures of auditor independence. This result suggests that the provision of non-audit services by the incumbent auditor does not compromise independence. New regulatory initiatives, such as the Australian CLERP 9 law reforms, are thus queried.

Introduction

This study investigates the association between earnings management and auditor independence. It uses a sample of publicly listed firms on the Australian Stock Exchange (ASX). The cross-sectional modified Jones (1991) model is used to measure discretionary accruals (the proxy for earnings management). Consistent with previous research (Scheiner, 1984; Firth, 1997; Gore, Pope & Singh, 2001; Frankel, Johnson & Nelson, 2002; Larcker & Richardson, 2004) this study uses the ratio of non-audit fees to total fees as a main proxy for auditor independence.

Recent high profile accounting scandals have prompted a global focus on the nature of earnings management, related constraints and factors that may influence earnings management (Arya, Glover & Sunder, 2003; Imhoff, 2003). A key issue is the impact of auditor independence on the magnitude of earnings management (Becker, DeFond, Jiambalvo & Subramanyam, 1998; Krishnan, 2003a). There is a suggestion that the practice of earnings management erodes investors' confidence in financial

reporting quality and impedes the efficient flow of capital in financial markets (Jackson & Pitman, 2001). In addition, policymakers (e.g., Levitt, 1998), popular press articles (e.g., MacDonald, 2001; Liesman, Weil & Schroder, 2002) and scholarly researchers (e.g., Frankel *et al.*, 2002) have argued that the provision of more non-audit services to a client increases the economic bond and leads to the impairment of an auditor's independence. This large scale concern over earnings management and auditor independence is reflected in recent changes in Australian legislation pertaining to auditors and corporate governance.

On 18 September 2002, the Australian Federal Government released the reform proposals in the Corporate Law Economic Reform Program (CLERP 9) discussion paper in order to strengthen arrangements for the oversight of the accounting and auditing professions (ASIC, 2002). The most important issue that is addressed in the CLERP 9 concerning auditor independence is the requirement of disclosing non-audit services information in the director's report, which must include (Blake Dawson Waldron, 2004: 19):

- *details of the amount paid or payable to the auditor for non-audit services provided by, or on behalf of, the auditor during the year (including the names of the auditor and the dollar amount that the listed company paid, or must pay, for each of the non-audit services);*
- *a statement whether the directors are satisfied that the provision of non-audit services by the auditor during the year is compatible with the general standard of independence of auditors imposed by the Corporations Act; and*
- *a statement of the directors' reasons for being satisfied that the auditor's independence was not compromised.*

Our study differs from prior research on three main fronts. First, this study provides further evidence of the relationship between auditor independence and earnings management using domestic setting from which relevant data analysis has been limited: Australia. We thereby contribute to the international understanding of this empirical question that has in the past concentrated on data from the US and UK. Second, the auditing, corporate governance and general business environment has been undergoing considerable change since the mid-1980s. The more contemporary data in this study provides better generalisable findings for the current market conditions and new legislative initiatives in Australia. Third, we enrich the literature by employing six additional possible measures of auditor independence. They are: the percentile ranks of the amount of audit, non-audit and total fees by auditor; and the logarithm transformations of audit, non-audit and total fees.

The remainder of this paper is organised as follows. The next section establishes the theoretical framework underlying auditor independence – earnings management linkages, and the hypothesis is developed. Section three describes the research design. Primary results, including descriptive statistics, correlations and regression analysis, are

presented in section four. Results of the study and implications for future research are discussed in the final section.

Theoretical Framework and Hypothesis

The majority of the literature seeking to explain the incentives for managing earnings draws on costly contracting theory, which characterises the corporation as a 'legal nexus of contractual relationship' and assumes that corporate reporting enables principals (shareholders) to monitor agents' (managers) compliance with contractual obligations (Godfrey, Hodgson & Holmes, 2003). Jensen and Meckling (1976) identified the existence of two agency relationships: (1) the manager-shareholders relationship where the manager acts as an agent for the shareholders who are considered to be the owners; and (2) the shareholder-debtholder relationship where the manager (agent) is assumed to act on behalf of the shareholders (principals). Such relationships impose agency costs because of the existence of conflicts of interest between the agents and the principals. Bartov, Gul and Tsui (2001) note that agency costs include a manager's incentive to manage earnings. Empirical evidence from agency theory also reports that management has a preference for managing earnings numbers in order to benefit from the contracting process (Holthausen, Larcker & Sloan, 1995). Prior studies document that higher transaction costs result from greater information asymmetry among market participants. When the markets or investors have less information and cannot observe a company's performance and prospects, they then require higher rates of return and lower current company's stock prices (Bartov & Bodnar, 1996). Several studies also document evidence that the existence of information asymmetry between managers and shareholders is a necessary condition for earnings management (Dye, 1988). This is because shareholders have less information, thus management can use its insider position to manage reported earnings (Lobo & Zhou, 2001).

Earnings management may reduce the reliability of earnings because reported earnings is biased and misrepresents the true reporting earnings figure. Arthur Levitt Jr (1998), the former chairman of the Securities and Exchange Commission (SEC), stated that the practice of earnings management has negative effects on reliability and credibility of financial reporting. This study assumes opportunistic earnings management is best characteristised via accounting method choices and discretionary accruals (McNichols & Wilson, 1988). The agency cost model draws on the role of the auditors as a monitoring mechanism to reduce agency costs (Jensen & Meckling, 1976). Hirst (1994) claims that, generally, auditors are sensitive to earnings management and have a propensity to focus on managerial incentives to overstate earnings numbers. Thus, auditing plays an important role both in the reduction of agency problems and information asymmetry by objectively verifying the validity of financial statements (Balsam, Krishnan & Yang, 2003; Gay & Simnett, 2003). The effectiveness of auditing and its ability to constrain the earnings management depend on the independence of auditors when performing an audit (OICU-IOSCO, 2002).

