

# **Extending an Analysis of Forced Auditor Change by Former Arthur Andersen Clients: Following the Audit Partner versus Following the Audit Firm**

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Following the Audit Partner versus Following the Audit Firm**

**ABSTRACT**

The demise of Arthur Andersen (AA) provides a unique opportunity to examine forced auditor switching behavior. Prior studies examine this behaviour by tracking former AA clients to the *audit firm* that acquired the AA practice in their city (e.g., Blouin et al. 2007). This approach is problematic: firstly, it assumes that all former AA partners went to the acquiring firm. Secondly, it assumes that when a former AA client switched to the acquiring firm they would be audited by the same former AA audit partner. In Australia, auditors of stock exchange listed companies are required to disclose the name of the audit partner. This makes it possible to examine forced auditor switching behaviour at the *audit partner level*.

The main purpose of this paper is to re-examine the forced switching behaviour of former AA clients using audit partner data. The literature suggests that auditor switching behaviour depends on switching and agency costs, which in turn are associated with client and auditor characteristics. This leads us to two expectations. Firstly, to reduce the high cost of switching, former AA clients that are complex or in an industry where AA was a specialist *will follow* their former AA audit partners. Secondly, to reduce agency costs, former AA clients with long audit partner tenure or more effective audit committees *will not follow* their former AA audit partners. We find results contrary to both these expectations, as well as different to prior studies examining forced auditor switching behaviour at the *audit firm* level (Blouin et al. 2007). In addition, some of our audit firm switching results are different from the above audit partner results: e.g., former AA clients with short audit partner tenure, that are large, or have more effective audit committees now are likely to follow the acquiring audit firm. These additional analyses reveal the usefulness of distinguishing between audit partner and audit firm switching behaviour. Further, that switching and agency costs impact differently on auditor switching behaviour, depending on whether the switching is at the audit partner or audit firm level. Overall, our results are useful in informing stakeholders debating the merits of mandatory auditor rotation, particularly at the audit partner level of analysis.

## INTRODUCTION

The demise of Arthur Andersen LLP (hereinafter referred to as AA) on 31 August 2002 provides a unique opportunity to examine *forced* auditor switching behaviour. That is, former AA clients had to decide whether or not to “follow” their auditor. This choice has been examined by a number of studies at the audit firm level by tracking these clients to the audit firm that acquired their former AA practice (for example, Blouin et al. 2007). However, this approach is problematic. Firstly, it assumes that all former AA audit partners went to the AA acquiring audit firm, which in Australia was Ernst and Young (EY). Secondly, it assumes that when a former AA client went to the AA acquiring audit firm (e.g. EY) they would be audited by their prior AA audit partner. This limitation is acknowledged by Blouin et al. (2007; p. 627, footnote 7). The purpose of this paper is twofold. Firstly, to examine the forced switching behaviour of former AA clients at the audit partner level. Secondly, to compare that audit partner switching behaviour with forced audit firm switching behaviour. Results and implications from this study are useful in informing stakeholders debating the merits of mandatory auditor rotation.

Blouin et al. (2007) note two key factors influencing a client’s decision to switch auditor: (i) switching costs and (ii) agency costs. On switching costs, prior research demonstrates that these can be significant (Arrunada & Paz-Ares 1997; DeAngelo 1981), and a deterrent (Beattie & Fearnley 1995). At the audit partner level of analysis, clients with high switching costs are more likely to switch audit firm in order to follow their audit partner. That is, when a client switches audit firm and follows the incumbent audit partner, switching costs are reduced compared to when a client switches *both* the audit firm and the audit partner. Therefore, it is expected that former AA clients with high (low) switching costs were more (less) likely to follow their former AA audit partners. On agency costs, clients with

significant agency costs have been shown to be associated with the use a high quality audit firm, e.g., to improve the monitoring of the agent. Further, former AA clients experienced a negative stock market reaction around the date of the AA indictment (Chaney & Philipich 2002; Krishnamurthy et al. 2006). Therefore, it is expected that former AA clients with high (low) agency costs were less (more) likely to follow their former AA audit partners.

To empirically examine these expectations, a binary logistic regression based upon Blouin et al's. (2007) switching model is used. The data are sourced from publically available databases, and the annual and financial reports of the population of former AA clients listed on the Australian Securities Exchange (ASX). In this study, a former AA client is classified as following (not following) their auditor if the first signing audit partner after the demise of AA was (was not) that former AA audit partner. Switching and agency costs are measured using a number of auditor and client characteristics. Switching costs are higher for complex companies and companies that use industry specialist auditors, and these companies are more likely to follow their auditor. Agency related issues include audit partner tenure and audit committee effectiveness. To enhance auditor independence, both actual and perceived, and, therefore, improve audit quality and monitoring, a former AA client with the same audit partner for a significant number of years (i.e., more than 5 years) are less likely to follow that audit partner. While in response to the adverse publicity surrounding the demise of AA, former AA clients with more effective audit committees (i.e., with director independence and financial expertise) also are less likely to follow their AA audit partners.

Contrary to expectations, results show that former AA clients in an industry where AA was a specialist were not likely to follow their former AA audit partners, therefore, not reducing switching costs. Also, contrary to expectations, we find that former AA clients with more

effective audit committees, as measured by the percentage of financial expert directors, were more likely to follow their former AA audit partners, therefore, not reducing agency costs. Also, client size was not associated with audit partner switching behaviour.

When this study's data are classified according to *audit firm* switching behaviour, different results are obtained. Now, for our two audit committee effectiveness variables, there are conflicting results on the association between former AA clients with more effective audit committees and this switching behaviour. Further, large former AA clients are now found to follow the acquiring audit firm, also contrary to Blouin et al. (2007). Finally, regardless of the way "follow" is classified, former AA clients in an industry where AA was a specialist are not likely to follow their former AA audit partners or the acquiring audit firm, also contrary to Blouin et al. (2007). Overall, our results highlight the importance of appropriately recognising auditor switching behaviour at both the audit partner and audit firm level of analysis. Further, that switching and agency costs impact differently on auditor switching behaviour, depending on whether the switching is at the audit partner or audit firm level.

The remainder of this paper is organized as follows. The next section provides a review of the relevant literature and the theoretical background used to develop testable hypotheses. Next, the research design is described, including data collection, model specification and variables measurement, prior to the presentation and discussion of results. Finally, a conclusion is provided, highlighting limitations and opportunities for future research.

## **BACKGROUND, LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT**

Since audit failures rarely occur in business (Francis 2004), the demise of AA provides a rare and unique opportunity to study forced auditor switching behaviour. While this demise was

triggered by significant events mostly in the U.S., the ensuing break-up and merger process with other audit firms varied across the world (Hamilton et al. 2008). For example, in the U.S., AA offices were absorbed by a different audit firm in each region. In Australia, AA offices were absorbed by Ernst & Young (EY). To date, AA demise studies are predominantly set in the U.S. and mostly focus on the impact of that demise on audit market structure and audit fees (Basioudis & Papadimitriou 2007; Hamilton et al. 2008; Huang & Carson 2008). In addition, these studies' research settings means that the measurement of "follow" is at the audit firm level since audit partner details are not publically available. In Australia, signing audit partner details are publically available, allowing an examination of forced auditor switching behaviour of former AA clients at the audit partner level of analysis. This is useful in informing stakeholders debating the merits of mandatory audit partner rotation.

When AA ceased providing audit services, its clients had two choices; to follow or not to follow (i.e., switch) their auditor. Blouin et al. (2007) explain two key factors that can influence this decision; switching costs and agency costs. When switching costs are high, former AA clients have the incentive to minimize them and can achieve this by following their former AA auditors. Alternatively, when agency costs are high, former AA clients have the incentive to minimize them and can achieve this by not following their former AA auditors.

Switching and agency costs depend on client and auditor characteristics. Client characteristics of particular interest include complexity and audit committee effectiveness (Barton 2005; Blouin et al. 2007; Vermeer 2008). While auditor characteristics of particular interest include tenure and whether it is an industry specialist (Beattie & Fearnley 1995; Blouin et al. 2007).

