A RE-EXAMINATION OF AUSTRALIAN EVIDENCE OF DIRECTORS’ RECOMMENDATIONS ON TAKEOVER BIDS AND MANAGEMENT OF EARNINGS

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Abstract
This study investigates whether Australian targets manage their earnings during takeover bids. A sample of 65 firm-years that were subject to takeover offers during the period 1999-2003 is selected. Each treatment firm-year is matched by industry and size with a control firm-year not subject to a takeover bid. Three Discretionary Accruals models are used: the DeAngelo (1986) model, the Jones (1991) model and the modified Jones (1995) model. The results are reasonably consistent among the three models. They indicate that “accept”, but not “reject” firms manage earnings to support directors’ recommendations.
A RE-EXAMINATION OF AUSTRALIAN EVIDENCE OF DIRECTORS’ RECOMMENDATIONS ON TAKEOVER BIDS AND MANAGEMENT OF EARNINGS

1. Introduction

The purpose of this study is to investigate whether Australian takeover targets manage earnings in response to bids. Repeated public criticisms have been made that independent experts’ reports (regarding takeover bids) act as little more than “rubber stamps” for the wishes of the directors who hire the experts (Bugeja, da Silva Rosa and Walter 2005). This raises concerns about whether shareholders have been misled, via managed earnings, in their decisions to accept or reject takeover offers. Extant empirical literature, in general, has failed to produce evidence that Australian targets manage earnings during takeover bids (Eddey and Taylor 1999). However, insignificant results may be due to use of weak models for detecting earnings management.

The current study tests two hypotheses. The first is that targets whose directors recommend bid acceptance engage in downward earnings management to support their recommendations. Similarly, it is also hypothesized that directors recommending bid rejection engage in upwards earnings management to present a favourable view of the target’s performance. These hypotheses are argued to apply irrespective of whether
the directors’ self-interests were aligned with shareholder wealth maximization at the time the recommendations were made.

A sample of 65 Australian firm-years that were subject to takeover bids during 1999-2003 is selected. For each target, a control firm-year that was not subjected to a takeover bid is chosen. Matching is conducted on the basis on industry membership and size. The DeAngelo (1986), Jones (1991) and modified Jones (Dechow, Sloan and Sweeney 1995) models of Discretionary Accruals are used to test the research hypotheses. The Jones and modified Jones models are estimated on an industry basis, using 50 observations for each version of the two models. Parametric and non-parametric tests on the means and medians (respectively) of Discretionary Accruals are conducted. The tests utilize both raw Discretionary Accruals (as estimated by each of the three models) of the target firm-years and Discretionary Accruals adjusted for those of the matched controls.

This study documents evidence that Australian takeover targets engage in earnings management. The results suggest that directors who recommend bid acceptance, but not bid rejection, manage earnings to support their positions. These findings are reasonably consistent across all three Discretionary Accruals models and between parametric and non-parametric tests. They are also robust to use of adjusted Discretionary Accruals, defined as Discretionary Accruals of a target less Discretionary Accruals of the size- and industry-matched control firm.
Work-in-progress is testing the hypotheses with more powerful methodology. An updated and larger sample of takeover targets is being selected. Performance-adjusted Discretionary Accruals are being estimated via the Kothari, Leone and Wasley (2005) approach. The Discretionary Accruals models are adapted for the Australian setting following the suggestions of Godfrey and Koh (1999). Current work also controls for potential determinants of Discretionary Accruals not captured by these models or the matched pairs design.

The remainder of this study is organized as follows. Section 2 discusses relevant institutional features of the Australian setting and reviews relevant prior literature. Section 3 develops the research hypotheses. Section 4 discusses the research methodology, sample selection and data collection. Section 5 presents the empirical results. Section 6 concludes the paper.

2. Australian Institutional Features and Literature Review

Since 1980, takeover targets in Australia have been required to commission an independent expert’s report to protect target shareholders where the bidder has a perceived conflict of interests (Bugeja 2005). The role of the expert is to value the target firm and state whether the offer is “fair and reasonable”. Practice Note 42, The Independence of Experts’ Reports, issued by Australian Securities and Investments Commission (ASIC), indicates that an expert should decline the appointment if (s)he: (a)
is a substantial creditor or has a financial interest in either party, (b) has participated in strategic planning work for either party or (c) acts as lawyer, banker, financial consultant, tax adviser or accountant to either party. Section 648 of Corporations Law 2000 also requires experts to disclose any dealings or business relationships with the target and/or bidder (Bugeja).