Thus, the more independent the auditors, the more they will constrain earnings management.

There is contradictory empirical evidence pertaining to auditor-impaired independence due to the provision of non-audit services. Frankel *et al.* (2002) find a positive and significant association between non-audit fees and the magnitude of the absolute value of discretionary accruals. Their findings imply that auditors compromised their independence due to a large portion of non-audit fees received from their audit clients. Gore *et al.* (2001) document the same results as Frankel *et al.* (2002) for non-Big 4 but not for Big 4 firms.[1] In other words, they suggest that smaller firms are more likely to compromise their independence than larger accounting firms. Antle *et al.* (2002) investigate the relationships between audit fees, non-audit fees and discretionary accruals in a simultaneous equations model. After simultaneously estimating the determinants of audit fees, non-audit fees and discretionary accruals, they find negative and significant association between non-audit fees and discretionary accruals. Using the same data sets and methodology as Frankel *et al.* (2002), Ashbaugh, LaFond and Mayhew (2003) report that earnings management is positively and significantly associated with the purchase of non-audit services. However, after adjusting for firm performance, they fail to find any evidence of a relationship between the provision of non-audit fees and the magnitude of earnings management. Finally, neither Chung and Kallapur (2003) nor Reynolds, Deis and Francis (2004) find any association between measures of auditor independence and measures of earnings management. Whilst the empirical literature is mixed, we adopt the conventional view that auditor independence is impaired when the non-audit/total fee ratio increases, thereby reducing the auditor's ability to detect and constrain earning management. Thus, we test the following hypothesis:

> *There is an inverse relationship between auditor independence and the magnitude of earnings management.*

Research Design

Sample Selection

The total number of Australian firms listed on the ASX as at 11 December 2004 was 1,563. Due to the large population of listed firms, we randomly collected the annual reports of 450 firms from Aspect Huntley DatAnalysis database for the financial year ending 30 June 2004. This study focuses on Australian incorporated entities listed on the ASX and therefore we excluded 10 foreign incorporated firms. Consistent with prior research we then eliminated all 31 firms from the finance sector (includes bank, insurance, unit trusts and finance firms). Firms in this sector are subject to different regulatory requirements that could unduly affect abnormal accruals and audit fees paid. Mayhew and Wilkins (2003) report that audit fees in the first year of a firm's listing may be significantly different from years of normal business operations. Consequently, 30 initial public offering (IPO) firms during the

investigation calendar year were excluded from the sample. We were unable to collect sufficient information to calculate proxy for the control variables for 49 entities. Finally, we excluded five outliers (>4 standard deviations from the absolute discretionary accruals mean).[2] Thus, the statistical analysis is based on a final sample of 325 firms.

Proxy for Earnings Management and Auditor Independence

Prior to estimating discretionary accruals, total accruals (*TAC*) are calculated as:

$$TAC_{jt} = (\Delta CA_{jt} - \Delta Cash_{jt}) - (\Delta CL_{jt} - \Delta LTD_{jt} - \Delta ITP_{jt}) - DPA_{jt}$$

Where: TACjt = total accruals for firm j in time period t; ΔCAjt = change current assets for firm j from time period t-1 to t; ΔCashjt = change cash balance for firm j from time period t-1 to t; ΔCLjt = change current liabilities for firm j from time period t-1 to t; ΔLTDjt = change long-term debt included in current liabilities for firm j from time period t-1 to t; ΔITPjt = change income tax payable for firm j from time period t-1 to t; and DPAjt = depreciation and amortisation expense for firm j from time period to t.

TAC then is decomposed into normal accruals (*NAC*) and discretionary accruals (*DAC*) using the cross-sectional modified Jones (1991) model defined formally as:

$$TAC_{jk,t} / TA_{jk,t-1} = a_{jt} [1/ TA_{jk,t-1}] + \beta_{jt} [(\Delta REV_{jk,t} - \Delta REC_{jk,t})/ TA_{jk,t-1}] + \gamma_{j,t} [PPE_{jk,t} / TA_{jk,t-1}] + \varepsilon_{jk,t}$$

Where: TACjk,t = total accruals for firm j in industry k in year t; TAjk,t-1 = are total assets for firm j in industry k at the end of year t-1; ΔREVjk,t = change net sales for firm j in industry k between years t-1 and t; ΔRECjk,t = change in receivables for firm j in industry k between years t-1 and t; PPEjk,t = gross property, plant and equipment for firm j in industry k in the year t; αj, βj, γj = industry specific estimated coefficients; and εj = error term. NAC is defined as the fitted values from Equation 2 whilst DAC is the residual (TAC minus NAC).