Switching and agency costs, as measured by such client and auditor characteristics, have been associated with former AA clients' switching decisions at the audit firm level. Chang et al. (2003) find that large former AA clients are more likely to appoint a Big 4 audit firm. Barton (2005) finds that companies with significant media and analyst attention, high institutional ownership, and who issued shares in the last five years choose a Big 4 audit firm as the successor auditor. Chen and Zhou (2007) find that effective audit committees have a significant relation with audit firm switch timing, but not with audit firm choice. In addition, they find that clients with diligent audit committees are more likely to appoint a Big 4 audit firm as the successor auditor. Blouin et al. (2007) find that complex former AA clients are more likely to follow their "auditor" to minimize switching costs, while those with high agency costs are less likely to follow their auditor. Blouin et al. (2007) also find some evidence that former AA clients with effective audit committees are more likely to follow their "auditor".

From the above review, it is apparent that client switching behaviour is influenced by both switching and agency costs, which in turn are related to client and auditor characteristics. Following on from Blouin et al. (2007), key client related factors worth re-examining at the audit partner level of analysis are client complexity, size and audit committee effectiveness. While key auditor related factors worth examining at the audit partner level of analysis include auditor industry expertise and tenure.

### **Switching Costs**

Switching costs are borne by clients whenever they change auditors. The low switching rate documented in the literature indicates that it is costly and a disruption to management to change auditors (Arrunada & Paz-Ares 1997; Beattie & Fearnley 1995; DeAngelo 1981).

Costs include audit firm selection, time familiarising the new audit team and negotiations between the new audit partner and client management about accounting methodologies employed. Blouin et al. (2007) find two key client and auditor characteristics associated with switching costs, and, therefore, likely to impact on a former AA client's decision to follow its former AA audit partner; client complexity and auditor industry expertise.

### ***Client Complexity***

Blouin et al. (2007) argue that switching costs are high for complex, diversified companies. Compared to other companies, the resources needed to educate a new auditor are higher. The merger between AA and Ernst & Young in Australia had the potential to restore public confidence to a former AA audit partner's provision of a high quality audit. That is, the reputation of Ernst & Young, a Big 4 audit firm, would have attracted former AA clients, particularly complex ones, to follow their former AA audit partners across to the new audit firm, therefore, avoiding significant switching costs. This leads to the following hypothesis:

**H1:** To reduce switching costs, complex former AA clients will follow their former AA audit partners, *ceteris paribus*.

### ***Auditor Industry Expertise***

The literature suggests that industry specialist auditors are able to produce higher quality audits compared to a non-industry specialist for several reasons (Lim & Tan 2008). First, they are more accurate in assessing audit risk (Low 2004; Taylor 2000). Second, they have more knowledge of financial statement errors, which enables them to better detect financial statement frauds and misrepresentations (Solomon et al. 1999). Third, they can utilize their knowledge and abilities to produce higher quality audits (Libby & Luft 1993). Furthermore,

Moroney (2007) notes that industry specialist auditors conduct more efficient audits. Capital market studies provide further evidence that industry specialist auditors produce higher quality audits. Balsam et al. (2003) and Kwon et al. (2007) find that companies audited by industry specialists have lower discretionary accruals and higher earnings response coefficients. While Knechel et al. (2007) find that companies switching from Big 4-industry specialist audit firms to Big 4-non industry specialist audit firms experience negative abnormal returns. These findings indicate that investors perceive financial reports, including earnings quality, to be of higher quality for companies that are audited by industry specialists.

Blouin et al. (2007) argue that switching costs are reduced when hiring an industry specialist auditor. Using an industry specialist auditor sends information to the market that the financial report is of high quality (Abbott & Parker 2000; Craswell et al. 1995; DeFond 1992; Ferguson et al. 2003; Godfrey & Hamilton 2005; Lim & Tan 2008). Therefore, former AA clients can reduce switching costs by following their industry specialist audit partners. This leads to the following hypothesis:

**H2:** To reduce switching costs, former AA clients in an industry where AA was a specialist will follow their former AA audit partners, *ceteris paribus*.

### **Agency Costs**

#### ***Auditor Tenure***

Concerns about the association between auditor tenure and audit quality became more intense after the Enron scandal. However, research on this association is scarce, and the results are inconclusive. For example, Carey and Simnett (2006) support the view that long audit partner tenure reduces audit quality. They find that audit partners with long tenure are less likely to

issue a going-concern modified opinion to their financially distressed clients. Deis & Giroux (1992) also find that audit quality decreases as audit firm tenure increases. However, Chen et al. (2008) find that the level of discretionary accruals decreases as audit partner tenure increases, suggesting that long audit partner tenure increases audit quality. Also, Iyer & Rama (2004) find that audit partners are more influenced by their clients in the early years of an engagement, but as tenure increases, this influence diminishes. Geiger & Raghunandan (2002) find that audit failure mostly occurs in the early years of an audit engagement. Earnings quality, used as a proxy for audit quality, increases as audit firm tenure increases (Carcello & Nagy 2004; Johnson et al. 2002; Myers et al. 2003). Kealey et al. (2007) report that successor auditors charged more to former AA clients that had a long association with the firm.

Blouin et al. (2007) argue that clients with long auditor tenure may find it costly to switch since they have built up relationships with the auditor and the auditor has moved “to the top of the learning curve”. On the other hand, clients with shorter auditor tenure are also less likely to switch auditors, e.g., to recover start-up costs (DeAngelo 1981; Williams 1988). As a result, Blouin et al. (2007) make no sign prediction for their tenure variable

Despite the limited and mixed results on how auditor tenure impacts audit quality and auditor switching behaviour, the US Congress introduced the *Public Company Accounting Reform and Investor Protection Act*, commonly referred to as SOX, on 30 July 2002. This regulation mandated audit partner rotation every 5 years for public companies. Similarly, since 2004 ASX listed companies are required to rotate their audit partner every 5 years. Therefore, given public and government scrutiny over the negative impact of long audit partner tenure on audit quality, the anticipation of regulation mandating auditor rotation, and the events

leading up to and including the demise of AA, it is expected that former AA clients would not follow their former AA audit partners. This is especially if audit partner tenure was greater than five years. This leads to the following hypothesis:

**H3:** To reduce agency costs, former AA clients with audit partner tenure greater than five years will not follow their former AA audit partners.

### *Audit Committee Effectiveness*

Prior empirical research indicates that an effective audit committee is associated with high quality corporate governance, including high quality auditors, and financial reporting. Bédard et al. (2004) and Xie et al. (2003) find a negative association between earnings management and both audit committee independence and financial expertise. While Abbott et al. (2004) report that earnings restatement is negatively related with audit committee effectiveness. In addition, companies with an active and independent audit committee are less likely to be sanctioned by regulators for fraudulent financial reporting (Abbott et al. 2000).

Lennox and Park (2007) find that an effective audit committee is less likely to appoint the management's audit firm alumni as the external auditor.

Prior studies also show that former AA clients experienced negative stock market reactions when news of the AA audit failures were announced (Chaney & Philipich 2002; Krishnamurthy et al. 2006). This indicates that AA's audit failures had a negative impact on public perceptions about the quality of the financial reports it had audited. An effective audit committee would have closely monitored these events and considered whether to continue the audit engagement with a former AA audit partner, in particular to reduce agency costs.

In support of this loss of reputation, prior research finds that effective audit committees are more likely to appoint a high quality audit firm. For example, Abbott & Parker (2000) and Chen et al. (2005) find an association between audit committee effectiveness and the use of an industry specialist auditor. While Lee et al. (2004) find a relationship between audit committee effectiveness and the appointment of a high quality audit firm. Wilson & Grimlund (1990) note that audit firms receiving sanctions from regulators have difficulties retaining their clients. This suggests that directors, in particular audit committees, would be concerned about the impact on their company of being associated with a former AA auditor. Therefore, it is expected that former AA clients with more effective audit committees would not follow their auditors in order to avoid reputation (i.e., agency) costs arising from its association with former AA auditors. This leads to the following hypothesis:

**H4:** To reduce agency costs, former AA clients with more effective audit committees will not follow their former AA audit partners, *ceteris paribus*.