Repeated public criticisms have been raised following high-profile takeovers in recent years. Unlike the Sarbanes-Oxley Act 2002, Corporations Law 2000 in Australia does not preclude the auditor of the target or offeror from being an expert. Hence, a particular concern, especially for target companies’ auditors, is that in practice, these “experts” are likely to lack sufficient independence (Hulme 2001). Furthermore, Hulme criticizes the use of a valuation range instead of a single figure in independent expert reports. The range indicates nothing about the probabilities associated with the value and may cause shareholders to make poor decisions. It has also been argued that experts have been given too much flexibility regarding choice of valuation methods.

An effect of these criticisms is that independent experts, rightly or wrongly, suffer from the public perception that they act as little more than a “rubber stamp” for the wishes of the directors who hire them (Bugeja et al. 2005). This raises concerns about whether

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1 An example is the bid by AMP for control of GIO in Australia in 1999. Both of these companies are insurers.
shareholders have been misled into accepting takeover offers. One means of misleading them may be to manage earnings numbers released during the offer period.

Empirical literature into the effect of expert reports on takeover premia and the actions of bidding firms in Australia is provided by Eddey (1993). The results show no difference in the takeover premia in offers with experts’ reports and those without experts’ reports. Furthermore, Bugeja et al. (2005) provide evidence that experts with other dealings with the target provide reports with significantly lower absolute valuation ranges. Bugeja (2005) shows that the probability of an increase in bid price is higher in takeovers where the expert finds the offer price is “not fair”. Where the offer price is revised, the results indicate that target shareholders still earn significantly lower returns in takeovers with experts. Therefore, empirical evidence confirms the validity of concerns about independent experts’ reports and suggests that shareholders of target firms may still be misled during the offer period.

United States-based research into earnings management in response to corporate control activities is mixed. DeAngelo (1986) reports evidence that targets of hostile takeovers manage earnings upwards. Similarly, the results of Louis (2004) indicate that firms involved in corporate control activities engage in earnings management prior to the combination. Conversely, Christie and Zimmerman (1994) were unable to document evidence of opportunistic accounting policy choices by firms subject to corporate control actions.
The inconclusive evidence of these United States-based studies may reflect their objectives and limitations. Christie and Zimmerman (1994) and Louis (2004) examined the market for corporate control generally, rather than the takeover market specifically. Furthermore, Christie and Zimmerman studied a portfolio of three accounting policies, rather than management of aggregate earnings. Christie and Zimmerman and Louis assume that directors of targets would always maximize their own wealth by managing earnings upwards, rather than downwards.

Eddey and Taylor (1999), an Australian investigation of earnings management by takeover targets, overcomes the latter limitation. Eddey and Taylor considered the impact of directors’ recommendations on incentives for upwards versus downwards earnings management by takeover targets. This study, however, documents no evidence of earnings management. The insignificant results may be due to the fact that earnings were not managed. Alternatively, the failure to reject the null hypothesis may be due to the research design limitations of Eddey and Taylor. The latter used the indirect method of calculating Total Accruals, since Australian companies were not required to disclosure Statements of Cash Flows during their investigation period. The current study uses an investigation period in which Australian companies were required to make these disclosures. Eddey and Taylor used the DeAngelo (1986) model as the sole means of estimating Discretionary Accruals (DA). In recognition of evidence
that subsequent models are more powerful (Dechow et al. 1995; Guay, Kothari and Watts 1996), the current study uses the Jones (1991) and modified Jones (1995) models.

3. Hypothesis Development

Another possible explanation for the inconclusive findings of prior studies is that their hypotheses are predicated on the belief that when confronted with a corporate control event, directors’ self-interests are likely to differ from those of shareholders. Researchers are able to observe directors’ recommendations *ex post*. However, they are unable to observe *ex ante* whether directors’ self-interests were congruent with or divergent from those of shareholders when the recommendations were made. Hence, the hypotheses of the current study, transmitted from Eddey and Taylor (1999), are argued to apply irrespective of whether directors’ motivations were consistent or inconsistent with shareholder wealth maximization.

Situations in which directors’ interests are congruent with those of shareholders result in recommendations that maximise shareholder wealth. Prior literature has categorized such director behaviour as the Shareholder Wealth Hypothesis (SWH). Alternatively, the Director Welfare Hypothesis (DWH) refers to scenarios in which directors face a conflict of interests. They are predicted to act in their self-interests, at the expense of shareholders (Eddey and Casey 1989).
Directors may recommend bid acceptance because they believe the target is performing well, but have been offered more lucrative employment by the bidder in the event of a successful takeover. In this situation, the DWH would apply. Alternatively, due to their intimate knowledge of the company, directors may be of the view that the market has used an inflated earnings figure in its valuation. They may regard their self-interests to be better served by finding alternative employment, rather than being directors of a company facing insolvency. Both of these scenarios are consistent with the expectation of downwards earnings management and are formally articulated as H1.