Consistent with Scheiner (1984), Firth (1997), Gore *et al.* (2001), Frankel *et al.* (2002) and Larcker *et al.* (2004), the ratio of non-audit fees to total fees received by an accounting firm from an audit client is used as a main proxy for auditor independence. This measurement is also consistent with the SEC's position on assessing auditor independence (SEC, 2000, Section III. C.5). The non-audit to total fee ratio, however, is not free from criticism. The argument that the relative size of non-audit fees to total fees will be a threat to auditor independence is quite misleading. This measure does not capture the economic importance of the client to the audit firm and, thus, does not create an economic bond between the auditor and client (Ashbaugh *et al.*, 2003; Ruddock & Taylor, 2005). Accordingly, besides using non-audit to total fees ratio, this study uses other possible proxies for measuring auditor independence. It uses the percentile ranks of the amount of audit, non-audit and total fees by auditor to capture the relative significance of client fees to the audit firm revenues (Frankel *et al.*, 2002; Ferguson, Seow & Young, 2004). It also employs the logarithm transformations of audit, non-audit and total fees to capture the level of economic bonding resulting from the audit, non-audit and total fees that the auditor receives from its client (Ashbaugh *et al.*, 2003; Ferguson *et al.*, 2004; Ruddock & Taylor, 2005).

Control Variables Proxies

To control compounding influences of cross-sectional factors, this study incorporates control variables in the regression analysis. Consistent with Becker *et al.* (1998) Francis, Reichelt and Wang (2005) and Davidson, Goodwin-Stewart and Kent (2005), we include firm size (FSize) as prior studies indicate that litigation risk is greater for larger clients than for smaller size clients (Lys & Watts, 1994; Heninger, 2001). This study includes the absolute value of total accruals (ABSTAccruals) to control for a firm's accrual-generating potential (Becker *et al.*, 1998). Firms with higher absolute values of total accruals are likely to have greater discretionary accruals (Krishnan, 2003b). Leverage is included as prior studies show that firms with a higher likelihood of violating debt agreements are more likely to have an incentive to increase earnings (Healy & Palepu, 1990; DeFond & Jiambalvo, 1994; Sweeney, 1994). Previous studies (e.g., Dechow, Sloan & Sweeney, 1995; Kothari, Leone & Wasley, 2002) report discretionary accruals are dependent on a firm's financial performance. Furthermore, financial performance may influence a firm's audit risk (e.g., Gul, Chen & Tsui, 2003; Krishnan, 2003b). Return on investment (ROI) and Losses are used to provide control for the possible compounding influences of a firm's financial performance.

The perceived quality of the auditor is also considered to be a possible determinant of the magnitude of earnings management (e.g., Frankel *et al.*, 2002; Gul *et al.*, 2003). We include Big-4 firms as a proxy variable for perceived auditor quality. To control for any mitigating effects of ownership structure, the high ownership concentration (OwnCon%) is included. To ensure results are not driven by the domination of a specific industry sector, we include industry materials sector (IndMat) to control for potential industry clustering effects. Becker *et al.* (1998) and Reynolds and Francis (2001) report cash flow from operations influences corporate management actions in managing earnings. Thus, a control variable of CashFlowOp is incorporated. Finally, researchers such as Skinner and Sloan (2002) and Chung and Kallapur (2003) show that growth firms have a greater incentive to engage in earnings management. Consistent with Skinner and Sloan (2002) and Chung and Kallapur (2003), the regression model includes the market-to-book ratio (MV) as a control for the affects of a firm's growth pattern on the behaviour of corporate management to manage earnings. Proxy measures for the dependent, independent and control variables are defined in Table 1.

Empirical Model Equation

This study uses OLS multiple regression as the main statistical technique to test the hypothesis. The main regression model is defined in the following equation:

$$AbsDAC_i = a_i + \gamma_{i2} AuditIndep_i + \alpha_{i1} FSize_i + \alpha_{i2} ABSTAccurals_i + \alpha_{i3} Leverage_i + \alpha_{i4} ROI_i + \alpha_{i5} Big\text{-}4_i + \alpha_{i6} Losses_i + \alpha_{i7} CashFlowOp_i + \alpha_{i8} OwnCon\%_i + \alpha_{i9} GLC_i + \alpha_{i10} IndMan_i + \alpha_{i11} MV_i + \varepsilon_i$$

Table 1: Variable Definition and Description

Variable Description	Variable Title
Dependent Variable	
Absolute discretionary accruals of firm *i* for year *t* measured by Modified Jones (1991) model	*AbsDAC*
Control Variables	
Absolute value of total accruals for firm *i* divided by total assets for firm *i* for year *t-1*	*ABSTAccurals*
Natural logarithm of the total book reported assets of firm *i* for their fiscal year *t*	*FSize*
Ratio of book value long-term debt of firm *i* for year *t* to book value total assets of firm *i* for year *t-1*	*Leverage*
Ratio of earnings before extraordinary items of firm *i* for year *t* to book value total assets of firm *i* for year *t-1*	*ROI*
Indicator variable with firm *i* scored one (1) if their incumbent auditor in fiscal year *t* is a Big-4; otherwise scored zero (0)	*Big-4*
Indicator variable with firm *i* scored one (1) if it has incurred a financial loss at least once in the three prior fiscal years; otherwise scored zero (0)	*Losses*
Percentage of outstanding common shares owned by top twenty shareholders of firm *i* for year *t*	*OwnCon%*
Indicator variable with firm *i* scored one (1) if from the materials industry; otherwise scored zero (0)	*IndMat*
Ratio of market value for firm *i* at end year *t* to book value of total assets for firm *i* at end of year *t*	*MV*
Cash flow from operations for firm *i* during year *t* deflated by total assets as at end of year *t-1*	*CashFlowOp*
Independent Variables	
Ratio of non-audit fees paid by firm *i* to the audit firm to total audit fees paid by firm *i* to the external auditor in year *t*	*AuditIndep-1*
Percentile rank the amount of audit fees by auditor	*AuditIndep-2*
Percentile rank the amount of non-audit fees by auditor	*AuditIndep-3*
Percentile rank the amount of total (audit and non-audit) fees by auditor	*AuditIndep-4*
Logarithm transformation of audit fees	*AuditIndep-5*
Logarithm transformation of non-audit fees	*AuditIndep-6*
Logarithm transformation of total fees	*AuditIndep-7*

Source: Original table.