## **RESEARCH DESIGN**

### **Data Collection**

Table 1 shows that there were 1,410 ASX listed companies listed in *Huntley's Shareholder Handbook 2001*. The year 2001 is chosen since AA ceased conducting audits on 31 August 2002, and companies listed as at calendar year ending 2001 would have financial year endings during 2002. Excluding companies that were foreign or whose auditor was not AA, the sub-population of 2001 ASX listed companies that were AA clients is 82. For these companies, their annual and financial reports were obtained from the *DatAnalysis* or *Connect 4* databases. From this, four companies were eliminated because of missing audit partner data (i.e., for years 2001 to 2003) and another five companies were eliminated because of missing

audit partner tenure information (i.e., audit partner details for the five years preceding 2001).<sup>1</sup>

This leaves a sample of 73 former AA clients.

**Insert Table 1 about here**

### **Model Specification**

The hypotheses are tested using a logistic regression model adapted from the following switching model developed by Blouin et al. (2007).<sup>2</sup>

$$\begin{aligned}
 FOLLOW = & \alpha_1 + \beta_1 COMPLEX + \beta_2 FEE\_EXPERT + \beta_3 CLIENT\_EXPERT + \beta_4 TENURE + \\
 & \beta_5 AC\_IND + \beta_6 AC\_FE + \beta_7 SIZE + \beta_8 INSIDER + \beta_9 LEVERAGE + \\
 & \beta_{10} BLOCK + \beta_{11} ROA + \beta_{12} LOSS + \varepsilon
 \end{aligned} \tag{1}$$

### **Variable Description and Measurement**

Table 2 contains the definitions and descriptions of the dependent and independent variables, including the predicted signs based on reducing switching or agency costs.

**Insert Table 2 about here**

### ***Dependent Variable***

*FOLLOW* is a dichotomous variable whose value equals 1 if a former AA client is audited by its former AA audit partner in 2002 and 2003, and 0 otherwise.

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<sup>1</sup> Industry specialist auditor details were obtained from Chen et al. (2005). Audit committee qualification data, such as education background, was obtained from the 2002 financial reports since a former AA client's decision to follow its audit partner would have been made by that client's 2002 audit committee.

<sup>2</sup> Blouin et al's. (2007) model includes two other client characteristic variables based on financial reporting transparency and performance-adjusted discretionary accruals. Data for these variables were not collected for this study. In addition, in this study *AC\_IND* and *AC\_FE* are measured as percentages, while in Blouin et al. (2007) comparative variables are measured dichotomously.

As noted above, a key limitation of the Blouin et al. (2007) study is how it classifies former AA clients that “followed” or “did not follow” their audit team. Blouin et al. (2007) classify former AA clients as “following” their audit partners when the new audit firm matches with the audit firm that the former AA regional office merged with, i.e., the AA Boston office merged with the PricewaterhouseCoopers (PwC’s) Boston office. If the new audit firm does not match (matches) with the audit firm that merged with the former AA regional office, i.e., with the PwC Boston office, then a client is classified as “non follow” (“follow”). However, a former AA client following (not following) the acquiring audit firm, i.e., to the PwC Boston office, does not necessarily mean that it followed (did not follow) its former AA audit partner (to an audit firm other than the PwC Boston office).

Figure 1 demonstrates these two measurement errors, where “follow” is measured by tracing former AA clients to the firm that absorbed AA in their region (i.e., cells 1 and 2 included). Firstly, it assumes that all former AA audit partners went to the acquiring firm (i.e., cell 3 excluded). Secondly, it assumes that when a former AA client switched to the AA acquiring firm they were audited by the same former AA audit partner (i.e., cell 2 included). In contrast, this study makes use of details about the signing audit partner, as disclosed in the financial reports of ASX listed companies. It measures “follow” by tracing former AA clients to the signing audit partner immediately after the demise of AA (i.e., cells 1 and 3 included). Former AA client are classified as *FOLLOW* (non-*FOLLOW*) if the signing audit partner for the 2002 and 2003 financial reports is (not) a former AA audit partner.

**Insert Figure 1 about here**

## ***Test Variables***

### ***Client Complexity***

For H1, *COMPLEX* is measured using equation (2) (Blouin et al. 2007). This equation recognises that a diversified company is more complex than a single segment company (Knechel et al. 2008), and for diversified companies, those with similar amounts of sales across many different segments are more complex than those with sales from one or few segments. Based on this formula, the score for a single segment company equals 0. The score increases as the number of segments increases. In addition, a diversified company with similar sales across many segments will have a higher score than a diversified company where sales come from one or few business segments. Therefore, this formula penalises diversified companies with equal sales across segments. To reduce switching costs, complex former AA clients are more likely to follow their former AA audit partners, therefore, the coefficient of *COMPLEX* is expected to be positive.

$$Complex = \sum_{i=1}^N \left[ \left( \ln \left( \frac{Total\ Sales}{Segment_i} \right) \right) \left( \frac{Segment_i}{Total\ Sales} \right) \right] \quad (2)$$

Where:

Total Sales = total revenue for 2001

Segment<sub>i</sub> = sales from a specific business segment i for 2001.

### ***Auditor Industry Expertise***

For H2, consistent with Chen et al. (2005), an audit firm is categorized as an industry specialist if it holds more than 20% market share based on either audit fees or the number of clients. *FEE* equals 1 if AA held more than 20% market share based on total audit fee, 0 otherwise. Similarly, *CLIENTS* equals 1 if AA held more than 20% market share based on the

number of clients, 0 otherwise.<sup>3</sup> In order to reduce switching, former AA clients in an industry where AA was a specialist will follow their former AA audit partners, therefore, the coefficients of *FEE* and *CLIENTS* are expected to be positive.

### ***Auditor Tenure***

For H3, *TENURE* equals 1 if a former AA client was audited by the same audit partner for five years or less, 0 otherwise. Audit partner data is initially collected from a former AA client's 2001 financial report and then traced back to 1997. Five years is used as cut off level because in 2001 the Australian government proposed a new regulation limiting audit partner tenure to between five to seven years. To reduce agency costs resulting from public and government scrutiny over the negative impact of long audit partner tenure on audit quality, former AA clients where audit partner tenure is greater than five years will not follow their former AA audit partners. Therefore, the coefficient of *TENURE* is expected to be negative.

### ***Audit Committee Effectiveness***

For H4, *AC\_IND* and *AC\_FE* are audit committee effectiveness measures based on audit committee independence and audit committee expertise, respectively. *AC\_IND* is measured using the proportion of non executive directors in the audit committee (Chen et al. 2005; Davidson et al. 2005; Ferguson et al. 2003). *AC\_FE* is measured using the proportion of financial expert directors in the audit committee (Chen et al. 2005). A director is defined as a financial expert if they are a Chartered Accountant (CA) or a Certified Practising Accountant (CPA). To reduce agency costs, former AA clients with more effective audit committees will

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<sup>3</sup> It is expected that an audit firm can accumulate a specific industry expertise if it has more than 20% market share. However, there is no theoretical foundation in choosing the 20% threshold. Previous auditor industry expertise studies use different cut off level such as 10% (Abbott & Parker 2000; Craswell et al. 1995) or 30% (Knechel et al. 2007).

not follow their former AA audit partners, therefore, the coefficients of *AC\_IND* and *AC\_FE* are expected to be negative.

### ***Control Variables***

Previous studies note that the demand for audit quality depends on agency costs (DeFond 1992; Francis & Wilson 1988). Companies with high levels of agency conflict demand high quality auditors to mitigate the information asymmetry between the shareholders, bondholders and management (directors) (DeFond 1992; Knechel et al. 2008; Reed et al. 2000). Client size (*SIZE*), the amount of shares held by directors (*INSIDER*), financial leverage (*LEVERAGE*), and the amount of shares held by outside blockholders (*BLOCK*) are used to control for potential agency conflicts.

*SIZE* is a client size measure based on the natural logarithm of total asset. *SIZE* can be used as proxy for agency costs (Barton 2005), switching costs (DeAngelo 1981) or client complexity (Blouin et al. 2007). To reduce switching (agency) costs, large former AA clients are more likely to (not) follow their former AA audit partners. Given these conflicting results, no prediction is made for the direction of the coefficient of *SIZE*.

