

**THE IMPACT OF THE SARBANES-OXLEY ACT
ON AUSTRALIAN LISTED FIRMS**

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SUMMARY

In the wake of a series of corporate and accounting scandals, the US government enacted the Sarbanes-Oxley Act (2002) (SOX) to improve corporate governance practices. Significantly, foreign registrants traded on US stock exchanges are also required to comply with SOX. This study assesses the incremental impact of the SOX legislation by examining changes in the audit fees and non-audit services (NAS) fees on Australian firms with foreign registrant status in the US from 2001 to 2005, compared with the change in these fees for other Australian firms.

The findings indicate that Australian companies subject to SOX incurred increases in audit fees of 37.3% and reduced their purchases of NAS by 36.9% compared to other Australian firms over the period. These findings provide a broader understanding of the compliance costs for non-US firms subject to SOX and therefore inform both policy makers and firms.

Key Words: Sarbanes Oxley, Audit Fees, Non-Audit Services Fees

I. INTRODUCTION

The Sarbanes-Oxley Act 2002 (SOX) was implemented in response to a series of corporate failures in the US. These regulatory reforms have been described as “the most sweeping structural changes in governance that have ever occurred” (Lavelle, 2002, 50). Some critics of the new law refer to SOX as “quack corporate governance” and cite concerns about the level of compliance costs (Romano, 2005). The additional costs of compliance do not only raise concerns for US companies, but also for foreign companies seeking access to US capital markets¹. This study examines the impact of SOX on Australian public companies trading securities in the US and the costs imposed by such regulation. The impact of SOX on these firms provides a natural experimental setting (DeFond and Francis, 2005) by permitting the examination of whether or not there are any significant differences between the audit and non-audit services (NAS) fees for Australian firms with US securities compared to a group of similar Australian firms not subject to SOX. This design of this study isolates the impact of SOX in a manner not able to be effectively conducted in the US setting and thus permits an analysis of the incremental impact of SOX on US firms. These effects are relevant to both US and Australian regulators and policy-makers.

Prior studies of US firms have documented increases in audit fees in the post-SOX period, mostly due to Section 404 (Asthana *et al.*, 2004; Griffin and Lont, 2004; Eldridge and Kealey, 2005) which requires an auditor’s attestation of management’s report on internal control. It has been suggested that this has led to increased audit effort and hence a greater level of audit resources required. At the same time as demand for audits has increased, there have also been changes on the supply side due to the collapse of Arthur Andersen. In addition, SOX has led to higher litigation risk

¹ For example, an Australian pharmaceutical company incorporated in the US, ResMed Inc., considered delisting from the New York Stock Exchange (NYSE) soon after the enactment of SOX due to increased compliance costs (Evans, 2005). However, at the time of writing, it is still listed on the NYSE.

for auditors due to enhanced investor rights. For these reasons auditors are more likely to charge higher fees for their services. In contrast, non-audit services (NAS) fees are expected to decrease due to the prohibition of certain types of NAS. Since Australian companies traded on US stock exchanges must comply with SOX, it is predicted that audit fees for these firms will increase and NAS fees will fall.

The findings of this study indicate that there has been a significant increase in the audit fees paid to auditors over the period 2001-2005. Although all Australian firms paid higher audit fees in 2003 and 2005 compared to 2001, Australian firms that were traded on the US stock exchanges paid audit fees that were on average 37.3% higher than other Australian firms in 2005. This suggests that the implementation of SOX increased audit fees for Australian firms traded in the US. The results also show that Australian firms purchased lower levels of NAS and paid significantly lower NAS fees in 2005 compared to 2003 and 2001. Australian firms that were subject to SOX purchased, on average, 36.9% less NAS in 2005 compared to other Australian firms that were not traded on US stock exchanges. These results suggest that a similar incremental impact of SOX is likely to be observed for US firms.

The paper is organized as follows. Section II outlines the background of SOX and reviews the related literature. In addition, it provides a background to the corporate governance reforms in Australia. Section III develops the hypotheses of the study. Section IV outlines the sample, specifies the regression models and the variables used in the models. Section V presents the results of the main analyses as well as sensitivity analysis. Section VI presents the main conclusions, contributions and limitations of the study and offers suggestions for future research.

II. Background and Previous Research

SARBANES-OXLEY ACT (2002)

SOX was passed on 30 July 2002. Changes included, *inter alia*, disclosure of and certification by management regarding internal control systems (Section 302); auditors' attestation of management's report on internal control (Section 404); and the prohibition of certain types of non-audit services (Section 201). Additionally, all the members of a firm's audit committee must be independent, and at least one of the members must be a financial expert (Section 301).

SOX applies to all "issuers" with securities registered under Section 12 of the Securities Exchange Act of 1934 or firms required to file reports under Section 15(d) of that act (Sarbanes-Oxley Act 2002, Section 2(a)(7)). This includes foreign private firms that have registered securities under the Securities Exchange Act of 1934. In other words, non-US firms are also required to comply with SOX². The extent to which non-US firms are required to comply with SOX depends on the type of American Depositary Receipt (ADR) issued by the firm.

² However, non-US firms have received extended timeframes for compliance with various sections of SOX. These are described in Table 1.

AMERICAN DEPOSITARY RECEIPTS

There is an extensive body of literature examining the motivations for companies to cross-list in the US through ADRs³. An ADR represents the securities of a foreign company and is entrusted to a US custodian, usually a US depository bank. The ADRs are then issued to the US investor at a price similar to the price of the securities in the non-US firm's home country (Security Exchange Commission, 2006). There are four available ADR programs: Level I, Level II and Level III ADRs, and Rule 144A listings (also known as Level IV ADRs). Only Level II and Level III ADRs are traded on the American Stock Exchange (AMEX), the New York Stock Exchange (NYSE) or the National Association of Securities Dealers Automated Quotation (NASDAQ). Level I ADRs are traded Over The Counter (OTC) while Level IV ADRs are first sold as private placements and subsequently traded through Automated Linkages (Portals) between Qualified Institutional Buyers (QIBs). As well as determining a foreign firm's level of SOX compliance, the type of ADR also dictates the reporting requirements, extent of accounting reconciliation with US GAAP, SEC registration, how the ADRs are traded, listing fees, and size and earnings requirements. These differences are outlined in Table 1.

INSERT TABLE ONE HERE

³ The most significant of these are: raising capital (e.g. Reese and Weisbach, 2002; Lins *et al.*, 2005; Doidge *et al.*, 2007b); protection of minority shareholders by renting higher disclosure and governance standards (e.g. Coffee, 1999; 2002; Stulz, 1999; Reese and Weisbach, 2002; Doidge, 2004; Doidge *et al.*, 2004; Doidge *et al.*, 2007a; Doidge *et al.*, 2007b; Lel and Miller, 2006); reducing the stake held by existing shareholders such as governments (e.g. Pagano *et al.*, 2002; Bortolotti *et al.*, 2002); and improving liquidity and broadening the shareholder base (e.g. Pagano *et al.*, 2002; Karolyi, 2006). None of these factors are mutually exclusive: firms that enter the US capital markets may do so because of either one or several of these objectives.

Australian firms, like other non-US firms, commonly enter the US capital market through ADRs. In 2005, there were 45 Australian firms that issued Level I ADRs, 17 Australian firms that issued Level II ADRs and only 1 firm with a Level III ADR program. In addition, 5 firms issued Level IV ADRs.⁴

PREVIOUS RESEARCH ON SOX

Since the implementation of the SOX legislation researchers have studied, among other topics, its impact on firms, auditors, audit costs and audit quality. SOX related research has mainly focused on the new internal control requirements⁵, the impact of SOX on audit fees and firms' corporate governance, and also the influence of SOX on firms' "going dark"⁶ – that is, the link between the introduction of SOX and SEC deregistration and delisting from the major exchanges.

Ettredge *et al.* (2006b) suggest that firms are more likely to dismiss their auditors when they have received, or expect to receive, adverse SOX 404 opinions. They also find, interestingly, that once auditors issue, or only expect to issue, an adverse SOX 404 opinion, the auditors themselves are more likely to resign. Moreover, if the adverse SOX 404 opinion contains general material weakness the likelihood of that auditor resigning is even higher than if the opinion contains a specific material weakness (Ettredge *et al.*, 2006b). The introduction of SOX also brought significantly higher audit fees in 2004 for all US firms, but especially for firms that disclose material weaknesses in internal control systems (Asthana *et al.*,

⁴ Of the five firms that issued Level IV ADRs, two of them concurrently issued Level I ADRs.