Results

Descriptive Statistics

Table 2 shows the composition of total fees paid by Australian listed firms using the ASX industry classification and the type of audit firms. Panel A reports that firms in the Food & Staples Retailing sector paid, on average, the highest amount of total fees (AUD670,285) and audit fees (AUD411,526). These amounts are almost three times above the sample means (AUD261,722 & AUD160,896 respectively). For non-audit services, firms in the Media sector paid, on average, the highest amount of fees

(AUD276,058) compared to other industry sectors. Again this amount is nearly three times the mean (AUD100,825) for all industry types. On average, total audit fees earned by the Australian audit firms in the study year (AUD160,896) are much higher than average audit fees from previous years (1993 to 2000, which is AUD136,406) reported in Ruddock and Taylor (2005). On the other hand, average non-audit fees received by the accounting firms are distinctly lower than in periods 1993-2000 (AUD100,825 vs AUD124,161) (Ruddock & Taylor, 2005). Average audit and non-audit fees of public clients in international markets such as the US (USD1,193,952 equivalent to AUD2,146,129 & USD514,601 equivalent to AUD924,995 respectively) and the UK (GBP424,233 equivalent to AUD1,151,071 & GBP404,820 equivalent to AUD1,098,398 respectively) far exceed those of the average Australian client (Ashbaugh *et al.*, 2003; Ferguson *et al.*, 2004).

Proportionately, Australian firms in the Energy and Hotels, Restaurants & Leisure sectors purchase the highest relative level of non-audit services to total fees (51.92% & 53.64% respectively) from the incumbent auditor. In contrast, firms in the Health Care Equipment & Services and Technology Hardware & Equipment sectors purchase the lowest relative levels of non-audit services (25.69% & 27.25% respectively). The distribution of the relative level of non-audit services to total fees from the mean across industry sectors shows a relatively narrower range than observed in the US (the lowest 48.97%; mean 69%; the highest 81.05%) (Whisenant, Sankaraguruswamy & Raghunandan, 2003).

Nonetheless, the evidence suggests different industries exhibit sizeable variations in the relative levels of audit and non-audit services provided by audit firms. It is noted, however, that audit fees remain the largest component (61.48%) of total fees of an Australian audit firm's revenue stream. This figure is significantly larger than the composition of audit fees received by audit firms in the US, which is 51 percent (Frankel *et al.*, 2002) and in the UK, which is 51.17 percent (Ferguson *et al.*, 2004), but lower than the composition of audit fees received by Singaporean audit firms, which is 70.99 percent (Rusmin *et al.*, 2006).

Panel B shows that KPMG Pete Marwick (KPMG) earned the largest amount of audit fees (AUD321,291), non-audit fees (AUD218,369) and total fees (AUD539,660) from the Australian capital market. These amounts are approximately twice as much as the sample means of all firms. On the other hand, Deloitte & Touche (DT) received the smallest amount of audit fees (AUD134,251), non-audit fees (AUD72,007) and total fees (AUD206,259) from the Australian listed clients. In terms of non-audit fees, Ernst & Young (EY) received a relatively larger portion (43.84%) than other accounting firms. Fees paid by Australian listed companies for audit and non-audit services to the Big-4 firms are, on average, AUD1,569,018 (96.26%) compared to AUD60,961 (3.74%) for Non Big-4 audit firms. Table 3 presents the descriptive statistics for the study's dependent and control variables.

Table 2: Australian Audit and Non-Audit Fees Breakdown by Industry Type and Accounting Firm