*INSIDER* equals 1 if directors directly hold at least 5% of outstanding common shares as at 30 June 2001, 0 otherwise. If a director has ownership in a company, their interest is more closely aligned with the other shareholders' interests since any increase in company value will also increase that director's wealth. Since director ownership reduces both the level of agency conflicts and the demand for a high quality audit (DeFond, 1992; Reed et al., 2000), the coefficient of *INSIDER* is expected to be negative.

*LEVERAGE* is measured using the ratio of total debt to total assets and indicates the agency conflicts between the debt holder and the management (Jensen & Meckling 1976). Reed et al. (2000) and DeFond (1992) find that the demand for a high quality audit increases as the level of debt increases since the lenders are concerned about the possible transfer of wealth from them to the stockholders or management. Therefore, the coefficient of *LEVERAGE* is expected to be negative.

*BLOCK* equals 1 if an outside shareholder holds at least 5% of the outstanding shares, 0 otherwise. Blouin et al. (2007) argue that outside blockholders have more resources to monitor management than individual investors. Moreover, they also tend to demand a high quality monitoring activity. Therefore, the sign of *BLOCK* is expected to be negative since former AA clients with an outside blockholder are less likely to follow their audit partner, whose reputation may be perceived to have been adversely affected by the demise of AA.

In addition, Blouin et al. (2007) use former AA clients' profitability as control variables. *ROA* is measured using the ratio of net income before extraordinary items divided by total assets. *LOSS* equals 1 (0) if *ROA* is negative (positive). Schwartz & Menon (1985) find that a highly performing company is less likely to switch audit firm, while Blouin et al. (2007) do not find a significant association between the profitability and audit firm choice. Given these conflicting results, no prediction is made for the direction of the coefficients of *ROA* and *LOSS*.

### **Reduced Model**

In order to obtain reliable estimates of regression coefficients, the minimum number of events per parameter should be at least ten (Tabachnick & Fidell 2007). Given that the sample size is

around 70 (table 3 panel A), the number of variables in any model should not exceed seven (i.e.,  $70/10 \approx 7$ ). Therefore, a reduced model of equation (1) is required to appropriately test the hypotheses. This is based on excluding the insignificant control variables from the Blouin et al. (2007) model, i.e., *INSIDER*, *LEVERAGE*, *ROA* and *LOSS*, as well as *FEE\_EXPERT* since it is not significant ( $p > 0.10$ ) and significantly, positively correlated with *CLIENT\_EXPERT* (0.620;  $p < 0.01$ , two-tailed: see table 6).<sup>4</sup>

$$FOLLOW = \alpha_1 + \beta_1 COMPLEX + \beta_2 CLIENT\_EXPERT + \beta_3 TENURE + \beta_4 AC\_IND + \beta_5 AC\_FE + \beta_6 SIZE + \beta_7 BLOCK + \varepsilon \quad (3)$$

## RESULTS

### Descriptive Statistics

Table 3 shows the distribution of former AA clients' new audit firms and audit partners. Since there is missing data for *TENURE*, i.e., five companies, the models' sample sizes differ accordingly. The sample size is 73 for models that include *TENURE* (table 3 panel A), while the sample size is 78 for models that do not include *TENURE* (table 3 panel B). Overall, the majority of former AA clients followed their former AA audit partners to Ernst & Young (i.e., table 3 panel A: 60.27 percent; Panel B: 57.69 percent), suggesting the reduction of switching costs. However, more than 12 percent of former AA clients (i.e., table 3 panel A: 12.33 percent; table 3 panel B: 12.82 percent) switched to Ernst & Young, i.e., new audit firm, *but* did not follow their former AA audit partners, suggesting the reduction of agency (reputation) costs. Interestingly, about 15 percent of former AA clients (i.e., table 3 panel A: 15.07 percent; table 3 panel B: 15.39 percent) switched to non-Big 4 audit firms *and* did not

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<sup>4</sup> Since the industry specialist variables *FEE\_EXPERT* and *CLIENT\_EXPERT* are significantly, positively correlated ( $p < 0.01$ ), and *FEE\_EXPERT* is reported as not significant ( $p > 0.10$ ) by Blouin et al. (2007), only *CLIENT* is included in subsequent reduced models to avoid multicollinearity. An alternative measure of *FEE\_EXPERT* is used in additional analyses below.

follow their former AA audit partners, suggesting the reduction of both switching and agency costs.

**Insert Table 3 about here**

Table 4 presents the distribution of former AA clients using the 2-digit ASX industry category. For *CLIENT\_EXPERT*, AA was an industry specialist in five industries: *Diversified Resources*; *Infrastructure & Utilities*; *Chemicals*; *Engineering*; and *Media*. For *FEE*, AA was an industry specialist in three industries: *Diversified Resources*; *Infrastructure & Utilities*; and *Chemicals*. In detail, 60 percent - i.e., nine out of 15 (40 percent) of former AA clients in an industry where AA was a specialist did not follow (followed) their former AA audit partners. That is, the one client in *Diversified Resources*, four of the five clients in *Infrastructure & Utilities* (80 percent), excluding the single client in *Chemicals*, one of the three clients in *Engineering* (33.33 percent), and three of the five clients in *Media* (60 percent). While 62 percent - i.e., 39 out of 63 (38%) of former AA clients in an industry where AA was not a specialist followed (did not follow) their former AA audit partners. These included five of the six clients in *Gold* (83 percent), nine of the 10 clients in *Miscellaneous Industrials* (90 percent) and four of the five clients in *Diversified Industrials* (80 percent).

**Insert Table 4 about here**

Table 5 presents descriptive statistics (see also the appendix) and univariate test results for *FOLLOW* and non-*FOLLOW*. For comparison purposes, results from Blouin et al. (2007) are also included. In summary, for *CLIENT\_EXPERT*, being the only variable that is

significantly different between *FOLLOW* and not-*FOLLOW* ( $p < 0.10$ ), the result shows that, contrary to Blouin et al. (2007), AA was more likely to be an industry specialist, in terms of number of clients, for non-follow companies (27.27 percent) than for follow companies (13.33 percent). This provides some evidence that former AA clients did not follow their former AA audit partners to avoid agency costs, even though AA was not an industry specialist, which could have reduced switching costs.<sup>5</sup>

**Insert Table 5 about here**

Table 6 presents the Spearman Rho correlation matrix. The highest correlation is between *ROA* and *LOSS* (-0.862), followed by that between *FEE\_EXPERT* and *CLIENT\_EXPERT* (0.620). These strong and significant ( $p < 0.01$ ) correlations are not surprising since they are proxies for similar attributes; *ROA* and *LOSS* are proxies for profitability, while *FEE\_EXPERT* and *CLIENT\_EXPERT* are proxies for industry specialist auditor.

**Insert Table 6 about here**

### **Multivariate Tests**

Table 7 reports the results of this study's logistic regressions<sup>7</sup> (columns 5 to 10) and for comparison purposes includes relevant results from the Blouin et al. (2007) study (columns 3 and 4). Columns 5 and 6 contain the results of equation 3 using this study's audit partner

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<sup>5</sup> Also, for *CLIENT\_EXPERT* (= 0, n = 63), (72.72%: 24 out of 33) 86.66%: 39 out of 45 of (not-) *FOLLOW* came from an industry where AA was not a specialist. That is, former AA clients in an industry where AA was not a specialist were more likely to follow their former AA audit partners to avoid switching costs, even though they could have reduced agency costs.

<sup>7</sup> The Hosmer-Lemeshow test, which indicates whether there is a statistically significant difference between the observed and predicted classifications, in combination with the model chi square test, which measures the change in the -2 log likelihood value from the base (constant only) model, provide support for the acceptance of a model as a significant logistic regression model and suitable for further examination.

details for *FOLLOW* and not-*FOLLOW*. Columns 7 to 10 contain the results of additional analyses, discussed in the next section, using (i) alternative measures of *COMPLEX*, *FEE\_EXPERT*, and *AC\_FE* (equation 4; columns 7 and 8) and (ii) *FOLLOW* based on this study's audit firm details (equation 5; columns 9 and 10), which allows for a comparison with this study's audit partner results (columns 5 and 6). Overall, results show that all models have an overall good fit, i.e., the p values of the Hosmer and Lemeshow tests are greater than 0.10 (Hair et al. 1998), while the model chi squares show that no equation is statistically significant (from the base model) ( $p > 0.10$ ).