⁵ Section 302 mandates that companies must disclose changes in internal control in their annual or quarterly reports. Section 404 requires companies to produce an internal control report and also assessment of the internal controls by auditors (Sarbanes-Oxley Act 2002).

⁶ Firms going dark are firms that deregister themselves from the US stock exchanges and are no longer required to file with SEC. However, they continue to be traded on the OTC market. Similarly, firms that decide to go private deregister their securities.(Leuz *et al.*, 2006).

2004; Griffin and Lont, 2004; Eldrige and Kealey, 2005; Raghunandan and Rama, 2006). However, there is no indication that the type of material weakness has an impact on audit fees (Raghunandan and Rama, 2006). Anecdotal evidence also supports a general expectation of increased audit fees in the US after the introduction of SOX. This is supported by the findings of a 2005 survey by the law firm Foley and Lardner which finds that audit fees increased by 61% between 2003 and 2004. However the design of this survey does not enable the impact of SOX to be isolated from other factors impacting audit fees. There has also been a significant increase in the number of firms that decide to “go dark” and go private after the passing of SOX (Marosi and Massoud, 2004; Engel, 2005; Leuz *et al.*, 2006).

Significantly, one impact of SOX has been better earnings quality, which has occurred due to two effects: improvements in firms’ internal control systems and increases in audit effort (Bédard, 2006). There is also some evidence that auditor independence – and therefore auditor quality – has improved since SOX, as auditors are more likely to issue modified audit opinions (Lai, 2003). The positive relationship between NAS fees and unexpected accruals in 2000 and 2001, is no longer evident in 2002 and 2003 (Hoitash *et al.*, 2005).

The above SOX research has been conducted in the US. There is only a limited amount of research on the impact of SOX for non-US firms. Litvak (2005) finds that the news that non-US firms had to comply with SOX compelled many of these firms to delist from the US markets. Conversely, Smith (2006) posits that non-US firms chose not to delist from US markets because of the high cost of doing so voluntarily. This suggests that there is a significant gap in the SOX literature able to be addressed by examining audit fees and NAS fees of Australian firms involved in US capital markets.

CORPORATE LAW ECONOMIC REFORM PROGRAM 9 (CLERP 9)

Around the time corporate scandals such as Enron and WorldCom were occurring in the US, Australia also experienced a series of corporate collapses, including HIH Insurance and One.Tel. The primary causes were believed to be similar: poor corporate governance practices. Consequently, Australia passed the *Corporate Law Economic Reform Program Act (CLERP 9)* on 30 June 2004 and was claimed to reform corporate governance through improvements in transparency, accountability and the rights of shareholders. Top 500 Australian companies were also mandated to have an audit committee in place by 1 July 2004 as a result of ASX Listing Rules introduced in 2003. CLERP 9, unlike SOX, does not explicitly prohibit any type of NAS but does emphasize the importance of companies complying with the Joint Code of Professional Conduct of the Institute of Chartered Accountants and CPA Australia, as set out in the Professional Statement F1-Professional Independence. The Professional Statement F1 prohibits provision of NAS that may cause a conflict of interest if the auditor is not able to reduce the threat to independence to an acceptable level. In essence, while SOX directly bans certain types of NAS to safeguard auditor independence, CLERP 9 – through Professional Statement F1 –disallows any NAS that may be a threat to auditor independence. Accordingly, these reforms are the only regulatory changes over this period which may impact audit fees or NAS fees for Australian firms.

III. HYPOTHESES DEVELOPMENT

AUDIT FEES

Prior literature uses agency theory to link audit fees and the audit market. It is suggested that the provision of audit services is a mechanism for shareholders and/or debt holders to monitor managers (Watts and Zimmerman, 1983). The agency relationships between these stakeholders increase the demand for higher quality audits to minimize agency costs (Jensen and Meckling, 1976). Specifically, studies show that audit fees increase when there is a demand for a high quality audit provided by independent, reputable and specialized auditors (Craswell *et al.*, 1995).⁷

Auditors in the US are required to conduct higher quality audits under SOX. These requirements call for auditors to do more testing and place less trust in the client's managers, resulting in increased audit fees (McNamee and Weber, 2002). Recent US studies confirm this result (e.g. Asthana *et al.*, 2004; Griffin and Lont, 2004; Eldridge and Kealy, 2005, Bedard *et al.*, 2007). These studies argue that the audit fees have increased after the implementation of SOX due to the internal control requirements found in Sections 302 and 404, which require additional audit effort in examining the effectiveness of the company's internal control system. Therefore a similar increase in audit fees could be expected for non-US firms traded on major US stock exchanges (that is, firms with Level II and Level III ADRs) as these firms are required to comply with all aspects of SOX. It should be noted that for some sections of SOX (including Section 404 but only part of Section 302), non-US firms received an extension and did not have to comply with Section 404 until 2006 or 2007 (refer Table 1). It is anticipated that those non-US firms with Level II and Level III ADRs

⁷ DeAngelo (1981) defines independence in the context of audit quality as the joint probability that the auditor discovers and reports a misstatement while independence is considered compromised when auditors fail to report misstatements they have discovered.

and their auditors were preparing to comply with the more onerous requirements of Section 404 in the period between 2002 and 2006. Any such preparation would, of course, have an impact on audit fees in this period.

It is predicted the additional disclosures mandated by SOX, including off-balance sheet transactions, pro forma financial measures and certification from the Chief Executive Officer (CEO) and Chief Financial Officer (CFO) will also indirectly increase the auditing resources required and affect audit fees for non-US firms. Further, SOX contributed to a more litigious environment in the US. From an auditor perspective there are higher litigation risks if there is any defect in the audited financial statements. Consequently, auditors are expected to increase the audit fees they charge.

Significantly, all of the above explanations are consistent in their predictions: that audit fees will increase after SOX. It is therefore expected that the audit fees paid by Australian firms traded in the US will be higher compared to that of other Australian companies in the post-SOX period, Hence:

H1A: There will be a greater increase in audit fees for Australian firms traded in the US relative to other Australian listed firms over the period 2001 to 2005.

At the same time, because of differences in the extent of compliance between the different levels of ADRs, it is acknowledged that SOX may have a more direct effect on Australian firms with Level II or Level III ADRs. Firms with Level II and Level III ADRs are required to fully comply with SOX, whereas Level I and Level IV ADRs only require partial compliance with SOX. Hence:

H1B: There will be a greater increase in audit fees for Australian firms with Level II and Level III ADR programs relative to other Australian listed firms over the period 2001 to 2005.

NON-AUDIT SERVICES (NAS) FEES

Investors use audit services to minimize likely agency costs (Watts and Zimmerman, 1983). NAS, conversely, may increase agency costs through economic bonding between auditors and clients which will, in turn, reduce the independence of the auditor (Simunic, 1984). Agency costs can only be effectively minimized if the auditor is independent. Firms are therefore motivated to voluntarily lower NAS purchases in order to minimize monitoring costs that may be imposed by investors (Parkash and Venable, 1993). As a result of heightened public concern in the wake of the large corporate collapses, stakeholders are demanding higher audit quality. This may be reflected in, for example, lower NAS consumption.

Pre-SOX studies have documented that demand for high audit quality – as a result of higher agency costs – leads to decreased consumption of NAS (Parkash and Venable, 1993; Firth, 1997). By banning certain types of NAS provided by auditors, US regulators have incorporated this view into SOX. Unsurprisingly, this has had an impact on NAS purchases in the US where NAS fees have decreased by around 50% in the US for the period 2000-2003 (Hoitash *et al.*, 2005). In Australia, Morecroft *et al.* (2005) show reductions in NAS fees for listed Australian companies over the period 2000 to 2003. As the prohibitions and the criminal penalties imposed by SOX apply to all foreign registrants (that is, all ADR levels) and SOX registered auditors are banned from providing these services to their clients, it is expected that the NAS

fees for all Australian firms subject to SOX will be significantly lower in the post-SOX period compared to other Australian companies. Thus:

H2: There will be a greater decrease in NAS fees for Australian firms traded in the US relative to other Australian listed firms over the period 2001 to 2005.

IV. SAMPLE AND DEFINITION OF VARIABLES

SAMPLE SELECTION

The sample in this study consists of Top 500 Australian listed firms over the period 2001 to 2005. The Top 500 sample is used to control for the potential impacts of CLERP 9 and to provide a comparison group of companies of sufficient size and scale to those traded on US exchanges to enable the impact of SOX to be more directly isolated. Top 500 companies are the most affected by the Australian law as the Australian Stock Exchange Listing Rules require the Top 500 to have an audit committee in place (ASX 2003).