H1: Bid accept targets have negative Discretionary Accruals.

Directors recommending bid rejection would face a conflict of interests if they believed the takeover would boost shareholder wealth, but feared that their remuneration or continued employment would be in jeopardy if the takeover occurred. Conversely, the directors’ interests may accord with those of shareholders if, due to their knowledge of the target, they believed it was undervalued by the market. Use of a larger number would result in a more accurate valuation. Both of these situations motivate expectations of upwards earnings management. This is formally articulated as H2.

H2: Bid reject targets have positive Discretionary Accruals.
4. Sample Selection, Data Collection and Research Methodology

The initial sample comprised the 340 firm-years that were targeted in takeover announcements from 1999 to 2003. These firms and their preliminary final earnings announcements were sourced from Aspect Online Database. All of the Financial Statement items were obtained directly from the firms’ Annual Reports, sourced from Aspect Online Database.

In order to test for earnings management by targets in the presence of takeover bids, it is necessary to identify those instances where directors had the opportunity to manage earnings in response to takeover bids (DeAngelo 1988). The only target firms of interest are those whose management had sufficient time to modify end-of-year net operating profit while the takeover was in process. Therefore the sample is restricted to firm-years which released their Preliminary Final Reports between the announcement of the takeover bid and the closing date or the unconditional date, whichever came first. The sample also includes those firm-years which released their Preliminary Final Reports two months before the announcement of the takeover because there may still have been sufficient time to manage the earnings figures to influence the outcomes of the bids.
Table 1 presents details of the sample selection and the filtering procedures. Of the initial sample of 340 firm-years, 81 had identifiable announcement dates. Most of the remaining 259 did not release a preliminary final earnings announcement because they had either been successfully taken over or delisted before having had the opportunity to do so. A further 16 company-years were excluded from the sample. Four of these were subject to compulsory acquisition; for another four, the directors of the target company did not make recommendations regarding the bid. The residual eight were eliminated because three of them lacked the required data; the other five were discarded because the companies were targets for more than one takeover during the year. Each of these firm-years was included only once because the directors were likely to have made the same recommendation for each bid. This procedure resulted in a final sample of 65 firm-years. The observations shown in Table 1 are distributed evenly during the investigation period except for 2002, which has about half the number of firms as any other year.
Table 2 shows the division of the sample firms into takeover acceptance and rejection recommendations by directors of the target firm. Of the 65 firm-years, 43 recommended bid acceptance, 22 recommended bid rejection. The bid acceptance observations dominate in the final sample and the degree of the domination is much larger in the years 2000 and 2001. An exception is the year 1999, for which 54% of cases have rejection recommendations.

Table 3 shows the industry composition of the final sample. Industry membership is ascertained using Global Industry Classification Standard (GICS) codes from Australian Stock Exchange (ASX). Among the 65 firm-years, the materials industry is the most prevalent, containing 10 out of 65 sample observations. All of the others are equally represented, except for the Health and Equipment Services and Insurance industries. Each of these two industries has only one firm-year.
Total accruals is calculated as follows.

$$TA_{it} = Y_{it} - CFO_{it}$$

where:

$$Y_{it} = \text{Earnings (Consolidated Net Profit after Tax attributable to Parent Entity Interests)}$$
for firm $t$ in period $t$.

$$CFO_{it} = \text{Cash Flow from Operations of firm } i \text{ for period } t.$$

A strength of this approach is that the calculation of Total Accruals is exact. Previous Australian studies, such as Eddey and Taylor (1999), used data from the era prior to when it became mandatory for firms to produce Statements of Cash Flows. Hence, it was necessary to approximate Total Accruals. It is possible that the tests conducted in these studies are marred by measurement error inherent in the methods of approximation (Percy and Stokes 1992).

For each of the 65 firm-years in the final sample, a control firm-year, matched by size and industry, that was not subjected to a takeover bid, is selected. The purpose of the matching is to control for potential determinants of earnings management that may be correlated with size and industry (Kothari et al. 2005).
For the purposes of matching by industry membership a list of firm-years with the same ASX code as each takeover target was obtained. This list was sourced from ASX website. The field of potential industry matches was narrowed by examining the candidates’ Statements of Principal Activities disclosed in the Directors’ Reports, which were sourced from Aspect Financial Online. Candidates with similar principal activities as the takeover target were included as potential matches. The size of the remaining candidates was estimated by the natural logarithm of Total Assets, as disclosed in the Financial Statements and sourced from Aspect Financial Online. The candidate with the closest logarithm of Total Assets to that of the treatment takeover target was assigned as the potential match. The next step was to ensure that this candidate was not subject to a takeover bid. This was done by searching for takeover-related documents using Aspect Financial Online. If no takeovers were disclosed, then the control firm-year was confirmed as the match. Details of each treatment and control company-year, with their industry classifications and directors’ recommendations are available upon request.