	N	Total Fee	Audit Fee						Non-Audit Fee					
		Mean (AUD)	Mean (AUD)	Median (AUD)	SD (AUD)	Min (AUD)	Max (AUD)	% Total Fee	Mean (AUD)	Median (AUD)	SD (AUD)	Min (AUD)	Max (AUD)	% Total Fee
Panel A-Industry Type[Ψ]														
01 Energy	27	192,699	92,651	18,500	232,751	11,000	989,000	48.08	100,048	4,400	327,101	0	1,613,000	51.92
02 Materials	85	185,031	116,060	25,000	353,942	2,630	2,769,000	62.72	68,971	6,220	210,769	0	1,568,000	37.28
03 Capital Goods	20	349,352	217,590	78,250	406,116	32,341	1,851,000	62.28	131,761	32,848	339,756	0	1,554,000	37.72
04 Commercial Services & Supplies	16	141,355	82,323	41,522	83,219	10,346	291,452	58.24	59,031	11,200	124,467	0	497,611	41.76
05 Automobiles & Components	11	303,549	151,492	92,800	164,976	8,500	577,192	49.91	152,058	42,000	349,912	0	1,195,094	50.09
06 Hotels, Restaurants & Leisure	10	124,850	57,878	28,715	44,962	18,000	126,232	46.36	66,972	41,185	97,347	0	317,512	53.64
07 Media	16	659,067	383,010	58,815	740,678	17,600	2,921,000	58.11	276,058	8,176	524,631	0	1,598,000	41.89
08 Retailing	12	312,377	222,032	164,253	204,862	34,000	824,697	71.08	90,345	38,000	105,296	0	334,346	28.92
09 Food & Staples Retailing	10	670,285	411,526	93,808	906,014	10,535	2,951,800	61.40	258,759	13,820	603,291	0	1,905,200	38.60
10 Health Care Equipment & Services	12	284,009	211,037	59,250	304,997	17,200	1,013,000	74.31	72,972	9,090	139,356	0	461,862	25.69
11 Pharmaceuticals & Biotechnology	20	111,992	73,748	47,280	116,093	16,233	554,574	65.85	38,244	14,475	52,854	0	73,748	34.15
12 Real Estate	20	296,664	183,997	115,099	235,188	8,000	881,000	62.02	112,667	24,120	199,414	0	698,000	37.98
13 Software & Services	27	285,519	202,485	90,000	434,950	5,000	2,269,627	70.92	83,034	13,120	120,764	0	385,830	29.08
14 Technology Hardware & Equipment	15	194,354	141,393	70,000	150,212	7,000	433,982	72.75	52,962	10,000	78,694	0	232,221	27.25
15 Telecommunication Services	12	140,717	92,302	38,300	148,537	13,000	528,711	65.59	48,415	5,180	111,754	0	392,130	34.41
16 Other-Transportation & Utilities	12	450,182	226,648	83,037	428,295	20,850	1,558,389	50.35	223,534	31,199	355,841	3,000	1,209,052	49.65
Total	***325***	***261,722***	***160,896***	***49,737***	***367,449***	***2,630***	***2,951,800***	***61.48***	***100,825***	***11,600***	***260,910***	***0***	***1,905,200***	***38.52***
Panel B-Accounting Firm[Ω]														
Big-4:														
PWC	48	485,433	304,042	164,500	504,247	2,650	2,769,000	62.63	181,391	86,423	313,892	0	1,568,000	37.37
KPMG	48	539,660	321,291	59,222	584,828	10,870	2,951,800	59.54	218,369	17,225	434,391	0	1,905,200	40.46
EY	66	337,667	189,632	74,717	396,074	7,000	2,921,000	56.16	148,035	36,131	300,790	0	1,613,000	43.84
DT	25	206,259	134,251	55,065	219,403	8,000	1,043,000	65.09	72,007	10,790	129,064	0	556,725	34.91
Total Big-4	*187*	*1,569,018*	*949,216*	*353,504*	*1,704,552*	*28,520*	*9,684,800*	*60.50*	*619,802*	*150,569*	*1,178,136*	*0*	*5,642,925*	*39.50*
Non Big-4	138	60,961	46,401	30,350	44,277	2,630	215,000	76.12	14,559	3,955	27,853	0	191,000	23.88
Total	***325***	***261,722***	***160,896***	***49,737***	***367,449***	***2,630***	***2,951,800***	***61.48***	***100,825***	***11,600***	***260,910***	***0***	***1,905,200***	***38.52***

Source: Original table.

Note: [Ψ]Industry sectors are defined in accordance with the ASX classification schema; [Ω] Big-4 audit firms abbreviations - PWC is PriceWaterhouse Coopers, KPMG is KPMG Peat Marwick, EY is Ernst & Young, and DT is Deloitte & Touche.

Table 3: Descriptive Statistics of Dependent and Control Variables

Variable Description	Mean	Std Dev	Median	25 Percentile	75 Percentile
Dependent Variable					
Total Accruals (AUD0,000)	-11,558	96,562	-366	-3,948	566
Deflated Total Accruals	-0.0891	0.6812	-0.0337	-0.1076	0.3195
DACs	-0.0090	0.8116	-0.0141	-0.4509	0.3660
AbsDAC	0.6061	0.5388	0.4291	0.2018	0.8480
Control Variables					
Total Assets (AUD0,000)	303,730	855,697	21,149	7,356	132,835
FSize	17.2301	2.1673	16.8671	15.8110	18.7046
ABSTAccruals	0.1908	0.6599	0.0749	0.0324	0.1858
Leverage	0.1524	0.2473	0.0571	0.0015	0.2314
ROI	-0.0702	2.5608	-0.0151	-0.2563	0.0592
Big-4 (% of Sample)	57.5385				
Losses (% of Sample)	70.4615				
CashFlowOp	-0.0899	0.5993	-0.0097	-0.1862	0.1029
OwnCon%	62.5271	19.1222	65.3200	48.4850	76.7700
IndMat (% of Sample)	26.1538				
MV	2.7096	5.2131	1.2854	0.7417	2.6196

Source: Original table.

Note: See Table 1 for full definitions and descriptions for the dependent, independent and control variables.

Average discretionary accruals are -0.90 percent of total assets at the beginning of the year.[3] This value is slightly lower than reported in Singapore for the fiscal year end 31 December 2003 (Rusmin *et al.*, 2006). The lower value of discretionary accruals for Australian companies is consistent with recent international comparative studies (e.g., Bhattacharya *et al.*, 2003; Leuz *et al.*, 2003) that earnings management is likely to be more prevalent in newly developed and emerging economies such as Singapore. However, the number of firms that have positive and negative discretionary accruals is virtually equal (162 & 163 firms respectively). This result is consistent with other research (e.g., Klein, 2002). With regard to the control variables, the average firm total assets in year 2004 is AUD303,730,000. The average firm size (measured by the log of total assets for year 2004) is 17.23. The average absolute value of total accruals (ABSTAccruals) is 19.08 percent of total assets at the beginning of the year.