SOX firms are defined to be Australian firms that are Level I, Level II, Level III and Level IV ADR issuers as well as Australian firms that are directly cross-listed on the US stock exchanges.⁸ SOXFULL firms are Australian firms that are Level II and Level III ADR issuers, and Australian firms that are cross-listed but do not issue ADRs. The years 2001, 2003 and 2005 are used as the period for this study. 2001 represents the period before corporate collapses such as Enron and HIH Insurance; as such it constitutes a “pre-SOX” period. Consistent with prior studies, 2003 and 2005 represent “post-SOX” periods (Hoitash *et al.*, 2005; Ettredge *et al.*, 2006a). For

⁸ There is only one identified direct cross-listing without an ADR program: Progen Industries Limited is listed on NASDAQ in 2005.

Australian companies that are subject to SOX, 2003 represents a “transition period” because of the time needed to understand the new regulation and consider the changes required, and the fact that SOX compliance in 2003 was not equal for all Australian firms.⁹ By 2005, the majority of the sections of SOX had come into effect for foreign firms; thus this year is expected to capture the greater part of SOX’s impact on Australian firms trading in the US.

The ‘Top 500’ is in fact a slightly smaller number of firms: 2001: 478; 2003: 473; 2005: 477 firms. Financial services firms (2001: 109; 2003: 104; 2005: 112), are excluded because earlier studies have found an industry effect for financial institutions (Fields *et al.*, 2004). A small number of companies are excluded because of missing values for either one or more variables (2001: 18; 2003: 19; 2005: 19). For testing Hypotheses 1A and 1B, the final sample consists of 1047 companies. (2001: 351 firms, 2003: 350 firms, 2005: 346 firms)¹⁰.

For the purpose of testing Hypothesis 2 on NAS fees, the final sample contains 942 companies (2001: 327 firms, 2003: 315 firms, 2005: 300 firms) after excluding companies with zero-NAS (2001: 24; 2003: 35; 2005: 46)¹¹.

INSERT TABLE TWO HERE

Data on audit fees and NAS fees was collected from the UNSW School of Accounting database and annual reports. Financial data was obtained from the Aspect Financial Database. Data on ADRs and US stock exchange listings was acquired from the websites of JP Morgan, the New York Stock Exchange (NYSE), the National

⁹ Depending on firms’ year end and the different enforcement dates for different SOX provisions.

¹⁰ 185 firms appear in the audit fee sample in each of 2001, 2003 and 2005.

¹¹ 156 firms appear in the NAS sample in each of 2001, 2003 and 2005.

Association of Securities Dealers Automated Quotation System (NASDAQ) and the Bank of New York (BNY).

REGRESSION MODEL AND VARIABLE DEFINITIONS

H1: Audit Fee Model

A pooled OLS regression model is used to predict the demand for audit fees. The audit fee model builds on the model used by Craswell *et al.* (1995) and Ferguson *et al.* (2003) and adapted by Carson and Fargher (2007).¹² The model has been modified to include variables that capture the effect of SOX.

$$LAF = \alpha_0 + \beta_1 LTA + \beta_2 LSUB + \beta_3 CATA + \beta_4 QUICK + \beta_5 DE + \beta_6 ROI + \beta_7 FOREIGN + \beta_8 YE + \beta_9 LOSS + \beta_{10} OPINION + \beta_{11} BIGN + \text{Variables of Interest} + \varepsilon$$

Where (as used in Tables 3 to 5):

LAF = natural logarithm of audit fees (in thousands)

LTA = the natural logarithm of the book value of total assets (in millions) at the end of the year

LSUB = natural logarithm of the number of subsidiaries

CATA = ratio of current assets to total assets

QUICK = ratio of current assets (less inventories) to current liabilities

DE = ratio of long-term debt to total assets

ROI = ratio of earnings before interest and tax to total assets

FOREIGN = proportion of subsidiaries that represent foreign operations

YE = indicator variable, 1 for non-June 30th year-end

LOSS = indicator variable, 1 for loss in any of the past three years

OPINION = indicator variable, 1 if modified opinion

BIGN = indicator variable, 1 when the auditor is a Big N firm

Variables of interest (as used in Tables 3 to 5)

SOX = indicator variable, 1 if firm issues Level I, Level II, Level III or Level IV ADRs or if firm is cross-listed on a US exchange.

SOXFULL = indicator variable, 1 if firm issues Level II or Level III ADRs or is cross-listed on a US exchange.

2003 = indicator variable, 1 if fiscal year is 2003

2005 = indicator variable, 1 if fiscal year is 2005

SOX.x01 = indicator variable, 1 if fiscal year is 2001 and firm is 1 for SOX

SOX.x03 = indicator variable, 1 if fiscal year is 2003 and firm is 1 for SOX

SOX.x05 = indicator variable, 1 if fiscal year is 2005 and firm is 1 for SOX

SOXFULL.x01 = indicator variable, 1 if fiscal year is 2001 and firm is 1 for SOXFULL

SOXFULL.x03 = indicator variable, 1 if fiscal year is 2003 and firm is 1 for SOXFULL

SOXFULL.x05 = indicator variable, 1 if fiscal year is 2005 and firm is 1 for SOXFULL

ε = error term

¹² These models provide evidence that Australian companies traded on US stock exchanges paid higher audit fees in 1998, 1999 and 2004 due to additional regulatory requirements.

Consistent with prior studies (Ferguson *et al.*, 2003), the natural log of audit fees, natural log of total assets (\$ million) and natural log of subsidiaries are used. For firms without subsidiaries, LSUB is coded as zero. In addition, the Quick, DE and ROI variables are winsorized to the maximum value of ± 3 standard deviations to remove the influence of outliers in the sample. Hypothesis 1A will be supported if the coefficient on the interaction variable (*SOXx05*) is significant and positive. Hypothesis 1B is supported if the coefficient on the variable (*SOXFULLx05*) is significant and positive and larger than the coefficient on *SOXx05*.

H2: NAS Fee Model

This study uses an OLS regression to estimate the total demand for NAS. Prior literature (e.g. Defond *et al.*, 2002; Whisenant *et al.*, 2003; Ye *et al.*, 2007) has also used this method. The model in this study uses control variables from prior studies, while the independent variable is the total NAS fees and includes variables to capture the impact of SOX.

$$LN(NAS) = \alpha_0 + \beta_1 LTA + \beta_2 BIGN + \beta_3 LSUB + \beta_4 FOROPS + \beta_5 ROA + \beta_6 LOSS + \beta_7 MERGER + \beta_8 FINANCE + \beta_9 LNAGE + \beta_{10} CFO + \beta_{11} DISPERSION + \beta_{12} LEV + \text{Variables of Interest} + \varepsilon$$

Where (as used in Tables 6 to 8):

LN(NAS) = the natural logarithm of the sum total of all non-audit fees paid to the incumbent auditor

LTA = the natural logarithm of the book value of total assets at the end of the year

BIGN = an indicator variable, 1 when the auditor is a member of the Big N

LSUB = the natural logarithm of the number of segments

FOROPS = an indicator variable, 1 if the company has foreign operations

ROA = return on assets defined as earnings before interest and tax divided by total assets at year end

LOSS = indicator variable, 1 for loss in any of the past three years

MERGER = an indicator variable, 1 if the company has been engaged in a merger/acquisition activity during the current year

FINANCE = an indicator variable, 1 if the company has issued an equity for cash and/or has been listed on another exchange during the current year

LNAGE = the natural logarithm of the number of years since the company was listed on the Australian Stock Exchange

CFO = operating cash flows divided by total assets at fiscal year end

DISPERSION = the proportion of ownership held by the Top 20 stockholders

LEV = total liabilities over total assets at the end of the year

Variables of interest (as used in Tables 6 to 8)

SOX = indicator variable, 1 if firm issues Level I, Level II, Level III or Level IV ADRs or if firm is cross-listed on a US exchange.

2003 = indicator variable, 1 if fiscal year is 2003

2005 = indicator variable, 1 if fiscal year is 2005

SOX x 01 = indicator variable, 1 if fiscal year is 2001 and firm is 1 for SOX

SOX x 03 = indicator variable, 1 if fiscal year is 2003 and firm is 1 for SOX

SOX x 05 = indicator variable, 1 if fiscal year is 2005 and firm is 1 for SOX

ε = error term

Hypothesis 2 will be supported if the coefficient on the interaction variable (*SOXx05*) is significantly negative.