**Insert Table 7 about here**

For equation 3 (table 7, column 5), *COMPLEX* is not statistically significant ( $p > 0.10$ ), therefore, this result does not support H1. In addition, this result is contrary to Blouin et al's. (2007) result. *CLIENT\_EXPERT* is statistically significant ( $p < 0.10$ ), however, the sign of the coefficient is negative. Therefore, this result does not support H2 and is contrary to Blouin et al's. (2007) finding of a positive, significant ( $p < 0.01$ ) coefficient. The result suggests that former AA clients are less likely to follow their audit partner if AA was an industry specialist. This result is consistent with the descriptive statistics for *CLIENT\_EXPERT* reported in table 5, showing that the percentage of former AA clients from an industry specialist category that follow their audit partners (13.33 percent) is significantly lower ( $p < 0.10$ ) than the percentage of former AA clients from a non-industry specialist category that follow their audit partners (27.27 percent).<sup>9</sup> *TENURE* is not statistically significant ( $p > 0.10$ ), therefore, this result does not support H3. In addition, this result is

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<sup>9</sup> An odds ratio equal to 0.276 (column 11) indicates that former AA clients from industries where AA was an industry specialist are 3.62 times less likely to follow their former AA audit partner compared to former AA clients from industries where AA was not an industry specialist. The value of 3.62 is derived by inverting the original odds value (i.e., one divided by 0.276 equals 3.62). This helps with a more meaningful interpretation of the original odds value (Tabachnick & Fidell 2007).

consistent with Blouin et al.'s. (2007) result. *AC\_FE* is significant ( $p < 0.10$ ) and the sign is positive. Therefore, this result does not support H4, suggesting that former AA clients with a high proportion of financial expert directors in their audit committee are more likely to follow their audit partners.<sup>10</sup> This finding is consistent with Blouin et al.'s (2007) result.

### **Additional Analyses**

#### *Alternative measures of COMPLEX, CLIENT\_EXPERT, and AC\_FE*

Table 7, columns 7 and 8 report results of an additional analysis based on equation (4) that uses alternative measures for *COMPLEX* (H1), *CLIENT\_EXPERT* (H2), and *AC\_FE* (H4).

$$FOLLOW = \alpha_1 + \beta_1 COMPLEX\_GEO + \beta_2 FEE\_CITY + \beta_3 TENURE + \beta_4 AC\_IND + \beta_5 AC\_MEETING + \beta_6 SIZE + \beta_7 BLOCK + \varepsilon \quad (4)$$

On client complexity, recall from table 2 that *COMPLEX* is based on a former AA client's total sales for its specific business segments. Blouin et al. (2007) use geographical segment as a proxy for client complexity. Equation (4) replaces *COMPLEX* in equation (3) with *COMPLEX\_GEO*, measured using the following equation:

$$Complex = \sum_{i=1}^N \left[ \left( \ln \left( \frac{Total\ Sales}{Segment_i} \right) \right) \left( \frac{Segment_i}{Total\ Sales} \right) \right]$$

where Total Sales is total revenue in 2001 and  $Segment_i$  is total sales for a specific geographical segment,  $i$ .

On auditor industry expertise, Francis (2004) suggests that future audit research should be directed towards the analysis of audit behaviour in specific city offices, and argues that a Big

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<sup>10</sup> The odds ratio of 6.859 indicates that for each additional financial expert director in the audit committee, the probability of a former AA clients following their audit partner increases by a factor of 6.859.

N audit firm may not be “big” in a specific city. Ferguson et al. (2003) find that industry leadership based on audit fees at specific city level exists in Australia. Equation (4) replaces *CLIENT\_EXPERT* in equation (3) with *FEE\_CITY*, where *FEE\_CITY* equals 1 if AA held 20% market share or more in a client’s industry in a specific city measured using the amount of audit fee, 0 otherwise.

On audit committee effectiveness, companies with effective audit committees are more likely to appoint a high quality auditor (Abbott & Parker 2000; Lennox & Park 2007). An effective audit committee of a former AA client would have conducted meetings to discuss the reputation costs of being associated with a former AA auditor. Therefore, the number of audit committee meetings may be associated with the switching behaviour of former AA clients. Equation (4) replaces *AC\_FE* in equation (3) with a new variable *AC\_MEETING*, where *AC\_MEETING* is the number of meetings held by the audit committee of a former AA client in 2002.

Table 7, column 7 shows that the only significant coefficient in equation (4) is for *AC\_FE* ( $p < 0.10$ ), consistent with the equation (3) result in column 5. However, since the sign of the coefficient is positive; H4 again is not supported.

#### ***Audit Partner versus Audit Firm Switching Behaviour***

Another additional analysis estimates equation (3) using former AA clients’ audit firm switching details. This enables a comparison of forced audit firm and audit partner switching behaviour for this study’s sample, as well as with Blouin et al’s. (2007) results. Table 7, column 9 shows that *COMPLEX* is not significant, consistent with the equation (3) result but not with Blouin et al. (2007). *CLIENT\_EXPERT* is negative and significant ( $p < 0.05$ ),

therefore, H2 is not supported. This is consistent with the equation (3) result but not with Blouin et al. (2007). *TENURE* and *AC\_IND* are both positive and significant ( $p < 0.10$ ), but not in the expected direction, therefore, not supporting H3 and H4, respectively. This is also contrary to Blouin et al. (2007) and to the equation (3) non-significant results. *AC\_FE* is not significant ( $p > 0.10$ ), also contrary to the equation (3) result. *BLOCK* is still not significant ( $p > 0.10$ ). Finally, *SIZE* is now positive and significant ( $p < 0.05$ ), i.e., large former AA clients are more likely to follow the acquiring audit firm (i.e., EY). This is contrary to the equation (3) result. Also, the significance of *SIZE* is contrary to Blouin et al. (2007).

From the above it is evident that forced auditor switching results are affected by the method used to classify “follow”. That is; results based on former AA clients following their former AA audit partners are different from those based on such clients following the audit firm that acquired AA. Therefore, there is a possibility that the Blouin et al. (2007) results on audit firm switching behaviour also would be different if they were based on this study’s classification of “follow” (i.e., *FOLLOW*) at the audit partner level.

## CONCLUSION

For AA, audit failure scandals (e.g., Enron and World Com) and the U.S. Department of Justice indictment had damaged its reputation and lead to its demise in August 2002. It is expected that this caused former AA clients to consider reducing agency costs by not following their auditor. In addition, the impact of this event on AA’s clients is a *forced* auditor switch. It is expected that this caused former AA clients to consider reducing switching costs by following their auditor. These expectations are empirically examined using switching models based on client and auditor characteristics. A significant contribution of this study is that it makes use of audit partner details disclosed by ASX listed companies,

therefore, extending Blouin et al (2007) and providing further useful insights for the debate on forced auditor rotation.

A key unexpected result of this study is that former AA clients in industries where AA was a specialist were not likely to follow their audit partners, thereby, seemingly not concerned with reducing switching costs. These clients may have been more concerned about agency costs associated with a former AA auditor than with switching costs associated with a new auditor, or with the reduction of agency costs attributed to being associated with an industry specialist auditor. Another key unexpected result is that former AA clients with more effective audit committees were more likely to follow their audit partners and, therefore, not concerned about agency costs. This reduced concern could be attributed to these audit committees perceiving that the AA audit failure scandals involved only some of the U.S. audit partners and did not reflect the quality of the other AA audit partners around the world. In addition, in Australia, AA merged only with Ernst & Young, making Ernst & Young the second largest audit firm in Australia based on the number of clients. Since audit firm size is widely used as proxy for audit quality (DeAngelo 1981), this also helps explain why Australian former AA clients followed their audit partners to Ernst and Young, therefore reducing agency *as well as* switching costs.

Additional analyses reveal the importance of distinguishing auditor switching behaviour in terms of former AA clients following their former AA audit partners or the audit firm that acquired AA. Further, that switching and agency costs relevant at the audit firm switching level may not be so at the audit partner level. Blouin et al's. (2007) classification of "follow" ("non-follow") the audit firm that acquired AA includes (excludes) former AA clients that

did not follow (followed) their AA audit partner. This classification is shown to impact on results based on audit partner switching.