Average long-term debt to total assets ratio (Leverage) of the sample firms is 15.24 percent. In terms of ownership concentration (OwnCon%), 62.53 percent of the equity shares of the sample firms are held by the top twenty shareholders. Consistent with Holland and Ramsay (2003), Gul *et al.* (2003) and Ruddock and Taylor (2005), average ROI and cash flow from operations (scaled by the beginning total assets) are negative (-7.02% & -8.99% respectively).[4] The poor financial performance as

evidenced by 70.46 percent (229 out of 325) of the sample firms reporting a loss in the past three years suggests that firms experienced financial suffering during those fiscal periods.[5] This underperformance might have been as a result of deteriorating world economic conditions due to the Asian financial crisis from 1997 to 1998 and the SARS epidemic in 2001-2002 (Teo, 2003; Conyon, 2004; Mak & Kusnadi, 2005). The Big-4 audited more than half the Australian listed firms in fiscal year end 30 June 2004. Around 57.54 percent of the Australian listed firms engaged EY, PWC, KPMG or DT. Additionally, firms classified as Materials Industry (InMat) make up around 26.15 percent of the Australian firms that were included in the sample. Finally, average market-to-book value (MV) of the sample firms is around 2.71 times.

Correlation Matrix

Correlation results[6] do not provide comprehensive support for the study's hypothesis. AbsDAC is negatively correlated with AuditIndep-1 to AuditIndep-4, but it is positively correlated with AuditIndep-4 AuditIndep-7 both for Pearson and Spearman correlations. However, these relationships are statistically not significant. The dependent variable is positively and significantly associated with ABSTAccurals both for Pearson and Spearman correlations ($p<0.01$). There are significant positive correlations ($p<0.01$) among the seven alternative measures of auditor independence, with the correlation values ranging from 0.20 to 0.96. In respect to correlations between independent and control variables, and amongst control variables themselves, the highest correlations (with a value of 0.747) are between ROI and CashFlowOp. This value is below the critical limit of 0.80.[7] Variance inflation factors calculated for all regressions reported in Tables 4 to 6 for independent and control variables provide further indications that multicollinearity is not a problem in the model estimations (Hair *et al.*, 1995; Greene, 1999; Cooper & Schindler, 2003).

Multivariate Main Results

The main results for testing the hypothesis are reported in Table 4. Regression model estimates reported in Panels A to G are all statistically significant (F-statistic $p<0.01$) with explanatory power ranging from a high of 30.20 percent (Panel F) to a low of 28.50 percent (Panels B and D). The coefficients on AuditIndep are all positive[8], but only significant (at $p<0.05$ & $p<0.01$ respectively) when using the logarithm transformation of audit and non-audit fees as a proxy for auditor independence (Panels E and F).[9] Results infer that the dollar amounts of audit or non-audit fees may influence an auditor's objectivity. The larger the audit or non-audit fees that auditors received from clients, the more likely their independence will be impaired. However, the other five possible measures of auditor independence fail to confirm any significant relationship between auditor independence and earnings management. Thus, these findings do not fully support the acceptance of the hypothesis. This study fails to find compelling evidence that auditors impair their independence as a result of clients purchasing relatively more non-audit services.

Table 4: Multiple Regression Results

	Prediction	Panel A *Non-Audit Ratio*		Panel B *Rank Audit Fees*		Panel C *Rank Non-Audit Fees*		Panel D *Rank Total Fees*		Panel E *Log Audit Fees*		Panel F *Log Non-Audit Fees*		Panel G *Log Audit Fees*	
		Beta	*t*-stat	Beta	*t*-stat	Beta	*t*-stat	Beta	*t*-stat	Beta	*t*-stat	Beta	*t*-stat	Beta	*t*-stat
(Constant)			3.825*		3.685*		3.830*		3.666*		3.528*		4.251*		3.348*
ABSTAccurals	+	0.545	10.914*	0.545	10.935*	0.547	10.970*	0.546	10.937*	0.542	10.957*	0.549	11.139*	0.547	10.963*
FSize	-	0.089	1.189	0.088	1.053	0.067	0.811	0.084	0.961	0.034	0.428	0.024	0.313	0.065	0.722
Leverage	+	-0.017	-0.326	-0.017	-0.309	-0.019	-0.360	-0.017	-0.321	-0.029	-0.543	-0.032	-0.610	-0.019	-0.352
ROI	-	-0.080	-1.170	-0.082	-1.196	-0.076	-1.113	-0.081	-1.180	-0.075	-1.098	-0.073	-1.083	-0.076	-1.105
Big-4	-	-0.077	-1.448	-0.043	-0.666	-0.046	-0.708	-0.045	-0.686	-0.056	-0.881	-0.058	-0.915	-0.047	-0.726
Losses	+	-0.007	-0.109	-0.002	-0.038	-0.004	-0.065	-0.003	-0.048	-0.006	-0.094	-0.010	-0.160	-0.003	-0.054
OwnCon%	-	-0.049	-0.992	-0.053	-1.047	-0.050	-1.000	-0.052	-1.043	-0.067	-1.342	-0.062	-1.260	-0.056	-1.107
IndMat	+	-0.090	-1.860***	-0.084	-1.680***	-0.090	-1.865***	-0.084	-1.690***	-0.085	-1.771***	-0.100	-2.085**	-0.082	-1.671***
MV	+	-0.020	-0.365	-0.013	-0.239	-0.017	-0.324	-0.014	-0.263	-0.007	-0.128	-0.022	-0.418	-0.014	-0.262
CashFlowOp	-	-0.148	-2.820*	-0.144	-2.725*	-0.143	-2.732*	-0.143	-2.701*	-0.132	-2.508**	-0.143	-2.760*	-0.141	-2.674*
AuditIndep	-	0.035	0.682	0.035	0.476	0.066	1.061	0.039	0.493	0.146	2.261**	0.162	2.834*	0.065	0.813
Model Summary															
R-Squared		0.310		0.312		0.313		0.312		0.322		0.328		0.312	
Adj. R-Squared		0.286		0.285		0.287		0.285		0.296		0.302		0.286	
F-Statistic		12.789*		11.764*		11.872*		11.766*		12.354*		12.708*		11.816*	
Sample Size		325		325		325		325		325		325		325	