The current study uses three models of DA: the DeAngelo (1986) model, the Jones (1991) model and the modified Jones (1995) model. Each of these models decomposes Total Accruals into discretionary and non-discretionary components: 

\[ TA_{it} = DA_{it} + NDA_{it} \]
where:

\( TA_{it} \) = Total Accruals of firm \( i \) in year \( t \)

\( DA_{it} \) = Discretionary Accruals of firm \( i \) in year \( t \)

\( NDA_{it} \) = Non-Discretionary Accruals of firm \( i \) in year \( t \).

The models differ with respect to their characterizations of the accruals-generating process.

**De Angelo (1986) Model**

\[ NDA_{it} = TA_{it-1} \]

**Jones (1991) Model**

\( DA_{it} \) is proxied by the residual from the following regression:

\[ TA_{it} = \beta_1 (1/A_{it-1}) + \beta_2 (\Delta REV_{it} / A_{it-1}) + \beta_3 (PPE_{it} / A_{it-1}) + \epsilon_{it} \]

where:

\( A_{it} \) = Total Assets for firm \( i \) at the end of year \( t \)

\( REV_{it} \) = Sales Revenue of firm \( i \) in year \( t \)

\( \Delta REV_{it} = REV_{it} - REV_{it-1} \)

\( PPE_{it} \) = Gross Property, Plant and Equipment of firm \( i \) at the end of year \( t \)
\( \beta_1, \beta_2 \) and \( \beta_3 \) are regression parameters

\( \varepsilon_{it} \) is a stochastic disturbance term.

**Modified Jones (1995) Model**

\( D_{it} \) is proxied by the residual from the following regression:

\[
TA_{it} = \lambda_1 \left(1/A_{it-1}\right) + \lambda_2 \left(\Delta RE_{it} / A_{it-1}\right) + \lambda_3 \left(PPE_{it} / A_{it-1}\right) + \nu_{it}
\]

where :

\( RE_{it} = \) Current Receivables of firm \( i \) at the end of year \( t \).

\( \Delta RE_{it} = RE_{it} - RE_{it-1} \)

\( \lambda_1, \lambda_2 \) and \( \lambda_3 \) are regression parameters

\( \nu_{it} \) is a stochastic disturbance term.

An industry approach is used to estimate the Jones (1991) and modified Jones (1995) models. Separate versions of both models are fitted for each of the 14 industries represented in the sample. Each version of the Jones and the modified Jones models' parameters are estimated using 50 randomly selected company-years in the relevant industry. Naturally, each sample takeover target and its matched control are not used as observations to estimate the models. Within each industry, the number of observations chosen for model estimation from each year reflects the proportions of years in which the industry is represented in the sample. For
example, as shown in Table 3, the Capital Goods industry has five takeover targets in the final sample from 1999 to 2003. Of these companies, zero observations are taken from 1999, one observation is from each of the years 2000, 2002 and 2003, and two observations are from the 2001. The number of companies that are allocated in each year was chosen according to the number of observations of the final sample within each year. Because the year 1999 has no observations in the final sample, no firms are allocated. Among the 50 randomly selected firms within the industry, 30 firms are equally allocated into 2000, 2002 and 2003; the residual 20 firms are allocated to the year 2001.

5. Empirical Results


Model parameters are estimated using Ordinary Least Squares (OLS) regressions. Summaries of the parameters for each model are displayed in Table 4. Details of the models are available upon request.

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INSERT TABLE 4 ABOUT HERE

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A version of each DA model is estimated using the 14 industries represented in the final sample. Fifty observations are used to estimate each version of each model. Theoretical expectations about the sign of the coefficient $\beta_2$ in the Jones (1991) model are mixed (Dechow et al. 1995). Hence, two-tailed tests of its significance are conducted. Dechow et al. clarify that for the modified Jones model (1995), the expectation is that the coefficient $\beta_2$ will be positive. In the current study, this coefficient is significant (one-tailed, $p<0.01$) for only one industry, the energy industry. It is positive but not significant in a further six cases.

Expectations from both models are that $\beta_3$ will be negative. For the Jones (1991) model, it is significant (one-tailed, $p<0.05$) in two cases. It is negative but not significant for another four cases. For the modified Jones model (Dechow et al. 1995), this coefficient is significant (one-tailed, $p<0.10$) in two cases. It is negative, but not significant in another five cases.