When comparing the results of auditor switching behaviour of former AA clients at the audit partner level with those at the audit firm level, the result for the latter reveal that *SIZE* (client size) is now significant ( $p < 0.10$ ), indicating that large former AA clients are more likely to follow the acquiring audit firm (contrary to Blouin et al. 2007). Further, the result for *AC\_IND* (*AC\_FE*) (audit committee effectiveness) is (not) significant (both these results also contrary to Blouin et al. 2007). However, the result for *CLIENT\_EXPERT* (auditor industry expertise) is not changed; former AA clients in an industry where AA was a specialist are still not likely to follow acquiring audit firm (but again contrary to Blouin et al. 2007).

The results of this study should be interpreted with care because of several limitations. First, the population of ASX listed companies is small, and the explanatory powers of models tested are low, if not, insignificant ( $p > 0.10$ ). This confirms that auditor (audit partner and audit firm) choice is a complex decision and the models used in this study capture only several aspects that determine auditor switching behaviour, some of which may be difficult to measure or unobservable.<sup>11</sup> Second, proxies for auditor and client characteristics are susceptible to measurement errors. Third, there may have been confounding events that influenced the switching behaviour of Australian former AA clients. For example, the merger between AA and Ernst & Young in Australia may have mitigated agency costs. Finally, due to limited data, this study cannot explore the relation between the timing of former AA

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<sup>11</sup> For example, the quality of the working relationship between the audit partner and the client, and audit partner responsiveness to client needs (Beattie & Fearnley 1995; Behn et al. 1997; GAO 2003). High client satisfaction with the audit partner can make clients loyal to their audit partner, more so than to the audit firm.

clients' audit firm switch and the decision to follow or not to follow their former AA audit partners.<sup>12</sup>

There are several opportunities for future research at the audit partner level of analysis. First, future research could explore other proxies for reducing agency and switching costs related to financial report quality, such as the level of discretionary accrual or the earnings quality of a former AA client. Second, previous studies suggest that a former AA client's new audit firm treated them more conservatively than other new clients (Krishnan et al. 2007; Cahan & Zhang 2006; Nagy 2005). It would be interesting to explore this issue at the audit partner level of analysis. Finally, the merger between AA and Ernst & Young in Australia may have created synergies that resulted in higher quality audits for Ernst & Young. A future study examining whether audit quality actually improved would be useful.

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<sup>12</sup> Bewley et al. (2008) find that former AA clients that switched audit firm early are more likely to initiate financial statement restatements, while those that switched later had more financial statement restatements imposed on them by the new auditor. However, Blouin et al. (2007) find that the timing of the switch did not qualitatively affect their primary switching cost results.

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**Figure 1**

**Comparison of the Measurement of Former AA "Follow" Clients:  
Audit partner (this study) versus Audit firm (Blouin et al. 2007 study)**

Former AA clients' switching behaviour	Audit partner level (i.e., this study)			
		Former AA clients "follow" their former AA audit partners	Former AA clients do not "follow" (i.e., switch) their former AA audit partners	Total
Audit firm level (e.g., Blouin et al. 2007)	Former AA clients "follow" the acquiring audit firm (i.e., EY)	Cell 1 (44/45)	Cell 2 (9/10)	(53/55)
	Former AA clients do not "follow" (i.e., switch) the acquiring audit firm (i.e., EY)	Cell 3 (0/0)	Cell 4 (20/23)	(20/23)
	Total	(44/45)	(29/33)	(73/78)

This study's former AA "follow" clients = Cell 1 + Cell 3.

Blouin et al.'s (2007) former AA "follow" clients= Cell 1 + Cell 2.

Errors in Blouin. et al.'s (2007) measurement of former AA "follow" clients: Cell 2 included and Cell 3 excluded.

Numbers in parentheses represent this study's sample of former AA clients with/without audit partner tenure information for years 1997 to 2000. See table 1 and table 3, panel A and B for details.

**Table 1  
Description of Population and Sample**

Total companies in <i>Huntley's Shareholder Handbook 2001</i>	1,410
Less:	
Non-AA clients and foreign companies in 2001	1,328
<b>Total AA clients in 2001</b>	<b>82</b>
Less:	
Missing new audit partner information (years 2001 to 2003)	4
	<b>78</b>
Less:	
Missing audit partner tenure information (years 1997 to 2000)	5
	<b>73</b>

**Table 2**  
**Definition and Description of Variables**

Variable	Hypothesis	Predicted Sign:	Description	Source of Data
<i>FOLLOW</i>			<i>FOLLOW</i> = 1 if a former AA client followed their former AA audit partner, 0 otherwise.	Connect 4 DatAnalysis
<i>COMPLEX</i>	H1	+ve	$COMPLEX = \sum_{i=1}^N \left[ \left( \ln \left( \frac{Total\ Sales}{Segment_i} \right) \right) \left( \frac{Segment_i}{Total\ Sales} \right) \right]$ Where: Total Sales = the total revenue in 2001 Segment <sub>i</sub> = the total sales for specific business segment.	Connect 4 DatAnalysis
<i>FEE_EXPERT</i>	H2	+ve	<i>FEE</i> = 1 if AA held 20% market share or more in a client's industry measured using the amount of audit fee, 0 otherwise.	Chen et al. (2005) Ferguson et al. (2003)
<i>CLIENT_EXPERT</i>	H2	+ve	<i>CLIENTS</i> = 1 if AA held 20% market share or more in client's industry measured using the number of clients, 0 otherwise.	Chen et al. (2005) Ferguson et al. (2003)
<i>TENURE</i>	H3	-ve	<i>TENURE</i> = 1 if a former AA client is audited by its audit partner for less than or equal to five years, 0 otherwise.	Connect 4 DatAnalysis
<i>AC_IND</i>	H4	-ve	<i>AC_IND</i> = percentage of non-executive directors in the audit committee.	Connect 4 DatAnalysis
<i>AC_FE</i>	H4	-ve	<i>AC_FE</i> = percentage of financial expert directors in the audit committee.	Connect 4 DatAnalysis
<i>SIZE</i>		?	<i>SIZE</i> = natural logarithm of total assets.	Connect 4 DatAnalysis
<i>INSIDER</i>		-ve	<i>INSIDER</i> = 1 if directors directly hold at least 5% of the outstanding shares, 0 otherwise.	Connect 4 DatAnalysis
<i>LEVERAGE</i>		-ve	<i>LEVERAGE</i> = ratio of debt over total assets.	Connect 4 DatAnalysis
<i>BLOCK</i>		-ve	<i>BLOCK</i> = 1 if an outside blockholder holds at least 5% of the outstanding shares, 0 otherwise.	Connect 4 DatAnalysis
<i>ROA</i>		?	<i>ROA</i> = net income divided by total assets.	Connect 4 DatAnalysis
<i>LOSS</i>		?	<i>LOSS</i> = 1 where ROA is less than 0, 0 otherwise.	Connect 4 DatAnalysis