Source: Original table.

Note: *, **, and *** indicate significance at $p<0.01$, $p<0.05$ and $p<0.10$ respectively (based on two-tailed tests). See Table 1 for full definitions and descriptions for the dependent, independent and control variables

The findings of no relationship between the larger portion of non-audit fees and the measures of earnings management is consistent with some prior studies (e.g., Chung & Kallapur, 2003; Reynolds *et al.*, 2004).

Multivariate Results for Partitioned Sub-samples

Researchers (e.g., Frankel *et al.*, 2002; Gul *et al.*, 2003) argue that income-incentives may produce different earnings management behaviour traits. In addition, some scholars suggest client size may influence the: (1) composition of non-audit fees, thereby effecting auditor independence (e.g., Whisenant *et al.*, 2003); and (2) magnitude of earnings management (e.g., Reynolds & Francis, 2001; Chung & Kallapur, 2003; Gul *et al.*, 2003). Similarly to Reynolds *et al.* (2001) and Gul *et al.* (2003), this study considers the role of income-incentives and client firm size in the earnings management models.

Table 5: Multiple Regression Results for Partitioning by Discretionary Accruals Sign

		Discretionary Accruals Sign			
	Prediction	Panel A - Income Increasing		Panel B - Income Decreasing	
		Beta	*t*-statistic	Beta	*t*-statistic
(Constant)			3.633*		-0.547
ABSTAccruals	+	0.564	8.481*	0.608	8.140*
FSize	-	0.127	1.357	0.117	1.026
Leverage	+	0.076	1.080	-0.168	-2.111**
ROI	-	-0.066	-0.722	0.010	0.101
Big-4	-	-0.069	-0.777	-0.161	-1.830***
Losses	+	0.055	0.677	-0.102	-1.211
OwnCon%	-	-0.151	-2.155**	0.051	0.761
IndMat	+	-0.098	-1.444	-0.111	-1.655***
MV	+	0.088	1.243	-0.159	-2.032**
CashFlowOp	-	-0.334	-4.835*	0.211	2.741*
AuditIndep	**-**	**-0.001**	**-0.009**	**0.084**	**1.128**
Model Summary					
R-Squared		0.428		0.385	
Adj. R-Squared		0.382		0.335	
F-Statistic		9.302*		7.816*	
Sample Size		162		163	

Source: Original table.

Note: *, **, and *** indicate significance at $p<0.01$, $p<0.05$ and $p<0.10$ respectively (based on two-tailed tests). See Table 1 for full definitions and descriptions for the dependent, independent and control variables.

Discretionary Accruals Sign

Partitioning the pooled sample into income-increasing and income-decreasing is based on the sign on their corresponding unadjusted discretionary accruals. For brevity, findings that are reported in Table 5 use the ratio of non-audit fees to total fees as a proxy for auditor independence.

Table 6: Multiple Regression Results for Partitioning by Client Firm Size

	Prediction	Client firm size			
		Panel A - Small Firms		Panel B - Large Firms	
		Beta	*t*-statistic	Beta	*t*-statistic
(Constant)			-0.285		3.668*
ABSTAccruals	+	0.547	7.663*	0.550	7.636*
FSize	-	0.162	1.975**	0.015	0.170
Leverage	+	-0.044	-0.626	0.064	0.849
ROI	-	0.024	0.264	-0.164	-2.024**
Big-4	-	0.014	0.155	-0.053	-0.623
Losses	+	0.011	0.146	-0.091	-1.099
OwnCon%	-	-0.090	-1.229	-0.004	-0.056
IndMat	+	-0.143	-2.076**	-0.077	-1.118
MV	+	0.059	0.780	-0.091	-1.223
CashFlowOp	-	0.052	0.667	-0.234	-3.274*
AuditIndep	-	0.085	1.231	-0.024	-0.330
Model Summary					
R-Squared		0.358		0.347	
Adj. R-Squared		0.307		0.294	
F-Statistic		6.971*		6.585*	
Sample Size		163		162	

Source: Original table.

Legend: *, **, and *** indicate significance at $p<0.01$, $p<0.05$ and $p<0.10$ respectively (based on two-tailed tests). See Table 1 for full definitions and descriptions for the dependent, independent and control variables.