The Jones (1991) model is significant overall ($p<0.01$) in seven out of 14 cases. The modified Jones model (Dechow et al. 1995) is also significant overall for half of the cases. Hence, overall, the degree of consistency of the estimated versions of the model with prior expectations could have been better. However, the degree of conformity seems roughly consistent with prior literature (Dechow et al; Guay et al. 1996).
Tests of H1 – Discretionary Accruals of Bid Accept Targets

Table 5 shows results of tests of H1, that bid accept targets engage in downwards accrual management. The means and medians of both DA and adjusted DA are reported for each of the three models. “Adjusted DA” is defined as the difference between a target’s DA and the DA of the matched control.

The means / medians reported in Table 5 are significant in six out of 12 cases, which is more than would be expected by chance. The results of tests using the DeAngelo (1986) model are weaker than those using from the other two models. This suggests that the insignificant results produced by Eddey and Taylor (1999) may reflect that they used only the DeAngelo model. The results of the parametric tests using the Jones (1991) model are consistently significant (p <0.10), regardless of whether DA or adjusted DA are used. However, the results using the Wilcoxon tests are only significant (p< 0.01) when adjusted DA are used. The results using the modified Jones (1991) are more consistent than those using either of the other two models. The t-statistics comparing the means are insignificant. However, the S-statistics comparing the medians are both significant (p<0.01), for tests using both DA and adjusted DA.
Hence, overall, the results in Table 5 are supportive of H1 that bid accept firms engage in downward earnings management. It is noteworthy that four out of the six significant test statistics are from tests using adjusted DA. This suggests that there may be determinants of earnings management correlated with firm size and industry membership (Kothari et al. 2005). The insignificant results using unadjusted DA could be due to failure to control for these.

Tests of H2 – Discretionary Accruals of Bid Reject Targets

Table 6 shows results of tests of H2, that bid reject targets engage in upwards accrual management.

In 11 out of 12 cases in Table 6, the means / medians of DA / adjusted DA are negative, indicating that the bid reject group tends to manage earnings downwards, rather than upwards as predicted in H2. There is only one positive statistic in this table, the median of DA, calculated using the De Angelo (1986) model. However, this median is not significant at conventional levels. Furthermore, prior evidence that the De Angelo (1986) model is less powerful in detecting earnings management than subsequent
models (Dechow et al. 1995; Guay et al. 1996) suggests that the negative means and medians reported elsewhere in Table 6 are more credible.

The results in Table 6 show a high level of consistency between the means and medians of DA and adjusted DA obtained from the Jones (1991) model and those obtained from the modified Jones (1995) model. This indicates that the modification to the Jones model postulated by Dechow et al. (1995) may only have marginal superiority in detecting earnings management. Furthermore, the results are consistent between parametric and non-parametric tests, and between tests using DA and those using DA adjusted for firm size and industry membership. Hence, the failure to support H2 is robust to variations in the research design and methodology.

6. Conclusions
This study investigates earnings management with respective to the directors’ recommendation in a takeover bid. Problems associated with the independence of the experts’ advice as to the directors of the target firm in takeovers have attracted attention and criticism from both the public and target shareholders. This motivates examination of earnings management in the context of directors’ recommendation in response to takeover bids.
Prior Australian research has failed to document evidence that targets manage earnings during takeover bids (Eddey and Taylor 1999). However, the results may not be generalizable owing to the changes in economic circumstances since the investigation period of Eddey and Taylor (i.e., 1 January 1986 to 31 December 1991), and the subsequent availability of more powerful research methodology.

Two hypotheses are developed in the current study. H1 predicts that the directors who recommend accepting takeover bids use accrual accounting to decrease current earnings. H2 predicts directors who recommend rejecting takeover bids use accrual accounting to increase current earnings.

A final sample of 65 firm-years is selected from an initial sample of 340 firm-years during 1999 to 2003. They are sourced from Aspect Online Database. Target firms of interest are those whose management had sufficient time to determine end-of-year net operating profit, and then modify these results while the takeover was still in process. The observations in the final sample are also classified into industries according to the Global Industry Classification Standard code from Australian Stock Exchange. For each of the 65 firm-years in the final sample, a control firm-year, matched by size and industry that was not subjected to a takeover bid is selected.
The current study applies three models to measure Discretionary Accruals. These are the DeAngelo (1986) model, the Jones (1991) model and the modified Jones model (Dechow, Sloan and Sweeney 1995). The DeAngelo (1986) model is used for consistency with Eddey and Taylor (1999). Parameters of the Jones (1991) and modified Jones (1995) models are estimated separately for each of the 14 industries represented in the sample. Each version of the Jones and modified Jones models is estimated using 50 randomly selected company-years in the relevant industry, excluding the sample and the industry matching firms. Empirical tests are conducted using both Discretionary Accruals of the targets and the difference between the Discretionary Accruals of the targets and those of the matched control firms.