**Table 3**  
**Distribution of Former AA Clients' New Audit firms and Audit Partners**

New Audit Firm and Audit Partner	No. <sup>a</sup>	%
<i>Panel A: Distribution of former AA clients' new audit firm for equations (1), (3) and (4c) (includes TENURE)</i>		
<b>Relevant sample for equations (1), (3) and (4c)</b>	<b>73</b>	<b>100.00</b>
<b>Distribution of Sample:</b>		
<b>Former AA clients that <u>followed</u> their former AA audit partner (i.e., FOLLOW)</b>		
Ernst & Young (i.e., followed the acquiring audit firm)	44	60.27
Deloitte Touche Tohmatsu	0	
KPMG	0	
PwC	0	
Others (Non Big 4 audit firm)	0	
<b>Total FOLLOW clients</b>	<b>44</b>	<b>60.27</b>
<b>Former AA clients that <u>did not follow</u> their former AA audit partner and the new audit firm was:</b>		
Ernst & Young (i.e., followed acquiring audit firm) (misclassified by Blouin et al. 2007)	9	12.33
Deloitte Touche Tohmatsu	1	1.37
KPMG	7	9.59
PwC	1	1.37
Others (Non Big 4 audit firm)	11	15.07
<b>Total non-FOLLOW clients</b>	<b>29</b>	<b>39.73</b>
<i>Panel B: Distribution of former AA clients' new audit firm for equations (4a) and (4b) (excludes TENURE)</i>		
<b>Relevant Sample for equations (4a) and (4b)</b>	<b>78</b>	<b>100</b>
<b>Distribution of Sample:</b>		
<b>Former AA clients that <u>followed</u> their former AA audit partner and the new audit firm was</b>		
Ernst & Young (i.e., followed acquiring audit firm)	45	57.69
Deloitte Touche Tohmatsu	0	
KPMG	0	
PwC	0	
Others (Non Big 4 audit firm)	0	
<b>Total FOLLOW clients</b>	<b>45</b>	<b>57.69</b>
<b>Former AA clients that <u>did not follow</u> their former AA audit partner and the new audit firm was:</b>		
Ernst & Young (i.e., followed acquiring audit firm) (misclassified by Blouin et al. 2007)	10	12.82
Deloitte Touche Tohmatsu	1	1.28
KPMG	9	11.54
PwC	1	1.28
Others (Non Big 4 audit firm)	12	15.39
<b>Total not-FOLLOW clients</b>	<b>33</b>	<b>42.31</b>

a. The sample sizes for Panel A (equations (1), (3) and (4c)) and Panel B (equations (4a) and (4b)) differ by five companies due to missing data for audit partner tenure information (years 1997 to 2000) (*TENURE*), which is not included in equations 1, 3 and 4c. See also table 1. See table 2 for definition of variables.

**Table 4**  
**Industry Specialist Auditor and Industry Composition of Former AA Clients Based on ASX 2-Digit Industry Category**

ASX CODE	INDUSTRY <sup>a</sup>	Industry Specialist <sup>b</sup>		TOTAL AA CLIENTS	FOLLOW		NON-FOLLOW	
		FEE_EXPERT <sup>c</sup>	CLIENT_EXPERT <sup>c</sup>		Number	%	Number	%
1	Gold	EY, PWC	EY	6	5	83.33	1	16.67
2	Other Metals	PWC	KPMG, PWC	5	2	40.00	3	60.00
3	<b>Diversified Resources</b>	AA, PWC	DTT, PWC AA, KPMG	1	0	0.00	1	100.00
4	Energy	KPMG, PWC	KPMG, PWC	2	1	50.00	1	50.00
5	<b>Infrastructure &amp; Utilities</b>	AA	AA, PWC	5	1	20.00	4	80.00
6	Developers & Contractors	KPMG, PWC	PWC	3	3	100.00	0	0.00
7	Building Materials	PWC	KPMG, PWC	1	1	100.00	0	0.00
8	Alcohol & Tobacco	DTT, PWC	DTT, PWC	0	0	0.00	0	0.00
9	Food & Household	KPMG, PWC	KPMG, PWC	1	1	100.00	0	0.00
10	<b>Chemicals</b>	AA, KPMG	AA, KPMG, PWC	1	1	100.00	0	0.00
11	<b>Engineering</b>	KPMG	AA, PWC	3	2	66.67	1	33.33
12	Paper & Packaging	PWC	EY, KPMG, PWC	1	0	0.00	1	100.00
13	Retail	KPMG, PWC	EY, PWC	6	3	50.00	3	50.00
14	Transport	DTT, KPMG	DTT, KPMG	0	0	0.00	0	0.00
15	<b>Media</b>	PWC	AA, PWC	5	2	40.00	3	60.00
16	Banking & Finance	KPMG	EY, KPMG	2	0	0.00	2	100.00
17	Insurance	EY	KPMG	0	0	0.00	0	0.00
18	Telecommunications	EY, PWC	PWC	5	2	40.00	3	60.00
19	Investment & Financial Services	-	PWC	4	2	50.00	2	50.00
20	Property Trust	KPMG	EY	2	0	0.00	2	100.00
21	Healthcare and Biotechnology	DTT, PWC	PWC	7	5	71.42	2	28.57
22	Miscellaneous Industrials	DTT, PWC	-	10	9	90.00	1	10.00
23	Diversified Industrials	DTT	DTT, KPMG	5	4	80.00	1	20.00
24	Tourism & Leisure	KPMG, PWC	KPMG, PWC	3	1	33.33	2	66.67
<b>Total</b>				<b>78</b>	<b>45</b>		<b>33</b>	

a. Bold font indicates that Arthur Andersen was an industry specialist auditor.

b. AA: Arthur Andersen, EY: Ernst & Young, PWC: PricewaterhouseCoopers, DTT: Deloitte Touche Tohmatsu, KPMG: KPMG.

c. See table 2 for definitions and source of FEE\_EXPERT and CLIENT\_EXPERT.

**Table 5**  
**Descriptive Statistics**

Variable <sup>a</sup>	Blouin et al. (2007)			This Study <sup>c</sup>		
	FOLLOW (n = 226)	Not- FOLLOW (n = 181)	Test of Difference (p value) <sup>b</sup>	FOLLOW (n = 45)	Not- FOLLOW (n = 33)	Test of Difference (p value) <sup>d</sup>
<b>Panel A: Dichotomous variables</b>						
	Percentage (Cases)	Percentage (Cases)		Percentage (No. of Cases)	Percentage (No. of Cases)	
<i>FEE_EXPERT</i> (H2)	33 (75)	29 (52)	0.410	4.44 (2)	15.15 (5)	0.109
<i>CLIENT_EXPERT</i> (H2)	28 (63)	14 (25)	0.01	13.33 (6)	27.27 (9)	0.067
<i>TENURE</i> <sup>d</sup> (H3)	10 (8)	10.77 (8)	0.630	81.82 (36)	79.31 (23)	0.790
<i>INSIDER</i>	23 (52)	19 (34)	0.430	60 (27)	42.42 (14)	0.125
<i>BLOCK</i>	16 (36)	20 (36)	0.360	95.56 (43)	93.94 (31)	0.749
<i>LOSS</i>	46 (104)	49 (88)	0.530	42.22 (19)	48.48 (16)	0.583
<b>Panel B: Continuous variables</b>						
	Mean	Mean		Mean	Mean	
<i>COMPLEX</i> (H1)	0.270	0.360	0.05	0.280	0.319	0.987
<i>AC_IND</i> (H4)	0.800	0.870	0.06	0.706	0.619	0.443
<i>AC_FE</i> (H4)	0.410	0.360	0.280	0.264	0.163	0.188
<i>SIZE</i> (\$ Total Assets)	n/a	n/a		395.450m	3,816m	0.697
<i>SIZE</i> (ln \$ Total Asset)	5.660	5.630	0.590	18.374	18.556	0.697
<i>LEVERAGE</i>	0.200	0.170	0.210	0.428	0.432	0.704
<i>ROA</i>	-0.100	-0.170	0.290	-0.156	-0.399	0.208

- a. See table 2 for definitions and the Appendix for other descriptive statistics.
- b. Test of Differences presents the associated p-values from the comparison of Not-FOLLOW and FOLLOW companies' mean (t-test) and median (Wilcoxon test) values for continuous and dichotomous variables, respectively.
- c. Due to missing data for audit partner tenure information (years 1997 to 2000) (*TENURE*), the sample sizes for FOLLOW and non-FOLLOW companies are 44 and 29 (= 73), respectively. See table 1.
- d. Test of Differences presents the associated p-values from the comparison of Not-FOLLOW and FOLLOW companies' mean (t-test). The  $\chi^2$  test is used for the dichotomous variables and the Mann-Whitney test is used for the continuous variables.