V. RESULTS AND DISCUSSION

AUDIT FEES

Descriptive Statistics

Table 3 reports the descriptive statistics of the variables used in the audit fee model for the Top 500 companies listed in Australia. The sample is divided into non-SOX firms and SOX firms. Comparison between the two groups indicates the mean audit fees to be significantly higher for the SOX firms for all three years (2001: \$826,012; 2003: \$866,158; 2005: \$1,182,773 vs. 2001: \$254,995; 2003: \$250,149; 2005: \$312,844).

INSERT TABLE THREE HERE

Table 3 also reports the descriptive statistics of the other control variables used in the model. The mean size is significantly higher for SOX firms compared to non-SOX firms. This suggests that within the Top 500 sample, the companies that are traded on US stock exchanges are larger than other Top 500 Australian firms. Top 500 SOX firms have significantly higher numbers of subsidiaries. In addition, SOX firms

have a higher proportion of their subsidiaries located in foreign countries compared to non-SOX firms and are also more likely to engage the services of a Big N auditor (2001: 91%; 2003: 86%; 2005: 90%) than non-SOX firms (2001: 81%; 2003: 77%; 2005: 79%). SOX companies received a higher number of modified audit opinions in 2003 and 2005 (9% and 10% respectively) in comparison with non-SOX firms (4% and 3% respectively). However, the difference between the two groups is only marginally significant. This is in contrast with the results from 2001 which indicate there are no modifications for SOX firms while 8% of non-SOX firms have modifications to their audit reports. SOX firms in the Top 500 sample also report a significantly higher number of losses in 2005 (50%) compared to non-SOX firms (30%). There is, however, no significant difference for the prior years examined, which suggests that in 2005 SOX firms experienced a downturn in their reported performance.

Correlations

Pearson correlations for the audit fee model were calculated (not reported). As expected, audit fees are highly correlated with total assets and the number of subsidiaries. Company size is also significantly positively correlated with other variables in the model, with the exception of FOREIGN.

Results and Discussion

Table 4 shows the audit fee model estimated for each of the three years: 2001, 2003 and 2005. Individual year audit fee models have been estimated because of the risk of serial correlation in the residuals for a pooled sample. Serial correlation may occur where there are multiple observations for the same company, which may

overstate the significance levels of the coefficients in the model (Griffin and Lont 2004).

INSERT TABLE FOUR HERE

The model for the year 2001 sample shows a good fit ($\text{Adj.R}^2 = 69.20\%$). Control variables that explain audit fees are size, number of subsidiaries, Big N auditors, current assets to total assets ratio, liquidity and number of foreign operations. Other variables included in the model are not significant in explaining audit fees. In 2001, Australian firms that issued ADRs or directly cross-listed in the US are not linked with higher audit fees as the coefficients on the SOX and SOXFULL variables are not significant. Similar results are found for 2003, with the difference that foreign operations are no longer significant in the model featuring the SOXFULL variable.

In 2005, by contrast, Australian firms that issue ADRs and are cross-listed on a major US stock exchange were paying higher audit fees reflected in the positive and significant coefficients on SOX (0.381, $p < 0.01$) and SOXFULL (0.892, $p < 0.01$). These results provide initial support for hypotheses 1A and 1B. It is interesting to note that the SOXFULL coefficient (0.892) is higher than the SOX coefficient (0.381) suggesting that firms that are required to fully comply with SOX (Level II and Level III ADRs) pay higher audit fees.

The results for the sample combined over the years 2001, 2003 and 2005 are reported in Table 5. Similar to the estimation for individual years, the model has been expanded to include the variables related to SOX. The adjusted R^2 s for the pooled sample are all above 70%.

INSERT TABLE FIVE HERE

The coefficients for the variables *2003* and *2005* are both in the positive direction and are both highly significant at the 1% level, which is indicative of increased audit fees for Australia firms over the period 2001 to 2005. Models 2 and 5 show Australian companies trading in the US do pay significantly higher audit fees. The interaction variable *SOXx05* is significant and has a positive coefficient in Model 3 (0.317, $p < 0.01$) and Model 4 (0.333, $p < 0.01$). This indicates that firms that are subject to SOX in 2005 pay higher audit fees relative to other firms, providing support for Hypothesis 1A.¹³ The coefficients of the variable *SOXFULLx05* in Model 6 and Model 7 (0.617, $p < 0.01$ and 0.875, $p < 0.01$, respectively) are significantly higher than that of the corresponding variable, *SOXx05*, in Models 3 and 4. This supports Hypothesis 1B.

The percentage shift in audit fees for SOX firms in 2005 can be calculated as $e^x - 1$, where x is the mean parameter value of the interaction term *SOXx05* in Table 5, Model 3 (Craswell *et al.*, 1995). Audit fees in 2005 for Australian firms subject to SOX were 37.3% higher than audit fees for other Australian firms. Similarly, the percentage shift in audit fees for all the SOXFULL firms in 2005 was calculated using the interaction term *SOXFULLx05* in Table 5, Model 6. Audit fees for the Australian SOXFULL firms increased by 85.3% compared to other Australian firms. Both figures substantiate the significant costs associated with SOX compliance. The figures also show that being cross-listed on a US stock exchange has a larger impact on the audit fees of firms with Level II and Level III ADRs compared to firms issuing Level I and Level IV ADRs. Overall, the data supports Hypotheses 1A and 1B.

¹³ The pooled models appear to suffer from a degree of multicollinearity where the condition indices range from 43.597 to 45.056 indicating that they are above the benchmark of 30. However, the variance inflation factors (VIFs) are well below a suggested benchmark of 10 (Kennedy, 1998).

NON-AUDIT SERVICES (NAS) FEES

Descriptive Statistics

Hypothesis 2 is tested using the Top 500 NAS sample outlined in Table 2. Table 6 shows the descriptive statistics of the variables used in the NAS fee model. The sample is split into two groups, SOX and non-SOX firms. NAS fees for SOX firms are significantly higher than non-SOX firms for all three years. The difference is expected as companies trading in the US are generally larger and more complex firms that have a higher demand for NAS. The non-SOX firms, on average, have NAS fees of \$341,835 in 2001, \$252,602 in 2003 and \$238,192 in 2005. For SOX firms the average NAS fees were \$1,266,316 in 2001, \$738,270 in 2003, and \$534,334 in 2005. There is clearly a decline in NAS for both the SOX and non-SOX firms. However, this is in line with expectations because NAS have been associated with a perceived impairment in auditor independence since the corporate scandals. The decline appears more dramatic in NAS purchases by SOX firms, with the level of NAS fees more than halving from 2001 to 2005 (from \$1,266,316 to \$524,161). This provides preliminary support for the second hypothesis – SOX firms have reduced their purchases of NAS in compliance with SOX regulations.

INSERT TABLE SIX HERE

The descriptive statistics for other control variables used in the model are also shown in Table 6. SOX firms are found to have a higher number of subsidiaries. Moreover, these firms have a significantly higher percentage of foreign-owned operations than non-SOX firms for all three observation years. They also have smaller

mean values for ROI, lower mean values for operating cash flow as well as a higher proportion of loss-making firms. This suggests that despite the size considerations, SOX firms do not necessarily always have superior performance when cross-listed outside Australia.

In addition, SOX firms have generally been listed longer than non-SOX firms, have lower owner concentration, lower leverage and are more likely to be audited by Big N auditors. SOX firms also do not appear to be engaging in any merger and acquisition activities from 2001 to 2005. The activity level for new issues of shares surprisingly drops dramatically for SOX firms between 2003 (45%) to 2005 (21%). This suggests that firms were less likely to raise more capital in 2005.

Correlations

Pearson correlations for the NAS fee model for the Top 500 sample are calculated (not reported). NAS fees are positively and significantly correlated with company size and all the other variables in the model except for *DISPERSION* and *MERGER*. The indicator variable for *SOX* is significantly positively correlated with NAS fees. Overall, the correlations are in the predicted direction which reflects the appropriateness of the regression models.