The results are reasonably consistent in their support for H1 that bid accept firms engage in downwards accrual management. However, the evidence indicates that, contrary to H2, bid reject firms also select income-decreasing accrual policies. In general, these findings are robust to variations in the research design (i.e., use of Discretionary Accruals versus adjusted Discretionary Accruals, matching by size and industry and use of parametric versus non-parametric tests). The fact that only one research hypothesis is accepted could be due to bid accept firms having more incentive to manage earnings to influence the outcome of the bid than bid reject firms. Alternatively, the failure to support H2 could be due to weaknesses in the research design.
There is a number of limitations that should be borne in mind in interpreting the results of the study. Firstly, the final sample is limited to 65 firm-years over a five-year investigation period. Hence, the statistical tests may be marred by the small numbers of observations. A second limitation is due to problems associated with the Discretionary Accrual models. Prior literature has identified that all three models (i.e., the DeAngelo (1986) model, the Jones (1991) model and the modified Jones (1995) model) used in this study are not good at detecting earnings management (Dechow, Sloan and Sweeney 1995; Guay, Kothari and Watts 1996). Work-in-progress is addressing this concern by using performance-adjusted Discretionary Accruals, as proposed by Kothari, Leone and Wasley (2005). The Jones (1991) and modified Jones (1995) models of Discretionary Accruals are adapted for the Australian setting using the suggestions of Godfrey and Koh (1999). Finally, the process of matching by industry and size is somewhat subjective.
Table 1 – Number of Observations Included in the Final Sample

<table>
<thead>
<tr>
<th>Description</th>
<th>1999</th>
<th>2000</th>
<th>2001</th>
<th>2002</th>
<th>2003</th>
<th>Pooled</th>
</tr>
</thead>
<tbody>
<tr>
<td>Initial sample</td>
<td>73</td>
<td>76</td>
<td>73</td>
<td>58</td>
<td>60</td>
<td>340</td>
</tr>
<tr>
<td>Observations not meeting Selection Criteria regarding date of Preliminary Final Report release date</td>
<td>(55)</td>
<td>(57)</td>
<td>(55)</td>
<td>(49)</td>
<td>(43)</td>
<td>(259)</td>
</tr>
<tr>
<td>Compulsory acquisitions</td>
<td>(3)</td>
<td>(0)</td>
<td>(0)</td>
<td>(0)</td>
<td>(1)</td>
<td>(4)</td>
</tr>
<tr>
<td>Targets for which the director made no recommendation</td>
<td>(0)</td>
<td>(1)</td>
<td>(0)</td>
<td>(1)</td>
<td>(2)</td>
<td>(4)</td>
</tr>
<tr>
<td>Targets eliminated owing to multiple bids</td>
<td>(1)</td>
<td>(2)</td>
<td>(1)</td>
<td>(0)</td>
<td>(1)</td>
<td>(5)</td>
</tr>
<tr>
<td>Observations with missing data</td>
<td>(1)</td>
<td>(0)</td>
<td>(1)</td>
<td>(0)</td>
<td>(1)</td>
<td>(3)</td>
</tr>
<tr>
<td>Final sample</td>
<td>13</td>
<td>16</td>
<td>16</td>
<td>8</td>
<td>12</td>
<td>65</td>
</tr>
</tbody>
</table>
Table 2 – Number (Percentages) of Company-years in the Final Sample with Accept and Reject Recommendations.

<table>
<thead>
<tr>
<th></th>
<th>1999</th>
<th>2000</th>
<th>2001</th>
<th>2002</th>
<th>2003</th>
<th>Overall</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accept</td>
<td>6 (46%)</td>
<td>10 (63%)</td>
<td>12 (75%)</td>
<td>4 (50%)</td>
<td>11 (92%)</td>
<td>43 (66%)</td>
</tr>
<tr>
<td>Reject</td>
<td>7 (54%)</td>
<td>6 (37%)</td>
<td>4 (25%)</td>
<td>4 (50%)</td>
<td>1 (8%)</td>
<td>22 (34%)</td>
</tr>
<tr>
<td>Total</td>
<td>13 (100%)</td>
<td>16 (100%)</td>
<td>16 (100%)</td>
<td>8 (100%)</td>
<td>12 (100%)</td>
<td>65 (100%)</td>
</tr>
</tbody>
</table>
### Table 3 - Number (Percentage) of Company-years from Different Industries.