The coefficient on AuditIndep is negative (positive) for the income-increasing (income-decreasing) Australian sub-samples. The positive sign of coefficient on AuditIndep for the income-decreasing sub-sample is consistent with the inferences for the absolute discretionary accruals regressions reported in Table 4. The negative sign of coefficient on AuditIndep for the income-increasing sub-sample infers that the big portion of Australian non-audit services may not impair auditors' ability to constrain the magnitude of earnings management. However, the coefficients on both income-increasing (Panel A) and income-decreasing (Panel B) are statistically not significant. In conclusion, the results imply that auditor independence is shown to be an insignificant factor in reducing the level of earnings management by Australian firms, regardless of

whether corporate management has an incentive to increase or decrease reported earnings.

Client Firm Size

To examine whether a client's firm size may influence auditor ability to constrain the magnitude of earnings management, we partition the pooled sample into small and large client firm sub-samples using the median of total assets (AUD21,149,000) as the cut-off figure. For brevity, findings that are reported in Table 6 use the ratio of non-audit fees to total fees as a proxy for auditor independence.

The coefficients on AuditIndep are positive (negative) for the small (large) firm sub-samples. The positive sign on the coefficient of AuditIndep for the small firm sub-sample is consistent with the main Australian findings, as reported in Table 4. The findings from the sample partitioning by client firm size suggest that auditors are likely to impair their independence when they audit the small clients but not for the large audit clients. However, these results are statistically insignificant. It appears that client firm size does not unduly influence the association between auditor independence and the magnitude of earnings management.

Discussion and Concluding Remarks

Using the same proxy measures as Frankel *et al.* (2002), we did not find convincing empirical evidence to support the presumption that higher non-audit to total fee ratios impairs an audit firm's ability to detect and constrain earnings management. This result is supported when tests are run using alternative proxies of earnings management. Auditor independence is only found to have a significant influence on discretionary accruals when using the logarithm transformation of audit and non-audit fees as a proxy for auditor independence.

Our findings have various implications for policy makers, corporate management, corporate governance reformists, investors and scholarly researchers alike. For example, there currently appears to be a preoccupation amongst corporate governance reformists and policy makers, internationally, to curb the provision of non-audit services by the incumbent auditor to aid in such matters as the reduction in earnings management. Our findings suggest this preoccupation may be misplaced and that constraining the ability of firms to purchase non-audit services from the incumbent auditor could provide only limited benefits whilst increasing costs (such as any discount offered by the incumbent auditor resulting from cost savings achieved through knowledge spill-over effects). Our findings provide stronger support for allowing the audit market to operate in a basic laissez-faire manner without any overbearing interference by policy makers. Restricting incumbent auditors to provide non-audit services may eliminate the ability of audit firms to gain economies of scale (Antle & Demski, 1991). In addition, the joint supply of audit and non-audit services is considered to enhance audit quality by improving the auditors knowledge of the

client's operation (Houghton & Jubb, 2002; Ruddock & Taylor, 2005). Therefore, the results imply that recent actions of Australian policymakers to strengthen rules governing audit independence in respect to non-audit services may have been premature.

Whilst we have attempted to maintain the integrity of our research method supported by various sensitivity and robustness checks, like any other empirical investigation our study is not without certain caveats. Earnings management and auditor independence are unobservable so we rely on proxy measures that, whilst previously used in the research literature, are not free of criticism. For instance, discretionary accrual models measure discretionary accruals with error (see Bernard & Skinner, 1996 for a deeper discussion). These problems, however, are endemic to the earnings management literature and we are using the best currently available models and proxies. Future studies can seek to focus on refinements to the proxy measures for dependent and independent variables.

The relatively recent era is a time period when corporate governance and regulation have been greatly refined. The results of the study provide useful feedback for policymakers in evaluating the present regulations and governances pertaining to auditor independence. This study uses the Australian data that only discloses the total amounts of non-audit fees. However, starting from the financial year 1 July 2004, the CLERP 9 requires listed companies to disclose in the directors' report the dollar amount paid to auditors for each type of non-audit service. Therefore, a study that examines the relationship between each type of the non-audit fees and the level of earnings management could be a fertile ground for future research.

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Notes

1 Previous studies use the term Big-5, Big-6 or Big-8 to indicate the biggest international accounting firms. Those firms have now merged into four. Therefore, the term Big-4 is used in this study to refer to the top tier largest international accounting firms.

2 Our statistical tests are not influenced by the retention or removal of outliers. However, the explanatory power of models tested is lower if the influential data points are retained.

3 Using the same country data set, but different time periods, Koh (2003) and Davidson *et al.* (2005) reported the means for discretionary accruals as 7.70% and -7% respectively.

4 Using Australian data in the fiscal years 1990-2000, Holland and Ramsay (2003) reported the mean of net profit after tax and cash flow from operations (scaled by the beginning-of-year book value of total assets) are -7.20% and -0.90%.

5 51.69% (168 out of 325) of the sample firms experienced loss in the fiscal year end 30 June 2004.

6 For brevity, the correlation table is not included.

7 As a further check for multicollinearity, this thesis performs the model estimations reported in Tables 4-6 again after first excluding ROI and then CashFlowOp. The independent exclusion of each respective control variable does not significantly alter the findings reported in the main text.

8 The positive sign on AuditIndep implies that the larger portion of non-audit fees that auditors receive from audit clients, the more likely they compromise their independence.

9 This study also re-performs the tests in Panels A-G after excluding companies that have not purchased any non-audit services from their audit firms. These results are qualitatively the same as those reported in Table 4.