Results and Discussion

Table 7 presents the results of the NAS fees model used to test Hypothesis 2 where the dependent variable is the natural logarithm of non-audit fees in thousands (*LNAS*). Consistent with the audit fee model in Table 4, results for individual year estimations of the models (2001, 2003 and 2005) are reported. Overall, there is a reasonable fit to the models, with adjusted R²s ranging from 39.8% to 49.7%, similar

to Ye *et al.* (2007).¹⁴ The variables *LTA*, *BIGN*, *LSUB*, *FOROPS* and *LNAGE* are significant, again consistent with Ye *et al.* (2007). The model shows that larger and more complex firms paid higher fees and that younger firms tended to purchase higher levels of NAS compared to older firms (Craswell *et al.*, 2002). In addition, clients of the Big N also pay higher NAS fees, reflecting the wide variety of services offered by, and the expertise and reputation associated with, the Big N. The fee premium Big N firms charge is indicative of this (Craswell *et al.*, 1995). In the pre-SOX period (2001), SOX is not significant in terms of explaining levels of NAS.

INSERT TABLE SEVEN HERE

Analysis for 2003 presents similar results to 2001. In line with Hypothesis 2, by 2005 the sign on the SOX coefficient has become negative. However, the coefficient is not significant and therefore should not be interpreted as definitive evidence in support for Hypothesis 2.

In Table 8, and for all pooled regression models, the coefficients of *LTA*, *LSUB*, *BIGN* and *LNAGE* are significant and in the predicted direction. This suggests that company size, the complexity of operations and company age directly influence the level of NAS. The outcome for age is consistent with prior studies which argue that older firms demand lower levels of NAS than younger firms (Craswell *et al.*, 2002; Ye *et al.*, 2007). Further, the coefficient on *BIGN* is also positive and significantly related to *LNAS*. Again, this is consistent with the explanation that Big N reputation and expertise is associated with higher levels of NAS. One interesting result is that the *LOSS* variable is positive, contrary to expectation. This suggests that

¹⁴ This model also appears to have multicollinearity issues, with the condition indices ranging from 36.94 to 38.31.

loss-making companies are more likely to purchase higher levels of NAS, possibly services such as restructuring and business improvement advice.

All the models indicate that firms consume significantly less NAS in 2005 than in earlier years as the variable *2005* is negative and significant. The coefficient for the year variable *2003* is also negative, but insignificant in all models. The negative and significant association between the interaction variable (*SOXx05*) and the NAS fees in Model 3 provides some support for the second hypothesis; namely that while firms in the Top 500 reduce their NAS level in 2005, companies which are subject to SOX further reduced their NAS consumption as a result of the ban SOX imposes on certain types of NAS. However, this impact is not demonstrated in Model 4 as the coefficients for the interaction variables (*SOXx01*; *SOXx03*; *SOXx05*) are all insignificant, however the sign on *SOXx05* is negative as predicted.

INSERT TABLE EIGHT HERE

The percentage shift in NAS fees for SOX firms in 2005 is calculated to document the economic significance of an observed negative interaction on the *SOXx05* variable. Again, the percentage shift in the intercept term can be simplified to $e^x - 1$, where x is the coefficient of *SOXx05* in Table 8, Model 3 (Craswell *et al.* 1995). Although SOX firms pay higher NAS fees on average than other Australian firms, this study finds that SOX firms have a large relative reduction in NAS fees of 36.9% compared to other Australian firms. This finding is not surprising given the ban imposed by SOX on the provision of certain NAS.

Sensitivity Analysis

The sample in Table 5 was split at median total assets into small and large firms. The *SOX* and *SOXFULL* variables remained positive and significant in the subsample analyses performed. The direction and high levels of significance of the interaction terms *SOXx05* and *SOXFULLx05* were consistent with those presented in Table 5.

VI. CONCLUSIONS, LIMITATIONS AND FUTURE RESEARCH

This study investigates how SOX affects the audit and NAS fees of foreign firms accessing US capital markets. It also provides evidence from a natural experimental setting as to the impact of SOX on audit fees and NAS fees. For Australian firms that are subject to SOX it was expected that audit fees had increased due to the additional SOX requirements, and NAS fees had decreased as SOX explicitly bans nine types of NAS. The findings from this study support the predictions. Audit fees for all Australian firms listed on the Australian Stock Exchange (ASX) increased in 2003 and 2005 (relative to 2001). But Australian companies subject to SOX experienced significantly higher increases (37.3%) in audit fees in 2005 compared to other Australian companies. This suggests that the additional requirements of SOX lead to higher audit fees. In addition, this study also finds a significant reduction in the purchase of NAS for all Australian companies over the study period. As predicted, companies traded on major US stock exchanges experienced a greater reduction (36.9%) in NAS fees than other Australian companies. Overall, the results confirm that SOX had a significant impact on non-US firms – in this case Australian firms – that are traded on US stock exchanges or have ADR programs.

These findings have potential implications for policy-makers, financial statement users, companies and the auditing profession. This study seeks to alert regulators to the costs that are incurred by foreign firms seeking to access US capital markets as well as providing evidence on the actual costs of compliance with SOX in an experimental setting. Significantly, it draws Australian policy-makers' awareness to the costs associated with implementing requirements such as those in SOX. Foreign firms considering listing on US stock exchanges should also carefully consider the costs of SOX as documented herein. US regulators will also benefit from the opportunity to observe and evaluate the economic consequences of a US-based securities law on foreign companies.

There are nevertheless some limitations in this study. The condition indices for all of the pooled regression models exceed 30, indicating multicollinearity (Kennedy 1998). Despite reporting condition indices over 30, no VIFs are reported to be over 10; although this suggests that multicollinearity is not extreme, it is still recognized as a limitation of this study. Further, this study only examines the overall impact of SOX and does not consider the impact of any specific part or section of the law, nor the different categories of NAS.

Future research may focus on the implications of auditor switches during the period of SOX implementation and consider the impact of the collapse of Arthur Andersen in particular. The research documenting an increase in auditor realignments following the passage of SOX in the US (Ettredge *et al.* 2006a, 2006b) could be extended to a non-US setting, and also examine the impact of auditor change on audit and NAS fees. There has been some concern about the impact of Section 404 on internal control requirements, and future research could examine the influences of this section on non-US firms.

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Table 1: Main Features of ADRs

Feature	Level I (unlisted)	Level II (listed)	Level III (listed)	Level IV (Rule 144A)(unlisted)
Raising new capital in US markets	No	No	Yes, through public offerings	Yes, through private placements among qualified institutional buyers (QIB)
Objective	Develop and broaden US investor base with existing shares	Develop and broaden US investor base with existing shares	Develop and broaden US investor base with existing and new shares	Access qualified institutional investors
Disclosure / accounting	Home market	Partial reconciliation with US GAAP	Full reconciliation with US GAAP	Home market
US reporting requirements	Exempt from filing Form 20-F	Form 20-F	Form 20-F	Exempt from filing Form 20-F under Rule 144
SEC registration	Form F-6	Form F-6	Form F-1 and Form F-6	None
Trading	Over the Counter (OTC)	NYSE, NASDAQ, or AMEX	NYSE, NASDAQ, or AMEX	Private offerings, resales and trading through Automated Linkages (PORTAL)
Sarbanes Oxley Act (SOX) 2002 Compliance	Compliance with only the criminal and whistle blower provisions	Full compliance	Full compliance	Compliance with only the criminal provisions
Date of Compliance with SOX Section 302	N.A.	As for US firms with exception of certification on internal control commencing on 5 April 2005	As for US firms with exception of certification on internal control commencing on 5 April 2005	N.A.
Date of Compliance with SOX Section 404	N.A.	Fiscal years ending on or after 15 July 2006 for “large” issuers and 15 July 2007 for “small” issuers	Fiscal years ending on or after 15 July 2006 for “large” issuers and 15 July 2007 for “small” issuers	N.A.
Cost of Listing	Low	High	High	Low
Size and Earnings requirements	None	Yes	Yes	None

Sources: (1) Baubakri *et al* (2007, p. 32); (2) The CPA Journal (March 2007, p. 33)

Table 2: Sample Selection Procedure

		Observations
Panel A: 2001 Top 500 sample		
Listed on ASX		478
Less	Financial institutions	109
	Missing data required for calculating variables	18
Audit Fee Sample		351
Less	Zero-Nas	24
NAS Fee Sample		327
Panel A: 2003 Top 500 sample		
Listed on ASX		473
Less	Financial institutions	104
	Missing data required for calculating variables	19
Audit Fee Sample		350
Less	Zero-Nas	35
NAS Fee Sample		315
Panel A: 2005 Top 500 sample		
Listed on ASX		477
Less	Financial institutions	112
	Missing data required for calculating variables	19
Audit Fee Sample		346
Less	Zero-NAS	46
NAS Fee Sample		300