<table>
<thead>
<tr>
<th>GICS Classification</th>
<th>1999</th>
<th>2000</th>
<th>2001</th>
<th>2002</th>
<th>2003</th>
<th>Overall</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capital Goods</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>Commercial Goods and Supplies</td>
<td>1</td>
<td>0</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td>4</td>
</tr>
<tr>
<td>Consumer Services</td>
<td>2</td>
<td>0</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>6</td>
</tr>
<tr>
<td>Diversified Financials</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td>Energy</td>
<td>0</td>
<td>3</td>
<td>1</td>
<td>0</td>
<td>2</td>
<td>6</td>
</tr>
<tr>
<td>Food, Beverages and Tobacco</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>0</td>
<td>1</td>
<td>5</td>
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<td>Healthcare and Equipment Services</td>
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<td>0</td>
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<td>0</td>
<td>0</td>
<td>1</td>
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<td>Insurance</td>
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<td>0</td>
<td>0</td>
<td>1</td>
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<td>Materials</td>
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<td>4</td>
<td>0</td>
<td>1</td>
<td>10</td>
</tr>
<tr>
<td>Media</td>
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<td>1</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>Real Estate</td>
<td>1</td>
<td>3</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>6</td>
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<tr>
<td>Retailing</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>3</td>
<td>5</td>
</tr>
<tr>
<td>Technology, Hardware and Equipment</td>
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<td>0</td>
<td>1</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>Telecommunication</td>
<td>1</td>
<td>3</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>5</td>
</tr>
<tr>
<td>Transportation</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Total</td>
<td>13</td>
<td>16</td>
<td>16</td>
<td>8</td>
<td>12</td>
<td>65</td>
</tr>
</tbody>
</table>
Table 4 – Summary Details of Estimates of the Jones (1991) Model and the Modified Jones Model (Dechow, Sloan and Sweeney 1995)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>TA&lt;sub&gt;it&lt;/sub&gt; = β&lt;sub&gt;1&lt;/sub&gt; (1/A&lt;sub&gt;it-1&lt;/sub&gt;) + β&lt;sub&gt;2&lt;/sub&gt; Δ REV&lt;sub&gt;it&lt;/sub&gt; / A&lt;sub&gt;it-1&lt;/sub&gt; + β&lt;sub&gt;3&lt;/sub&gt; (PPE&lt;sub&gt;it&lt;/sub&gt; / A&lt;sub&gt;it-1&lt;/sub&gt;) + ε&lt;sub&gt;it&lt;/sub&gt;</td>
<td>β&lt;sub&gt;1&lt;/sub&gt;</td>
<td>β&lt;sub&gt;2&lt;/sub&gt;</td>
<td>β&lt;sub&gt;3&lt;/sub&gt;</td>
<td>F</td>
</tr>
<tr>
<td>Minimum</td>
<td>-14,178</td>
<td>-0.92</td>
<td>-0.15</td>
<td>0.13</td>
</tr>
<tr>
<td>Maximum</td>
<td>79,064</td>
<td>3.42</td>
<td>0.82</td>
<td>5,739</td>
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<tr>
<td>Mean</td>
<td>4,399</td>
<td>0.12</td>
<td>0.12</td>
<td>672</td>
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<tr>
<td>Median</td>
<td>-129.21</td>
<td>0.00</td>
<td>0.01</td>
<td>7.64</td>
</tr>
<tr>
<td>No. of Times β&lt;sub&gt;3&lt;/sub&gt; is Negative</td>
<td>6</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No. Of Times Significant (p&lt;0.10)</td>
<td>8</td>
<td>5</td>
<td>2</td>
<td>7</td>
</tr>
</tbody>
</table>

| Panel B - Modified Jones (1995) Model |
|-----|-----|-----|-----|-----|
| TA<sub>it</sub> = λ<sub>1</sub> (1/A<sub>it-1</sub>) + λ<sub>2</sub> (Δ REV<sub>it</sub> - ΔREC<sub>it</sub>) / A<sub>it-1</sub> + λ<sub>3</sub> (PPE<sub>it</sub> / A<sub>it-1</sub>) + ν<sub>it</sub> | β<sub>1</sub> | β<sub>2</sub> | β<sub>3</sub> | F |
| Minimum | -14,200 | -1.07 | -1.08 | 0.13 |
| Maximum | 593.91 | 3.70 | 0.81 | 6,093 |
| Mean | -1,261 | 0.18 | 0.10 | 696 |
| Median | -185.94 | 0.01 | -0.01 | 9.16 |
| No. of Times β<sub>2</sub> (β<sub>3</sub>) is Positive (Negative) | 7 | 7 |
| No. Of Times Significant (p <0.10) | 6 | 1 | 2 | 7 |
where:

Fitted versions of the Jones and modified Jones models were estimated for each industry (GICS classification) represented in the final sample.

\[
\begin{align*}
\text{TA}_{it} & = Y_{it} - \text{CFO}_{it} \\
\text{A}_{it} & = \text{Total Assets of the company i in the year t} \\
\text{CFO}_{it} & = \text{Cash flow from operation of the company I in the year t} \\
\text{REV}_{it} & = \text{Revenue of the company i in the year t} \\
\Delta \text{REV}_{it} & = \text{REV}_{it} - \text{REV}_{it-1} \\
\text{REC}_{it} & = \text{Receivable of company i in the year t} \\
\Delta \text{REC}_{it} & = \text{REC}_{it} - \text{REC}_{it-1} \\
\text{PPE}_{it} & = \text{Gross Property, Plant and Equipment of company i in the year t} \\
\epsilon_{it} \text{ and } \upsilon_{it} & \text{ are stochastic disturbance terms}
\end{align*}
\]

For the Jones model, two-tailed significance tests are reported for \(\beta_1\) and \(\beta_2\). One-tailed significance levels are reported for \(\beta_3\). For the modified Jones model, two-tailed significance tests are conducted for \(\beta_1\), while one-tailed tests are conducted for \(\beta_2\) and \(\beta_3\).

The F-statistics are for the significance of the models overall.
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Observations</td>
<td>32</td>
<td>38</td>
<td>38</td>
</tr>
<tr>
<td>Mean of DA</td>
<td>-0.01</td>
<td>-0.14***</td>
<td>-0.16</td>
</tr>
<tr>
<td>Median of DA</td>
<td>-0.01</td>
<td>-0.11</td>
<td>-0.10**</td>
</tr>
<tr>
<td>Mean of Adjusted DA</td>
<td>-0.10*</td>
<td>-0.33**</td>
<td>-0.25</td>
</tr>
<tr>
<td>Median of Adjusted DA</td>
<td>-0.07</td>
<td>-0.19***</td>
<td>-0.13***</td>
</tr>
</tbody>
</table>

where:

DA are calculated using all three models as
Total Accruals\(t\) - Expected Accruals\(t\), both deflated by lagged Total Assets.

Adjusted DA for treatment firm \(i\) in year \(t\) is calculated using the following:
Adjusted DA\(it\) = DA\(it\) - DA for matching control firm-year
All DA and Adjusted DA items reported in Table 5 are deflated by lagged Total Assets. The following one-tailed tests of H1 were conducted
Ho: Mean / median DA (adjusted DA) of Company-years with “Accept” recommendations >= 0
H1: Mean / median DA (adjusted DA) of Company-years with “Accept” recommendations < 0
Tests of the significance of the means are conducted using the t-test assuming equal variances. Tests of the significance of the medians are conducted by computing the S-statistic and using the Wilcoxon signed rank tests.

* indicates significance at the ten percent level
** indicates significance at the five percent level
*** indicates significance at the one percent level
Table 6 – Tests of H2 – Discretionary Accruals of Bid Reject Targets, Pooled over 1999-2003

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Observations</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean of DA</td>
<td>17</td>
<td>19</td>
<td>19</td>
</tr>
<tr>
<td>Median of DA</td>
<td>-0.16</td>
<td>-0.79</td>
<td>-0.79</td>
</tr>
<tr>
<td>Mean of Adjusted DA</td>
<td>0.03</td>
<td>-0.23</td>
<td>-0.23</td>
</tr>
<tr>
<td>Median of Adjusted DA</td>
<td>-0.19</td>
<td>-0.66</td>
<td>-0.59</td>
</tr>
</tbody>
</table>

where:

DA are calculated using all three models as
Total Accruals_{it} – Expected Accruals_{it}, both deflated by lagged Total Assets.

Adjusted DA for treatment firm i in year t is calculated using the following:
Adjusted DA_{it} = DA_{it} – DA for matching control firm-year
All DA and adjusted DA items reported in Table 6 are deflated by lagged Total Assets.
The following one-tailed tests of H1 were conducted
Ho: Mean / median DA (adjusted DA) of Company-years with “Reject” recommendations <= 0
H1: Mean / median DA (adjusted DA) of Company-years with “Reject” recommendations > 0
Tests of the significance of the means are conducted using the t-test assuming equal variances.
Tests of the significance of the medians are conducted by computing the S-statistic and using the Wilcoxon signed rank tests.

* indicates significance at the ten percent level
** indicates significance at the five percent level
*** indicates significance at the one percent level
REFERENCES