**Table 6**  
**Spearman Rho Correlation Matrix<sup>a</sup>**

	<i>FEE_ EXPERT</i>	<i>CLIENT_ EXPERT</i>	<i>TENURE</i>	<i>COMPLEX</i>	<i>AC_IND</i>	<i>AC_FE</i>	<i>SIZE</i>	<i>INSIDER</i>	<i>LEVERAGE</i>	<i>BLOCK</i>	<i>ROA</i>	<i>LOSS</i>
<i>FEE_ EXPERT</i>	1.000	0.620**	-0.108	0.057	0.185	0.003	0.293**	0.029	0.065	0.073	0.121	-0.103
<i>CLIENT_ EXPERT</i>		1.000	-0.116	0.220*	0.235*	0.120	0.342**	-0.090	0.220	0.118	0.203	-0.203
<i>TENURE</i>			1.000	-0.085	-0.010	0.011	-0.056	-0.010	-0.167	0.131	-0.064	0.093
<i>COMPLEX</i>				1.000	0.151	0.031	0.500**	-0.144	0.285*	0.115	0.098	-0.111
<i>AC_IND</i>					1.000	0.238*	.515**	-0.184	0.203	0.122	0.306**	-0.293**
<i>AC_FE</i>						1.000	0.258*	0.128	0.221	0.091	0.334**	-0.416**
<i>SIZE</i>							1.000	-0.164	0.314**	0.176	0.480**	-0.475**
<i>INSIDER</i>								1.000	0.037	0.245*	0.035	0.031
<i>LEVERAGE</i>									1.000	-0.096	0.085	-0.192
<i>BLOCK</i>										1.000	0.000	0.093
<i>ROA</i>											1.000	-0.862**
<i>LOSS</i>												1.000

a. See table 2 for variable definitions.

\*\* . Correlation is significant at the 0.01 level (2-tailed).

\* . Correlation is significant at the 0.05 level (2-tailed).

**Table 7**  
**Logistic Regressions of *FOLLOW* on Measures of Auditor and Client Characteristics**

Variables <sup>a</sup>	Sign	Blouin et al's. (2007) Table 3 Results (extract)		This Study's Results					
				Equation (3): Audit Partner		Equation (4) Audit Partner		Equation (5): Audit Firm <sup>e</sup>	
		Coefficient Estimate	ΔOdds	Coefficient Estimate	ΔOdds	Coefficient Estimate	ΔOdds	Coefficient Estimate	ΔOdds
1	2	3	4	5	6	7	8	9	10
Constant				0.328	1.389	-0.403	0.668	-10.094**	0.00
<i>COMPLEX</i> (H1)	+ve	-0.6**	-0.23	0.282	1.326			-0.393	0.675
<i>COMPLEX_GEO</i> (H1)						-0.131	0.877		
<i>FEE_EXPERT</i> (H2)	+ve	-0.04	-0.04						
<i>CLIENT_EXPERT</i> (H2)	+ve	1.29***	2.64	-1.273*	0.280			-2.008**	0.134
<i>FEE_CITY</i> (H2)						-1.291	0.275		
<i>TENURE</i> (H3)	-ve	-0.01	-0.11	-0.004	0.996	0.019	1.019	1.342*	3.828
<i>AC_IND</i> (H4)	-ve	-0.48	-0.38	0.816	2.261			1.758*	5.800
<i>AC_FE</i> (H4)	-ve	0.41*	0.50	1.852*	6.571	1.796*	6.027	0.625	1.868
<i>AC_MEETING</i> (H4)						0.013	1.013		
<i>SIZE</i>	?	0.01	0.01	-0.047	0.954	0.025	1.025	0.544**	1.722
<i>INSIDER</i>	-ve	-0.20	0.22						
<i>LEVERAGE</i>	-ve	0.52	0.12						
<i>BLOCK</i>	-ve	-0.52**	-0.41	0.197	1.218	0.082	1.086	0.093	1.097
<i>ROA</i>	?	0.28	0.15						
<i>LOSS</i>	?	-0.29	-0.25						
Pseudo R <sup>2</sup>			0.20		0.08		0.06		0.28
Hosmer-Lemeshow Test <sup>b</sup> (p value)			0.47		0.062		0.395		0.906
Model $\chi^2$ <sup>c</sup>			- <sup>d</sup>		7.782		5.434		20.730**
No. of <i>FOLLOW</i>			226		44		44		54
No. of Not- <i>FOLLOW</i>			181		29		29		16

a. See table 2 for definitions.

b. A measure of the model's overall fit, which indicates that there is no statistically significant difference between the observed and predicted classifications (Hair et al. 1998; 317). A good model fit is indicated by a non-significant chi square test value (i.e.,  $p > 0.10$ ) (Hair et al. 1998; 320).

c. Measures the change in the -2 log likelihood value from the base (constant only) model. A model is statistically significant (from the base model) at a desired p value. Combined with the Hosmer-Lemeshow test, it provides support for the acceptance of the model as a significant logistic regression model and suitable for further examination.

d. Blouin et al. (2007) do not provide the model's chi square ( $\chi^2$ ) test value or its significance.

e. Compared to equation (3), this model excludes three cases with studentized residuals greater than 2.0.

\*, \*\* and \*\*\* denote significance at less than or equal to 0.10, 0.05 and 0.01 level, respectively, based on two-tailed tests.

**Appendix  
Descriptive Statistics<sup>a</sup>**

	<i>FEE_ EXPERT</i>	<i>CLIENT_ EXPERT</i>	<i>TENURE</i>	<i>COMPLEX</i>	<i>AC_IND</i>	<i>AC_FE</i>	<i>SIZE (Total Assets)</i>	<i>SIZE (ln TA)</i>	<i>INSIDER</i>	<i>LEVERAGE</i>	<i>BLOCK</i>	<i>ROA</i>	<i>LOSS</i>
<b>PANEL A :Former AA Clients that followed the former AA audit partners (<i>FOLLOW</i>)</b>													
Mean	0.0444	0.1333	0.8182	0.2803	0.7059	0.2644	395,453,731.09	18.3774	0.6000	0.4277	0.9556	-0.1561	0.4222
Median	0.0000	0.0000	1.0000	0.0000	1.0000	0.2500	122,806,000.00	18.6261	1.0000	0.4433	1.0000	0.0224	0.0000
Std. Deviation	0.2084	0.3438	0.3902	0.4058	0.3660	0.2999	669,289,221.607	1.8932	0.4954	0.2422	0.2084	0.4619	0.4995
Minimum	0	0	0	0.0000	0.0000	0.0000	2,256,546	14.6293	0	0.0068	0	-1.8529	0
Maximum	1	1	1	1.1359	1.0000	1.0000	2,710,800,000	21.7205	1	1.0552	1	0.2777	1
Skewness	4.5751	2.2324	-1.7087	1.0054	-0.9622	0.9813	2.316	-0.0076	-0.4225	0.1788	-4.5751	-2.4010	0.3259
Kurtosis	19.8107	3.1204	0.9614	-0.6695	-0.3982	0.2510	4.722	-0.9749	-1.9085	0.0756	19.8107	5.4965	-1.9841
Observation (n)	45	45	44	45	45	45	45	45	45	45	45	45	45
<b>PANEL B: Former AA Clients that did not follow their former AA audit partners (<i>Not-FOLLOW</i>)</b>													
Mean	0.1515	0.3030	0.7931	0.3193	0.6187	0.1629	3,816,132,925.15	18.5560	0.4242	0.4323	0.9394	-0.3990	0.4848
Median	0.0000	0.0000	1.0000	0.0000	0.7500	0.0000	185,948,000.00	19.0410	0.0000	0.4563	1.0000	0.0029	0.0000
Std. Deviation	0.3641	0.4667	0.4123	0.4762	0.4285	0.1972	15,359,657,748.815	2.8173	0.5019	0.2576	0.2423	1.4851	0.5075
Minimum	0	0	0	0.0000	0.0000	0.0000	345,000	12.7513	0	0.0000	0	-8.4408	0
Maximum	1	1	1	1.7551	1.0000	0.5000	84,961,000,000	25.1655	1	0.9297	1	0.3434	1
Skewness	2.0377	0.8986	-1.5273	1.6543	-0.5294	0.6310	5.026	0.0979	0.3214	-0.2116	-3.8608	-5.2720	0.0636
Kurtosis	2.2872	-1.2737	0.3520	2.4773	-1.4485	-1.2464	26.309	-0.0897	-2.0234	-0.9441	13.7357	29.1278	-2.1290
Observation (n)	33	33	29	33	33	33	33	33	33	33	33	33	33

a. See table 2 for variable definitions.