Table 3: Descriptive Statistics for Top 500 Audit Fees (2001, 2003, 2005)

Variables		Non-SOX Sample			SOX Sample		
		2001 n = 317	2003 n = 307	2005 n = 298	2001 n = 34	2003 n = 43	2005 n = 48
Audit Fees (\$'000)	Mean	254.995	250.149	312.844	826.012***	866.158***	1182.773***
	Std. Dev	(515.576)	(312.275)	(384.583)	(1179.528)	1261.663)	(1851.244)
Log Audit Fees (LAF)	Mean	4.845	4.955	5.203	5.671***	5.697***	5.969***
	Std. Dev	(1.197)	(1.099)	(1.046)	(1.676)	(1.635)	(1.596)
Total Assets (\$millions)	Mean	670.267	576.962	761.155	4003.590***	3301.110***	3118.468**
	Std. Dev	(2362.246)	(1230.841)	(1519.471)	(6896.279)	(6112.496)	(6228.613)
Log Tot. Assets (LTA)	Mean	12.064	12.089	12.386	13.443***	13.145***	12.864
	Std. Dev	(1.591)	(1.554)	(1.602)	(2.513)	(2.476)	(2.573)
Log Subs (LSUB)	Mean	2.403	2.839	2.551	3.256***	3.229***	3.102**
	Std. Dev	(1.303)	(1.255)	(1.239)	(1.502)	(1.514)	(1.649)
CATA	Mean	0.414	0.402	0.411	0.358	0.369	0.433
	Std. Dev	(0.244)	(0.240)	(0.229)	(0.244)	(0.234)	(0.258)
Quick	Mean	2.364	4.268	4.091	4.615	3.656	3.413
	Std. Dev	(8.159)	(38.002)	(27.514)	(10.121)	(7.760)	(4.584)
DE	Mean	0.206	0.198	0.209	0.256	0.215	0.204
	Std. Dev	(0.231)	(0.177)	(0.208)	(0.180)	(0.220)	(0.216)
ROI	Mean	0.011	0.029	0.035	-0.060	-0.037	-0.138***
	Std. Dev	(0.299)	(0.283)	(0.293)	(0.310)	(0.240)	(0.382)
Foreign	Mean	0.236	0.226	0.242	0.387***	0.352***	0.350**
	Std. Dev	(0.267)	(0.264)	(0.274)	(0.281)	(0.271)	(0.293)
Opinion	Mean	0.080	0.040	0.030	0.000***	0.090	0.100
	Std. Dev	(0.265)	(0.202)	(0.180)	(0.000)	(0.294)	(0.309)
YE	Mean	0.260	0.250	0.260	0.320	0.210	0.190
	Std. Dev	(0.440)	(0.436)	(0.440)	(0.475)	(0.412)	(0.394)
BIGN	Mean	0.810	0.770	0.790	0.910	0.860	0.900**
	Std. Dev	(0.390)	(0.420)	(0.411)	(0.288)	(0.351)	(0.309)
LOSS	Mean	0.330	0.390	0.300	0.380	0.470	0.500**
	Std. Dev	(0.470)	(0.489)	(0.457)	(0.493)	(0.505)	(0.505)

p<0.10, ** p<0.05, *** p<0.01, two tailed independent t-test.

Variables:

LAF = natural logarithm of audit fees (in thousands)

LTA = the natural logarithm of the book value of total assets (in millions) at the end of the year

LSUB = natural logarithm of the number of subsidiaries

CATA = ratio of current assets to total assets

QUICK = ratio of current assets (less inventories) to current liabilities

DE = ratio of long-term debt to total assets

ROI = ratio of earnings before interest and tax to total assets

FOREIGN = proportion of subsidiaries that represent foreign operations

YE = indicator variable, 1 for non-June 30th year-end

LOSS = indicator variable, 1 for loss in any of the past three years

OPINION = indicator variable, 1 if modified opinion

BIGN = indicator variable, 1 when the auditor is a Big N firm

Table 4: Least Square Estimation of Audit Fees

		2001 n = 351		2003 n = 350		2005 n = 346	
		Base model & SOX	Base model & SOXFULL	Base model & SOX	Base model & SOXFULL	Base model & SOX	Base model & SOXFULL
Variables	Sign	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2
Constant	?	-1.375*** (3.199)	-1.328*** (3.108)	-1.655*** (4.130)	-1.606*** (4.061)	-0.677** (1.686)	-0.699** (1.770)
LTA	+	0.407*** (10.813)	0.404*** (10.810)	0.459*** (13.177)	0.455*** (13.237)	0.379*** (10.881)	0.379*** (11.024)
LSUB	+	0.301*** (7.466)	0.302*** (7.500)	0.261*** (7.164)	0.263*** (7.234)	0.245*** (6.596)	0.265*** (7.186)
CATA	+	0.842*** (4.487)	0.835*** (4.447)	0.746*** (4.210)	0.750*** (4.244)	0.700*** (4.066)	0.687*** (4.026)
Quick	-	-0.017*** (3.576)	-0.017*** (3.625)	-0.003*** (3.394)	-0.003*** (3.398)	-0.006*** (4.203)	-0.006*** (4.257)
DE	+	0.174 (0.911)	0.177 (0.930)	0.020 (0.089)	0.032 (0.141)	0.178 (0.937)	0.202 (1.073)
ROI	-	-0.097 (0.593)	-0.089 (0.552)	-0.135 (0.873)	-0.124 (0.813)	-0.039 (0.286)	-0.025 (0.183)
Foreign	+	0.473*** (3.160)	0.460*** (3.084)	0.190* (1.355)	0.172 (1.228)	0.333*** (2.629)	0.315*** (2.505)
Opinion	+	0.118 (0.689)	0.125 (0.738)	-0.053 (0.291)	-0.063 (0.343)	0.199 (1.087)	0.256* (1.419)
YE	+	0.032 (0.363)	0.024 (0.266)	-0.072 (0.857)	-0.081 (0.971)	0.080 (0.988)	0.046 (0.575)
BIGN	+	0.162* (1.527)	0.161* (1.526)	0.149* (1.637)	0.146* (1.609)	0.239*** (2.636)	0.244*** (2.719)
Loss	-	-0.066 (0.656)	-0.069 (0.691)	0.032 (0.380)	0.030 (0.356)	-0.127* (1.398)	-0.103 (1.153)
SOX	? in 2001 + in 2003/05	0.002 (0.016)		0.012 (0.103)		0.380*** (3.667)	
SOXFULL	? in 2001 + in 2003/05		0.224 (0.805)		0.285 (1.257)		(0.892)*** (4.561)
Adj. R ²		.692	.692	.702	.703	.713	.719
Condition Index		42.393	41.795	42.260	41.383	44.424	43.709

* p<0.10, ** p<0.05, *** p<0.01, directional predictions tested using one tailed tests, non-directional predictions tested using two tailed tests

Variables:

LAF = natural logarithm of audit fees (in thousands)

LTA = the natural logarithm of the book value of total assets (in millions) at the end of the year

LSUB = natural logarithm of the number of subsidiaries

CATA = ratio of current assets to total assets

QUICK = ratio of current assets (less inventories) to current liabilities

DE = ratio of long-term debt to total assets

ROI = ratio of earnings before interest and tax to total assets

FOREIGN = proportion of subsidiaries that represent foreign operations

YE = indicator variable, 1 for non-June 30th year-end

LOSS = indicator variable, 1 for loss in any of the past three years

OPINION = indicator variable, 1 if modified opinion

BIGN = indicator variable, 1 when the auditor is a Big N firm

SOX = indicator variable, 1 if firm issues Level I, Level II, Level III or Level IV ADRs or if firm is cross-listed on a US exchange.

SOXFULL = indicator variable, 1 if firm issues Level II or Level III ADRs or is cross-listed on a US exchange.

Table 5: OLS estimation of Audit Fees (Pooled: n=1047)

		Base model	Base model & SOX	Base model, SOX & SOXx05	Base model, SOXx01,SOXx03 & SOXx05	Base model & SOXFULL	Base model, SOXFULL & SOXFULLx05	Base model, SOXFULLx01, SOXFULLx03 & SOXFULLx05
Variables	Sign	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
Constant	?	-1.476*** (6.298)	-1.392*** (5.855)	-1.39*** (-5.863)	-1.389*** (5.854)	-1.362*** (5.800)	-1.364*** (5.824)	-1.364*** (5.821)
LTA	+	0.424*** (20.795)	0.416*** (20.173)	0.418*** (20.273)	0.418*** (20.264)	0.414*** (20.299)	0.414*** (20.359)	0.414*** (20.346)
LSUB	+	0.271*** (12.346)	0.270*** (12.302)	0.269*** (12.322)	0.269*** (12.313)	0.275*** (12.620)	0.277*** (12.693)	0.277*** (12.686)
CATA	+	0.764*** (7.392)	0.758*** (7.340)	0.753*** (7.308)	0.753*** (7.303)	0.751*** (7.312)	0.747*** (7.280)	0.747*** (7.274)
Quick	-	-0.004*** (5.595)	-0.005*** (5.625)	-0.004*** (-5.610)	-0.004*** (5.604)	-0.005*** (5.645)	-0.005*** (5.658)	-0.005*** (5.654)
DE	+	0.147 (1.266)	0.158* (1.362)	0.159* (1.374)	0.159* (1.377)	0.169* (1.465)	0.172* (1.497)	0.172* (1.496)
ROI	-	-0.119* (1.388)	-0.095 (-1.095)	-0.092 (1.066)	-0.093 (1.071)	-0.088 (1.027)	-0.080 (0.931)	-0.080 (0.930)
Foreign	+	0.358*** (4.500)	0.339*** (4.242)	0.343*** (4.304)	0.343*** (4.305)	0.323*** (4.064)	0.326*** (4.107)	0.326*** (4.104)
Opinion	+	0.101 (0.989)	0.100 (0.982)	0.092 (0.906)	0.091 (0.888)	0.104 (1.021)	0.105 (1.036)	0.105 (1.034)
YE	+	0.012 (0.238)	0.017 (0.339)	0.019 (0.386)	0.019 (0.392)	-0.002 (0.050)	0.002 -0.038	0.002 (0.037)
BIGN	+	0.177*** (3.211)	0.177*** (3.206)	0.173*** (3.152)	0.173*** (3.149)	0.174*** (3.171)	0.174*** (3.176)	0.174*** (3.175)
Loss	-	-0.049 (0.935)	-0.058 (1.101)	-0.059 (1.126)	-0.059 (1.124)	-0.057 (1.093)	-0.055 (1.068)	-0.055 (1.067)
2003	+	0.147*** (2.906)	0.144*** (2.845)	0.147*** (2.908)	0.143*** (2.679)	0.144*** (2.860)	0.145*** (2.892)	0.145*** (2.859)
2005	+	0.246*** (4.845)	0.242*** (4.775)	0.203*** (3.811)	0.201*** (3.725)	0.241*** (4.788)	0.225*** (4.419)	0.225*** (4.404)
SOX	+		0.136** (2.040)	0.017 (0.199)				
SOXx01	?				-0.001 (0.007)			
SOXx03	+				0.030 (0.277)			
SOXx05	+			0.317*** (2.413)	0.333*** (3.161)			
SOXFULL	+					0.510*** (3.848)	0.259** (1.519)	
SOXFULLx01	?							0.260 (1.017)
SOXFULLx03	+							0.258

								(1.146)
SOXFULLx05	+						0.617*** (2.340)	0.875*** (4.276)
Adj. R ² (%)		0.703	0.704	0.706	0.705	0.707	0.709	0.708
Condition Index		43.597	44.778	45.056	44.783	44.08	44.151	44.084
Durbin-Watson		1.728	1.735	1.751	1.949	1.755	1.644	1.644

p<0.10, ** p<0.05, *** p<0.01, directional predictions tested using one tailed tests, non-directional predictions tested using two tailed tests. Variables:

LAF = natural logarithm of audit fees (in thousands)

LTA = the natural logarithm of the book value of total assets (in millions) at the end of the year

LSUB = natural logarithm of the number of subsidiaries

CATA = ratio of current assets to total assets

QUICK = ratio of current assets (less inventories) to current liabilities

DE = ratio of long-term debt to total assets

ROI = ratio of earnings before interest and tax to total assets

FOREIGN = proportion of subsidiaries that represent foreign operations

YE = indicator variable, 1 for non-June 30th year-end

LOSS = indicator variable, 1 for loss in any of the past three years

OPINION = indicator variable, 1 if modified opinion

BIGN = indicator variable, 1 when the auditor is a Big N firm

SOX = indicator variable, 1 if firm issues Level I, Level II, Level III or Level IV ADRs or if firm is cross-listed on a US exchange.

SOXFULL = indicator variable, 1 if firm issues Level II or Level III ADRs or is cross-listed on a US exchange.

2003 = indicator variable, 1 if fiscal year is 2003

2005 = indicator variable, 1 if fiscal year is 2005

SOX x01 = indicator variable, 1 if fiscal year is 2001 and firm is 1 for SOX

SOX x03 = indicator variable, 1 if fiscal year is 2003 and firm is 1 for SOX

SOX x05 = indicator variable, 1 if fiscal year is 2005 and firm is 1 for SOX

SOXFULL x01 = indicator variable, 1 if fiscal year is 2001 and firm is 1 for SOXFULL

SOXFULL x03 = indicator variable, 1 if fiscal year is 2003 and firm is 1 for SOXFULL

SOXFULL x05 = indicator variable, 1 if fiscal year is 2005 and firm is 1 for SOXFULL

Table 6: Descriptive Statistics NAS Fees model

Variables		Non-SOX Sample			SOX Sample		
		2001 n = 293	2003 n = 273	2005 n = 257	2001 n = 34	2003 n = 42	2005 n = 43
NAS Fee (\$ '000)	Mean	341.835	252.602	238.192	1266.316***	738.270***	534.334**
	Std. Dev	(810.436)	(589.773)	376.832)	(1748.443)	(1030.506)	(856.456)
Log of NAS Fee (LN(NAS))	Mean	4.629	4.463	4.455	5.700***	5.267***	4.684
	Std. Dev	(1.694)	(1.574)	(1.596)	(2.223)	(1.995)	(2.083)
Total Assets (\$ millions)	Mean	717.912	608.366	780.843	4003.590***	2532.113***	3402.447**
	Std. Dev	(2451.095)	(1283.453)	(1511.532)	(6896.279)	(3496.475)	(6515.797)
Log of Total Assets (LTA)	Mean	12.165	12.147	12.444	13.443***	13.043**	13.012
	Std. Dev	(1.585)	(1.567)	(1.597)	(2.513)	(2.414)	(2.599)
Log of Subs (LSUB)	Mean	2.481	2.457	2.608	3.256***	3.192***	3.254**
	Std. Dev	(1.290)	(1.248)	(1.244)	(1.502)	(1.519)	(1.636)
ROI	Mean	0.021	0.027	0.039	-0.060	-0.043	-0.145***
	Std. Dev	(0.298)	(0.291)	(0.302)	(0.310)	(0.240)	(0.400)
LOSS	Mean	0.310	0.390	0.280	0.380	0.480	0.470**
	Std. Dev	(0.462)	(0.488)	(0.452)	(0.493)	(0.505)	(0.505)
CFO	Mean	0.029	0.062	0.053	-0.013	0.008	-0.097***
	Std. Dev	(0.208)	(0.228)	(0.205)	(0.176)	(0.208)	(0.330)
LNAGE	Mean	2.025	0.213	2.231	2.511**	2.608***	2.725***
	Std. Dev	(1.153)	(0.974)	(0.981)	(0.965)	(1.038)	(0.839)
Dispersion	Mean	83.414	64.727	62.481	58.266	59.221*	57.238
	Std. Dev	(334.469)	(19.348)	(20.845)	(17.324)	(19.263)	(19.049)
LEV	Mean	0.473	0.459	0.457	0.448	0.412	0.417
	Std. Dev	(0.264)	(0.226)	(0.263)	(0.235)	(0.263)	(0.269)
BIGN	Mean	0.830	0.790	0.800	0.910	0.860	0.880
	Std. Dev	(0.374)	(0.407)	(0.403)	(0.228)	(0.354)	(0.324)
FOROPS	Mean	0.660	0.640	0.660	0.880***	0.860***	0.840***
	Std. Dev	(0.475)	(0.479)	(0.474)	(0.327)	(0.354)	(0.374)
MERGER	Mean	0.040	0.050	0.020	0.000***	0.000***	0.000
	Std. Dev	(0.190)	(0.221)	(0.138)	(0.000)	(0.000)	(0.000)
FINANCE	Mean	0.320	0.370	0.410	0.320	0.450	0.210***
	Std. Dev	(0.469)	(0.484)	(0.493)	(0.475)	(0.504)	(0.412)

p<0.10, ** p<0.05, *** p<0.01, two tailed independent t-tests.

Variables:

LN (NAS) = the natural logarithm of the sum total of all non-audit fees paid to the incumbent auditor

LTA = the natural logarithm of the book value of total assets at the end of the year

BIGN = an indicator variable, 1 when the auditor is a member of the Big N

LSUB = the natural logarithm of the number of segments

FOROPS = an indicator variable, 1 if the company has foreign operations

ROA = return on assets defined as earnings before interest and tax divided by total assets at year end

LOSS = indicator variable, 1 for loss in any of the past three years

MERGER = an indicator variable, 1 if the company has been engaged in a merger/acquisition activity during the current year

FINANCE = an indicator variable, 1 if the company has issued an equity for cash and/or has been listed on another exchange during the current year

LNAGE = the natural logarithm of the number of years since the company was listed on the Australian Stock Exchange
CFO = operating cash flows divided by total assets at fiscal year end
DISPERSION = the proportion of ownership held by the Top 20 stockholders
LEV = total liabilities over total assets at the end of the year

Table 7: Least Square Estimation of NAS Fees

		2001 n=327	2003 n=315	2005 n=300
		Base model & SOX	Base model & SOX	Base model & SOX
Variables	Sign	Model 1	Model 2	Model 3
Constant	?	-3.009*** (4.600)	-3.114*** (4.161)	-2.235*** (2.722)
LTA	+	0.557*** (8.888)	0.552*** (8.700)	0.434*** (5.960)
BIGN	+	0.513*** (2.543)	0.254* (1.362)	0.471** (2.266)
LSUB	+	0.327*** (3.903)	0.175** (2.135)	0.274*** (2.851)
FOROPS	+	0.262* (1.467)	0.157 (0.887)	-0.205 (1.073)
ROI	-	-0.136 (0.335)	-0.196 (0.414)	-0.027 (0.068)
Loss	-	0.131 (0.721)	0.010 (0.064)	0.204 (0.998)
Merger	+	0.300 (0.763)	0.169 (0.490)	0.584 (0.980)
Finance	+	0.000 (0.001)	0.016 (0.010)	0.080 (0.470)
LNAGE	-	-0.262*** (3.879)	-0.136** (1.798)	-0.044 (0.533)
CFO	+	-0.519 (0.867)	-0.298 (0.526)	-0.030 (0.057)
Dispersion	+	0.000 (1.096)	0.005* (1.382)	0.003 (0.779)
LEV	-	-0.151 (0.508)	0.210 (0.628)	0.325 (0.996)
SOX	? in 2001 - in 2003/05	0.106 (0.436)	0.210 (0.962)	-0.168 (0.708)
Adj. R2 (%)		.497	.448	.398
Condition Index		38.109	43.303	45.562

p<0.10, ** p<0.05, *** p<0.01, directional predictions tested using one tailed tests, non-directional predictions tested using two tailed tests.

Variables:

LN (NAS) = the natural logarithm of the sum total of all non-audit fees paid to the incumbent auditor

LTA = the natural logarithm of the book value of total assets at the end of the year

BIGN = an indicator variable, 1 when the auditor is a member of the Big N

LSUB = the natural logarithm of the number of segments

FOROPS = an indicator variable, 1 if the company has foreign operations

ROA = return on assets defined as earnings before interest and tax divided by total assets at year end

LOSS = indicator variable, 1 for loss in any of the past three years

MERGER = an indicator variable, 1 if the company has been engaged in a merger/acquisition activity during the current year

FINANCE = an indicator variable, 1 if the company has issued an equity for cash and/or has been listed on another exchange during the current year

LNAGE = the natural logarithm of the number of years since the company was listed on the Australian Stock Exchange
CFO = operating cash flows divided by total assets at fiscal year end
DISPERSION = the proportion of ownership held by the Top 20 stockholders
LEV = total liabilities over total assets at the end of the year
SOX = indicator variable, 1 if firm issues Level I, Level II, Level III or Level IV ADRs or if firm is cross-listed on a US exchange.

Table 8: OLS estimation of NAS (Pooled: n= 942)

		Base model	Base model & SOX	Base model, SOX & SOXx05	Base model, SOXx01, SOXx03 & SOXx05
Variables	Sign	Model 1	Model 2	Model 3	Model 4
Constant	?	-2.478*** (6.280)	-2.461*** (6.148)	-2.446*** (6.118)	-2.447*** (6.115)
LTA	+	0.516*** (13.990)	0.514*** (13.749)	0.512*** (13.691)	0.511*** (13.665)
BIGN	+	0.391*** (3.465)	0.392*** (3.4648)	0.392*** (3.476)	0.393*** (3.475)
LSUB	+	0.258*** (5.204)	0.258*** (5.193)	0.260*** (5.243)	0.260*** (5.244)
FOROPS	+	0.091 (0.876)	0.089 (0.857)	0.086 (0.829)	0.086 (0.827)
ROI	-	-0.140 (0.595)	-0.135 (0.573)	-0.135 (0.572)	-0.134 (0.567)
Loss	-	0.141* (1.361)	0.139* (1.339)	0.139* (1.341)	0.139* (1.339)
Merger	+	0.274 (1.163)	0.278 (1.178)	0.286 (1.213)	0.286 (1.211)
Finance	+	0.055 (0.604)	0.056 (0.611)	0.040 (0.432)	0.040 (0.436)
LNAGE	-	-0.152*** (3.579)	-0.153*** (3.587)	-0.154*** (3.614)	-0.154*** (3.609)
CFO	+	-0.175 (0.564)	-0.170 (0.548)	-0.198 (0.636)	-0.199 (0.638)
Dispersion	+	0.000 (1.054)	0.000 (1.057)	0.000 (1.075)	0.000 (1.079)
LEV	-	0.122 (0.685)	0.128 (0.713)	0.128 (0.718)	0.128 (0.718)
2003	-	-0.123 (1.220)	-0.124 (1.228)	-0.127 (1.259)	-0.120 (1.117)
2005	-	-0.350*** (3.433)	-0.351*** (3.436)	-0.289*** (2.686)	-0.286*** (2.618)
SOX	?		0.035 (0.268)	0.198 (1.230)	
SOXx01	?				0.231 (0.989)
SOXx03	-				0.170 (0.795)
SOXx05	-			-0.460** (1.763)	-0.262 (1.224)
Adj. R ² (%)		.455	.454	.454	.455
Cond. Index		40.318	41.304	41.304	41.333
Durbin-Watson		0.887	0.886	0.886	0.884

p< 0.10, ** p<0.05, *** p<0.01, directional predictions tested using one tailed tests, non-directional predictions tested using two tailed tests. Variables:

LN (NAS) = the natural logarithm of the sum total of all non-audit fees paid to the incumbent auditor
LTA = the natural logarithm of the book value of total assets at the end of the year
BIGN = an indicator variable, 1 when the auditor is a member of the Big N
LSUB = the natural logarithm of the number of segments
FOROPS = an indicator variable, 1 if the company has foreign operations
ROA = return on assets defined as earnings before interest and tax divided by total assets at year end
LOSS = indicator variable, 1 for loss in any of the past three years
MERGER = an indicator variable, 1 if the company has been engaged in a merger/acquisition activity during the current year
FINANCE = an indicator variable, 1 if the company has issued an equity for cash and/or has been listed on another exchange during the current year
LNAGE = the natural logarithm of the number of years since the company was listed on the Australian Stock Exchange
CFO = operating cash flows divided by total assets at fiscal year end
DISPERSION = the proportion of ownership held by the Top 20 stockholders
LEV = total liabilities over total assets at the end of the year
SOX = indicator variable, 1 if firm issues Level I, Level II, Level III or Level IV ADRs or if firm is cross-listed on a US exchange.
2003 = indicator variable, 1 if fiscal year is 2003
2005 = indicator variable, 1 if fiscal year is 2005
SOX x 01 = indicator variable, 1 if fiscal year is 2001 and firm is 1 for SOX
SOX x 03 = indicator variable, 1 if fiscal year is 2003 and firm is 1 for SOX
SOX x 05 = indicator variable, 1 if fiscal year is 2005 and firm is 1 for SOX